Northern Utilities - NEW HAMPSHIRE DIVISION
Simplified Market Based Allocator (SMBA) Calculations
DEMAND COSTS

NH Division Total Annual Demand Cost Allocation

	Resource	Costs
1	**Resource**	**Costs**
2	Pipeline & Product Demand	$ 4,134,980
3	Storage	$ 10,542,405
4	Peaking	$ 1,906,300
5	Total Gross Demand Cost	$ 16,583,685
6		
7	Capacity Assignment Demand Revenue Estimate	$ 3,165,518
8	NH Total Pipeline, Storage & Peaking Demand Cost	$ 16,583,685
9	Capacity Assignment as % of Total Gross Demand Cost	19.09%
10		
11	NH Non-Grandfathered Transportation Allocated Capacity Assignment Costs	
12		**Costs**
13	Pipeline & Product Demand	$ 789,291
14	Storage	$ 2,012,350
15	Peaking	$ 363,877
16	Total Capacity Assignment Credit	$ 3,165,518
17		
18	NH Net Annual Demand Cost (Less Capacity Assignment)	
19		**Costs**
20	Pipeline & Product Demand	$ 3,345,689
21	Storage	$ 8,530,055
22	Peaking	$ 1,542,423
23	Total Net Demand Cost (Less Capacity Assignment)	$ 13,418,166
24		
25	**DEVELOPMENT OF BASE AND REMAINING PIPELINE DEMAND COSTS**	
26		MMBtu/day
27	Pipeline MDQ	12,988
28	Less 19.09% NH Transp. Capacity Assignment	(2,479)
29	Net Pipeline MDQ	10,509
30		
31	Net Pipeline MDQ	10,509
32	Less: Firm Sales Base Use	3,185
33	Remaining Pipeline MDQ	7,324
34		
35		**Unit Cost**
36	Pipeline Unit Cost	$318.36
37		
38		**Costs**
39	Pipeline & Product Demand	$ 3,345,689
40	Less: Base Pipeline Use	$ 1,014,000
41	Remaining Pipeline Use	$ 2,331,689

Northern Utilities - NEW HAMPSHIRE DIVISION
Simplified Market Based Allocator (SMBA) Calculations
DEMAND COSTS

NH Division Total Annual Demand Cost Allocation

1	**Resource**	
2	Pipeline & Product Demand	Schedule 21, LN 84 + Schedule 21, LN 87
3	Storage	Schedule 21, LN 85
4	Peaking	Schedule 21, LN 86
5	Total Gross Demand Cost	Sum (LN 2 : LN 4)
6		
7	Capacity Assignment Demand Revenue Estimate	Schedule 5B, Page 1
8	NH Total Pipeline, Storage & Peaking Demand Cost	LN 5
9	Capacity Assignment as % of Total Gross Demand Cost	LN 7 / LN 8
10		
11	NH Non-Grandfathered Transportation Allocated Capacity Assignment Costs	
12		
13	Pipeline & Product Demand	LN 2 * LN 9
14	Storage	LN 3 * LN 9
15	Peaking	LN 4 * LN 9
16	Total Capacity Assignment Credit	Sum (LN 13 : LN 15)
17		
18	NH Net Annual Demand Cost (Less Capacity Assignment)	
19		
20	Pipeline & Product Demand	LN 2 - LN 13
21	Storage	LN 3 - LN 14
22	Peaking	LN 4 - LN 15
23	Total Net Demand Cost (Less Capacity Assignment)	LN 5 - LN 16
24		
25	**DEVELOPMENT OF BASE AND REMAINING PIPELINE DEMAND (**	
26		
27	Pipeline MDQ	Company Analysis
28	Less 19.09% NH Transp. Capacity Assignment	-(LN 27) * LN 9
29	Net Pipeline MDQ	Sum (LN 27 : LN 28)
30		
31	Net Pipeline MDQ	LN 29
32	Less: Firm Sales Base Use	Schedule 10B, LN 48 / 10
33	Remaining Pipeline MDQ	LN 31 - LN 32
34		
35		
36	Pipeline Unit Cost	LN 20 / LN 31
37		
38		
39	Pipeline & Product Demand	LN 20
40	Less: Base Pipeline Use	LN 36 * LN 32
41	Remaining Pipeline Use	LN 39 - LN 40

Northern Utilities - NEW HAMPSHIRE DIVISION
Simplified Market Based Allocator (SMBA) Calculations
DEMAND COSTS

NH DIVISION MONTHLY PROPORTIONAL RESPONSIBILITY (PR ALLOCATORS)
(Based on NH Firm Sales Sendout for Remaining Temperature Sensitive Load)

All Months	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**
Remaining Load for All Months	3,331,761	5,544,147	7,092,355	6,200,434	5,096,490	2,282,307
Rank	5	3	1	2	4	6
% Max Month	46.98%	78.17%	100.00%	87.42%	71.86%	32.18%
PR	2.96%	2.10%	12.58%	4.63%	6.22%	2.57%
CumPR	7.71%	16.03%	33.24%	20.66%	13.93%	4.75%

Peak Months Only	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**
Remaining Load for Peak Months Only	3,331,761	5,544,147	7,092,355	6,200,434	5,096,490	2,282,307
Rank	5	3	1	2	4	6
% Max Month	46.98%	78.17%	100.00%	87.42%	71.86%	32.18%
PR	2.96%	2.10%	12.58%	4.63%	6.22%	5.36%
CumPR	8.32%	16.65%	33.85%	21.27%	14.54%	5.36%

DEMAND COST PR ALLOCATORS

	Nov	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**
Pipeline - Base	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%
Pipeline - Remaining	7.71%	16.03%	33.24%	20.66%	13.93%	4.75%
Storage & Peaking	7.71%	16.03%	33.24%	20.66%	13.93%	4.75%
Capacity Release	8.32%	16.65%	33.85%	21.27%	14.54%	5.36%
Interr. Margins & Off Sys Sales	8.32%	16.65%	33.85%	21.27%	14.54%	5.36%

DEMAND COSTS ALLOCATED TO MONTHS

	Nov	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**
Pipeline - Base	$ 84,500	$ 84,500	$ 84,500	$ 84,500	$ 84,500	$ 84,500
Pipeline - Remaining	$ 179,765	$ 373,866	$ 774,976	$ 481,747	$ 324,809	$ 110,761
Total Pipeline	$ 264,265	$ 458,366	$ 859,476	$ 566,247	$ 409,309	$ 195,261
Storage & Peaking	$ 776,553	$ 1,615,034	$ 3,347,755	$ 2,081,059	$ 1,403,115	$ 478,469
Less Credits to Demand Cost						
Cap Rel Margin & Asset Mgt Credit	$ 157,679	$ 315,391	$ 641,303	$ 403,047	$ 275,530	$ 101,611
Interruptible Margins	$ -	$ -	$ -	$ -	$ -	$ -
Re-Entry Fee Credits	$ -	$ -	$ -	$ -	$ -	$ -
PNGTS Refund - Winter Only Contract	$ 114,163	$ 228,350	$ 464,318	$ 291,815	$ 199,490	$ 73,569
PNGTS Refund - Annual Contract	$ 1,354	$ 2,708	$ 5,505	$ 3,460	$ 2,365	$ 872
Off-system Peaking Demand Cost Allocation Adjustment	$ 3,679	$ 7,358	$ 14,961	$ 9,403	$ 6,428	$ 2,371
Total Direct Demand Costs	$ 767,623	$ 1,526,951	$ 3,096,103	$ 1,948,984	$ 1,335,038	$ 497,678
Indirect Demand Costs/(Credits)						
Miscellaneous Overhead						
Local Production & Storage						
Subtotal						

Northern Utilities - NEW HAMPSHIRE DIVISION
Simplified Market Based Allocator (SMBA) Calculations
DEMAND COSTS

42	**NH DIVISION MONTHLY PROPORTIONAL RESPONSIBILITY (PR ALLOCATORS)**									
43	(Based on NH Firm Sales Sendout for Remaining Temperature Sensitive Load)									
44										
45	**All Months**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Annual**	**Winter**	**Summer**
46	Remaining Load for All Months	661,036	175,690	0	2,642	83,706	1,187,796	31,658,363	29,547,493	2,110,870
47	Rank	8	9	12	11	10	7			
48	% Max Month	9.32%	2.48%	0.00%	0.04%	1.18%	16.75%			
49	PR	0.86%	0.14%	0.00%	0.00%	0.11%	1.06%	33.24%		
50	CumPR	1.12%	0.26%	0.00%	0.00%	0.12%	2.18%	100.00%	96.32%	3.68%
51										
52	**Peak Months Only**							**Annual**	**Winter**	**Summer**
53	Remaining Load for Peak Months Only							29,547,493	29,547,493	
54	Rank									
55	% Max Month									
56	PR							33.85%		
57	CumPR							100.00%	100.00%	0.00%
58										
59	**DEMAND COST PR ALLOCATORS**									
60		**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Annual**	**Winter**	**Summer**
61	Pipeline - Base	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	100.00%	50.00%	50.00%
62	Pipeline - Remaining	1.12%	0.26%	0.00%	0.00%	0.12%	2.18%	100.00%	96.32%	3.68%
63	Storage & Peaking	1.12%	0.26%	0.00%	0.00%	0.12%	2.18%	100.00%	96.32%	3.68%
64	Capacity Release	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	0.00%
65	Interr. Margins & Off Sys Sales	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	0.00%

66												
67	**DEMAND COSTS ALLOCATED TO MONTHS**											
68		**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Annual**	**Winter**	**Summer**	**Winter**	**Summer**
69	Pipeline - Base	$ 84,500	$ 84,500	$ 84,500	$ 84,500	$ 84,500	$ 84,500	$ 1,014,000	$ 507,000	$ 507,000	50.00%	50.00%
70	Pipeline - Remaining	$ 26,049	$ 6,104	$ -	$ 79	$ 2,744	$ 50,789	$ 2,331,689	$ 2,245,924	$ 85,766	96.32%	3.68%
71	Total Pipeline	$ 110,549	$ 90,604	$ 84,500	$ 84,579	$ 87,244	$ 135,289	$ 3,345,689	$ 2,752,923	$ 592,766	82.28%	17.72%
72												
73	Storage & Peaking	$ 112,529	$ 26,369	$ -	$ 341	$ 11,854	$ 219,400	$ 10,072,478	$ 9,701,985	$ 370,493	96.32%	3.68%
74												
75	Less Credits to Demand Cost											
76	Cap Rel Margin & Asset Mgt Credit	$ -	$ -	$ -	$ -	$ -	$ -	$1,894,561	$ 1,894,561	$ -	100.00%	0.00%
77	Interruptible Margins	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
78	Re-Entry Fee Credits	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
79	PNGTS Refund - Winter Only Contract	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,371,706	$ 1,371,706	$ -	100.00%	0.00%
80	PNGTS Refund - Annual Contract	$ -	$ -	$ -	$ -	$ -	$ -	$ 16,264	$ 16,264	$ -	100.00%	0.00%
81	Off-system Peaking Demand Cost Allocation Adjustment	$ -	$ -	$ -	$ -	$ -	$ -	$ 44,199	$ 44,199	$ -	100.00%	0.00%
82	Total Direct Demand Costs	$ 223,078	$ 116,973	$ 84,500	$ 84,920	$ 99,098	$ 354,689	$ 10,091,436	$ 9,128,178	$ 963,258	90.45%	9.55%
83												
84	Indirect Demand Costs/(Credits)											
85	Miscellaneous Overhead							$ 512,668	$ 418,262	$ 94,406	81.59%	18.41%
86	Local Production & Storage							$ 420,658	$ 420,658	$ -	100.00%	0.00%
87	Subtotal							$ 933,326	$ 838,920	$ 94,406	89.89%	10.11%

Northern Utilities - NEW HAMPSHIRE DIVISION
Simplified Market Based Allocator (SMBA) Calculations
DEMAND COSTS

42	**NH DIVISION MONTHLY PROPORTIONAL RESPONSIBILITY (PR ALLOCATORS)**	
43	(Based on NH Firm Sales Sendout for Remaining Temperature Sensitive Load)	
44		
45	**All Months**	
46	Remaining Load for All Months	Schedule 10B, LN 80
47	Rank	Rank LN 46
48	% Max Month	LN 46 / MAX Month LN 46
49	PR	The difference between LN 48 for the month and LN 48 for next highest rank
50	CumPR	Cumulative Values, LN 49
51		
52	**Peak Months Only**	
53	Remaining Load for Peak Months Only	LN 46
54	Rank	Rank LN 53
55	% Max Month	LN 53 / MAX Month LN 53
56	PR	The difference between LN 55 for the month and LN 55 for next highest rank
57	CumPR	Cumulative Values, LN 56
58		
59	**DEMAND COST PR ALLOCATORS**	
60		
61	Pipeline - Base	1/12
62	Pipeline - Remaining	LN 50
63	Storage & Peaking	LN 50
64	Capacity Release	LN 57
65	Interr. Margins & Off Sys Sales	LN 57
66		
67	**DEMAND COSTS ALLOCATED TO MONTHS**	
68		
69	Pipeline - Base	LN 40 * LN 61
70	Pipeline - Remaining	LN 41 * LN 62
71	Total Pipeline	LN 69 + LN 70
72		
73	Storage & Peaking	LN 63 * (Sum LN 21 : LN 22)
74		
75	Less Credits to Demand Cost	
76	Cap Rel Margin & Asset Mgt Credit	Schedule 1A, Page 6, Line 6
77	Interruptible Margins	
78	Re-Entry Fee Credits	
79	PNGTS Refund - Winter Only Contract	Schedule 25
80	PNGTS Refund - Annual Contract	Schedule 25
81	Off-system Peaking Demand Cost Allocation Adjustment	Schedule 21A
82	Total Direct Demand Costs	LN 71 + LN 73 - (Sum LN 76 : LN 80)
83		
84	Indirect Demand Costs/(Credits)	
85	Miscellaneous Overhead	Company Analysis
86	Local Production & Storage	Company Analysis
87	Subtotal	LN 85 + LN 86

		A Total	B Capacity Assigned	C Sales	D Total	E Capacity Assigned	F Sales
1	Asset Management	($1,894,561)	$0	($1,894,561)	Schedule 21, Line 89	Schedule 5B, Page 5	A - B
2	Capacity Release Revenues	$0	$0	$0	Schedule 21, Line 88		A - B
3	Total NH Cap Rel and Asset Management	($1,894,561)	$0	($1,894,561)			Sum (LN1 + LN 2 + LN 5)

Northern Utilities - NEW HAMPSHIRE DIVISION
COMMODITY COSTS

		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	Summer
	Supply Volumes - Therms															
1	New Hampshire Sales Pipeline	2,590,562	3,675,878	3,617,263	3,762,923	4,197,850	3,222,852	1,640,748	1,123,714	977,067	982,348	1,032,000	2,167,349	28,990,553	21,067,328	7,923,226
2	New Hampshire Sales Storage	1,688,145	2,692,839	3,121,318	2,939,523	1,690,710	0	0	0	0	0	0	0	12,132,536	12,132,536	0
3	New Hampshire Sales Peaking	8,571	162,795	1,341,144	389,804	195,298	7,821	7,661	7,490	7,655	7,663	7,225	7,816	2,150,944	2,105,434	45,510
4	Total New Hampshire Firm Sales Sendout	4,287,278	6,531,513	8,079,725	7,092,250	6,083,858	3,230,674	1,648,409	1,131,204	984,722	990,011	1,039,225	2,175,165	43,274,033	35,305,297	7,968,736
5																
6	New Hampshire Interruptible Sendout (Pipeline)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7																
8	Total Firm Sendout	4,287,278	6,531,513	8,079,725	7,092,250	6,083,858	3,230,674	1,648,409	1,131,204	984,722	990,011	1,039,225	2,175,165	43,274,033	35,305,297	7,968,736
9	Total Firm Sales	4,233,929	6,450,240	7,979,184	7,003,998	6,008,154	3,190,474	1,627,891	1,117,130	972,471	977,690	1,026,291	2,148,096	42,735,550	34,865,979	7,869,571
10	Difference (LAUF & Company Use)	53,349	81,273	100,542	88,252	75,704	40,200	20,518	14,073	12,251	12,321	12,934	27,069	538,483	439,318	99,165
11	Percent Difference	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%	1.24%
12																
13	**Variable Costs**															
14	New Hampshire Sales Pipeline Commodity	$ 787,987	$ 1,756,372	$ 1,975,295	$ 1,936,691	$ 1,439,735	$ 925,573	$ 440,118	$ 301,101	$ 263,150	$ 263,809	$ 269,572	$ 581,265	$ 10,940,669	$ 8,821,653	$ 2,119,016
15	New Hampshire Hedging (Gains) Losses	$ 11,029	$ 19,001	$ 28,910	$ 29,550	$ 23,538	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 112,028	$ 112,028	$ -
16	New Hampshire Total Storage	$ 514,698	$ 819,627	$ 932,166	$ 878,800	$ 496,601	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,641,891	$ 3,641,891	$ -
17	New Hampshire Total Peaking	$ 5,476	$ 151,941	$ 1,560,278	$ 441,289	$ 160,847	$ 5,328	$ 5,039	$ 4,917	$ 5,026	$ 5,031	$ 4,719	$ 5,105	$ 2,354,996	$ 2,325,159	$ 29,837
18	New Hampshire Inventory Finance Charge	$ 389	$ 648	$ 829	$ 725	$ 596	$ 267	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,454	$ 3,454	$ -
19	Total New Hampshire Sales Variable Costs	$ 1,319,578	$ 2,747,590	$ 4,497,478	$ 3,287,055	$ 2,121,317	$ 931,167	$ 445,157	$ 306,019	$ 268,176	$ 268,840	$ 274,292	$ 586,370	$ 17,053,039	$ 14,904,185	$ 2,148,854
20	Total NH Sales Variable Costs Excld Hedges	$ 1,308,549	$ 2,728,589	$ 4,468,568	$ 3,257,505	$ 2,097,779	$ 931,167	$ 445,157	$ 306,019	$ 268,176	$ 268,840	$ 274,292	$ 586,370	$ 16,941,010	$ 14,792,157	$ 2,148,854
21																
22	New Hampshire Interruptible Commodity Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	Total New Hampshire Commodity Costs	$ 1,319,578	$ 2,747,590	$ 4,497,478	$ 3,287,055	$ 2,121,317	$ 931,167	$ 445,157	$ 306,019	$ 268,176	$ 268,840	$ 274,292	$ 586,370	$ 17,053,039	$ 14,904,185	$ 2,148,854
24																
25	**Supply Cost/Therm**															
26	NH Sales Pipeline Commodity Excld Hedges	$ 0.3042	$ 0.4778	$ 0.5461	$ 0.5147	$ 0.3430	$ 0.2872	$ 0.2682	$ 0.2680	$ 0.2693	$ 0.2685	$ 0.2612	$ 0.2682	$ 0.3774	$ 0.4187	$ 0.2674
27	New Hampshire Hedging (Gains) Losses	$ 0.0043	$ 0.0052	$ 0.0080	$ 0.0079	$ 0.0056	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0039	$ 0.0053	$ -
28	NH Storage Excld Inventory Finance Costs	$ 0.3049	$ 0.3044	$ 0.2986	$ 0.2990	$ 0.2937	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.3002	$ 0.3002	$ -
29	NH Peaking Excld Inventory Finance Costs	$ 0.6388	$ 0.9333	$ 1.1634	$ 1.1321	$ 0.8236	$ 0.6812	$ 0.6578	$ 0.6565	$ 0.6565	$ 0.6565	$ 0.6532	$ 0.6531	$ 1.0949	$ 1.1044	$ 0.6556
30	NH Inventory Finance Costs per Dth Stor and Peak	$ 0.0002	$ 0.0002	$ 0.0002	$ 0.0002	$ 0.0003	$ 0.0341	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.0002	$ 0.0002	$ -
31	Weighted Average Cost per Dth Sendout	$ 0.3078	$ 0.4207	$ 0.5566	$ 0.4635	$ 0.3487	$ 0.2882	$ 0.2701	$ 0.2705	$ 0.2723	$ 0.2716	$ 0.2639	$ 0.2696	$ 0.3941	$ 0.4222	$ 0.2697
32																
33	New Hampshire Interruptible Cost / Therm	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
34																
35	**Commodity Costs**															
36	Base Commodity, therms	955,516	987,367	987,367	891,815	987,367	948,367	987,367	955,516	984,725	987,367	955,516	987,367	11,615,656	5,757,798	5,857,857
37	Base Commodity Cost Excld Hedging	$ 290,645	$ 471,774	$ 539,176	$ 458,997	$ 338,637	$ 272,362	$ 264,854	$ 256,033	$ 265,213	$ 265,157	$ 249,594	$ 264,803	$ 3,937,244	$ 2,371,591	$ 1,565,653
38	Base Hedging Commodity Cost	$ 4,068	$ 5,104	$ 7,891	$ 7,003	$ 5,536	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 29,603	$ 29,603	$ -
39	Remaining Commodity Excld Hedging	$ 1,017,904	$ 2,256,815	$ 3,929,392	$ 2,798,508	$ 1,759,142	$ 658,805	$ 180,304	$ 49,986	$ 2,963	$ 3,683	$ 24,698	$ 321,566	$ 13,003,767	$ 12,420,566	$ 583,201
40	Remaining Hedging Commodity	$ 6,961	$ 13,898	$ 21,019	$ 22,546	$ 18,002	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 82,425	$ 82,425	$ -
41	Total Commodity Excld Hedging	$ 1,308,549	$ 2,728,589	$ 4,468,568	$ 3,257,505	$ 2,097,779	$ 931,167	$ 445,157	$ 306,019	$ 268,176	$ 268,840	$ 274,292	$ 586,370	$ 16,941,010	$ 14,792,157	$ 2,148,854
42	Total Hedging	$ 11,029	$ 19,001	$ 28,910	$ 29,550	$ 23,538	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 112,028	$ 112,028	$ -
43	Total Commodity (Incl Hedging)	$ 1,319,578	$ 2,747,590	$ 4,497,478	$ 3,287,055	$ 2,121,317	$ 931,167	$ 445,157	$ 306,019	$ 268,176	$ 268,840	$ 274,292	$ 586,370	$ 17,053,039	$ 14,904,185	$ 2,148,854

Northern Utilities - NEW HAMPSHIRE DIVISION
COMMODITY COSTS

	Supply Volumes - Therms	
1	New Hampshire Sales Pipeline	Schedule 22, LN 10 * LN 59 * 10
2	New Hampshire Sales Storage	Schedule 22, LN 3 * LN 59 * 10
3	New Hampshire Sales Peaking	Schedule 22, LN 4 * LN 59 * 10
4	Total New Hampshire Firm Sales Sendout	Sum LN 1 : LN 3
5		
6	New Hampshire Interruptible Sendout (Pipeline)	Schedule 22, LN 8 * 10
7		
8	Total Firm Sendout	LN 4
9	Total Firm Sales	Schedule 10B, LN 11
10	Difference (LAUF & Company Use)	LN 8 - LN 9
11	Percent Difference	LN 10 / LN 8
12		
13	**Variable Costs**	
14	New Hampshire Sales Pipeline Commodity	Schedule 22, LN 73
15	New Hampshire Hedging (Gains) Losses	Schedule 22, LN 74
16	New Hampshire Total Storage	Schedule 22, LN 75
17	New Hampshire Total Peaking	Schedule 22, LN 76
18	New Hampshire Inventory Finance Charge	Schedule 22, LN 79
19	Total New Hampshire Sales Variable Costs	Sum LN 14 : LN 18
20	Total New Hampshire Sales Variable Costs Excld Hedges	LN 19 - LN 15
21		
22	New Hampshire Interruptible Commodity Costs	Schedule 22, LN 77
23	Total New Hampshire Commodity Costs	LN 19
24		
25	**Supply Cost/Therm**	
26	New Hampshire Sales Pipeline Commodity Excld Hedges	LN 14 / LN 1
27	New Hampshire Hedging (Gains) Losses	LN 15 / LN 1
28	New Hampshire Storage Excld Inventory Finance Costs	LN 16 / LN 2
29	New Hampshire Peaking Excld Inventory Finance Costs	LN 17 / LN 3
30	New Hampshire Inventory Finance Costs per Dth Stor and Peak	LN 18 / Sum (LN 2 : LN 3)
31	Weighted Average Cost per Dth Sendout	LN 19 / LN 8
32		
33	New Hampshire Interruptible Cost / Therm	LN 22 / LN 6
34		
35	**Commodity Costs**	
36	Base Commodity, therms	Schedule 10B, LN 64
37	Base Commodity Cost Excld Hedging	Min (LN 26 * LN 36), LN 19
38	Base Hedging Commodity Cost	Min (LN 27 * LN 36), (LN 19 - LN 37)
39	Remaining Commodity Excld Hedging	LN 20 - LN 37
40	Remaining Hedging Commodity	LN 15 - LN 38
41	Total Commodity Excld Hedging	LN 37 + LN 39
42	Total Hedging	LN 38 + LN 40
43	Total Commodity (Incl Hedging)	LN 41 + LN 42

REDACTED

Estimated Delivered City-Gate Commodity Costs and Volumes
November 2017 through April 2018

Denotes Confidential Information

Rank	Supply Source	Delivered City-Gate Costs	Delivered City-Gate Volumes	Delivered Cost per Dth
1	Tennessee Storage Path	[redacted]	208,585	[redacted]
2	FS-MA Path (TGP Zone 4 300 Leg)		201,548	
3	Leidy Hub		173,006	
4	Tennessee Zone 4 200 Leg		901,133	
5	W10 Path (Dawn)		620,873	
6	Washington 10 Storage Path		3,312,944	
7	Tennessee Niagara Path		357,309	
8	W10 Path (Chicago)		476,279	
9	Dawn Supply Path		771,418	
10	Tennessee Zone 0		154,226	
11	Tennessee Zone L		169,895	
12	Texas Eastern Zone M-3		1,660	
13	Transco Zone 6, non-NY		51,766	
14	Iroquois Receipts Path		954,421	
15	LNG		111,844	
16	Maritimes Delivered		675,000	
17	Incremental Delivered Supplies		9,038	
18	Peaking Contract 1		37,369	
19	Peaking Contract 2		390,119	
	Total Delivered Commodity Cost	$39,572,752	9,578,431	$4.131

REDACTED

Rank	Estimated Delivered City-Gate Commodity Costs and Volumes May 2018 through October 2018 Denotes Confidential Information			
	Supply Source	Delivered City-Gate Costs	Delivered City-Gate Volumes	Delivered Cost per Dth
1	Leidy Hub	[redacted]	175,944	[redacted]
2	Texas Eastern Zone M-3	[redacted]	1,616	[redacted]
3	FS-MA Path (TGP Zone 4 300 Leg)	[redacted]	416,931	[redacted]
4	Transco Zone 6, non-NY	[redacted]	34,892	[redacted]
5	Tennessee Zone 4 200 Leg	[redacted]	913,504	[redacted]
6	Iroquois Receipts Path	[redacted]	66,556	[redacted]
7	Tennessee Niagara Path	[redacted]	61,196	[redacted]
8	W10 Path (Dawn)	[redacted]	564,065	[redacted]
9	Dawn Supply Path	[redacted]	49,887	[redacted]
10	LNG	[redacted]	13,156	[redacted]
	Total Delivered Commodity Cost	$6,195,652	2,297,747	$2.696

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

			Winter						Summer					
	Sales Revenues		(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)
1	Volumes	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-18
2	Residential Heat & Non Heat		1,971,438	3,003,415	3,715,334	3,261,260	2,797,567	1,485,575	702,997	482,427	419,957	422,211	443,199	927,645
3	Sales HLF Classes		297,347	452,998	560,375	491,888	421,950	224,066	363,643	249,548	217,233	218,399	229,256	479,847
4	Sales LLF Classes		1,965,145	2,993,828	3,703,475	3,250,850	2,788,637	1,480,833	561,252	385,156	335,281	337,080	353,837	740,604
5	Total		4,233,929	6,450,240	7,979,184	7,003,998	6,008,154	3,190,474	1,627,891	1,117,130	972,471	977,690	1,026,291	2,148,096
6	Rates													
7	Residential Heat & Non Heat CGA		$0.7106	$0.7106	$0.7106	$0.7106	$0.7106	$0.7106	$0.4006	$0.4006	$0.4006	$0.4006	$0.4006	$0.4006
8	Sales HLF Classes CGA		$0.6227	$0.6227	$0.6227	$0.6227	$0.6227	$0.6227	$0.3574	$0.3574	$0.3574	$0.3574	$0.3574	$0.3574
9	Sales LLF Classes CGA		$0.7239	$0.7239	$0.7239	$0.7239	$0.7239	$0.7239	$0.4285	$0.4285	$0.4285	$0.4285	$0.4285	$0.4285
10	Revenues													
11	Residential Heat & Non Heat		$ (1,400,904)	$ (2,134,227)	$ (2,640,116)	$ (2,317,452)	$ (1,987,951)	$ (1,055,650)	$ (281,620)	$ (193,260)	$ (168,235)	$ (169,138)	$ (177,545)	$ (371,614)
12	Sales HLF Classes		$ (185,158)	$ (282,082)	$ (348,945)	$ (306,299)	$ (262,748)	$ (139,526)	$ (129,966)	$ (89,188)	$ (77,639)	$ (78,056)	$ (81,936)	$ (171,497)
13	Sales LLF Classes		$ (1,422,568)	$ (2,167,232)	$ (2,680,945)	$ (2,353,290)	$ (2,018,694)	$ (1,071,975)	$ (240,496)	$ (165,039)	$ (143,668)	$ (144,439)	$ (151,619)	$ (317,349)
14	Total Sales		$ (3,008,630)	$ (4,583,540)	$ (5,670,007)	$ (4,977,041)	$ (4,269,394)	$ (2,267,150)	$ (652,083)	$ (447,488)	$ (389,542)	$ (391,632)	$ (411,101)	$ (860,461)
15														
16			Winter						Summer					
17	**Gas Costs and Credits**		(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)
18		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-18
19	Net Demand Costs (Net of Injection Fees & Cap. Assign.)													
20	Pipeline		$ 278,965	$ 278,965	$ 278,965	$ 278,965	$ 278,965	$ 278,965	$ 278,965	$ 278,965	$ 278,965	$ 278,965	$ 278,020	$ 278,020
21	Storage		$ 1,118,336	$ 1,118,336	$ 1,118,336	$ 1,118,336	$ 1,118,336	$ 443,264	$ 443,264	$ 410,369	$ 410,369	$ 410,369	$ 410,369	$ 410,369
22	Peaking		$ 240,917	$ 244,210	$ 244,210	$ 244,210	$ 240,917	$ 90,295	$ 42,108	$ 42,108	$ 42,108	$ 42,108	$ 42,108	$ 42,108
23	Total Demand Costs		$ 1,638,219	$ 1,641,511	$ 1,641,511	$ 1,641,511	$ 1,638,219	$ 812,524	$ 764,337	$ 731,442	$ 731,442	$ 731,442	$ 730,497	$ 730,497
24														
25	Asset Management and Capacity Release													
26	NUI AMA Revenue		$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)
27	NUI Capacity Release		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28	NUI AMA Rev & Cap. Release Subtotal		$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)	$ (353,757)
29	NH AMA Revenue		$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)
30	NH Capacity Release		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
31	NH Total Asset Management and Capacity Release		$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)	$ (157,880)
32														
	PNGTS Refund		$ (231,328.41)	$ (231,328.41)	$ (231,328.41)	$ (231,328.41)	$ (231,328.41)	$ (231,328.41)	$ -	$ -	$ -	$ -	$ -	$ -
33	Net Demand Costs		$ 1,249,010	$ 1,252,303	$ 1,252,303	$ 1,252,303	$ 1,249,010	$ 423,315	$ 606,457	$ 573,562	$ 573,562	$ 573,562	$ 572,617	$ 572,617
34														
35	NUI Commodity Costs													
36	NUI Total Pipeline Volumes		648,293	916,964	898,057	943,605	1,070,055	883,856	474,732	321,807	282,899	284,126	306,404	614,624
37	Pipeline Costs Modeled in Sendout™		$ 1,971,953	$ 4,381,350	$ 4,904,060	$ 4,856,523	$ 3,669,966	$ 2,538,352	$ 1,273,432	$ 862,289	$ 761,921	$ 763,018	$ 800,369	$ 1,648,370
38	NYMEX Price Used for Forecast		$ 3.0500	$ 3.2000	$ 3.3000	$ 3.3000	$ 3.2600	$ 2.9300	$ 2.8900	$ 2.9200	$ 2.9400	$ 2.9500	$ 2.9200	$ 2.9400
39	NYMEX Price Used for Update		$ 3.0500	$ 3.2000	$ 3.3000	$ 3.3000	$ 3.2600	$ 2.9300	$ 2.8900	$ 2.9200	$ 2.9400	$ 2.9500	$ 2.9200	$ 2.9400
40	Increase/(Decrease) NYMEX Price													
41	Increase/(Decrease) in Pipeline Costs		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42	Updated Pipeline Costs		$ 1,971,953	$ 4,381,350	$ 4,904,060	$ 4,856,523	$ 3,669,966	$ 2,538,352	$ 1,273,432	$ 862,289	$ 761,921	$ 763,018	$ 800,369	$ 1,648,370
43	Interruptible Volumes - NH		0	0	0	0	0	0	0	0	0	0	0	0
44	Average Supply Cost ($/MMBtu)		$ 3.04	$ 4.78	$ 5.46	$ 5.15	$ 3.43	$ 2.87	$ 2.68	$ 2.68	$ 2.69	$ 2.69	$ 2.61	$ 2.68
45	Interruptible Cost - NH		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
46	Total Updated Pipeline Costs		$ 1,971,953	$ 4,381,350	$ 4,904,060	$ 4,856,523	$ 3,669,966	$ 2,538,352	$ 1,273,432	$ 862,289	$ 761,921	$ 763,018	$ 800,369	$ 1,648,370
47	New Hampshire Allocated Percentage		39.96%	40.09%	40.28%	39.88%	39.23%	36.46%	34.56%	34.92%	34.54%	34.57%	33.68%	35.26%
48	NH Updated Pipeline Costs		$ 787,987	$ 1,756,372	$ 1,975,295	$ 1,936,691	$ 1,439,735	$ 925,573	$ 440,118	$ 301,101	$ 263,150	$ 263,809	$ 269,572	$ 581,265
49	Hedging (Gain)/Loss Estimate													
50	NYMEX Options Contracts													
51	Number of Contracts		12	20	29	30	25							
52	Option Contract Price		$ 0.23	$ 0.24	$ 0.25	$ 0.25	$ 0.24							
53	Hedging Expenses		$ 27,600	$ 47,400	$ 71,775	$ 74,100	$ 60,000							
54	NYMEX Option Strike Price		$ 4.80	$ 5.25	$ 6.00	$ 6.25	$ 6.30							
55	NYMEX Price Used for Forecast		$ 3.05	$ 3.20	$ 3.30	$ 3.30	$ 3.26							
56	Strike Price Hit		No	No	No	No	No							
57	Option Hedging Gain (Credit)		$ -											
58	Tota Northern Hedginf Net Cost		$ 27,600	$ 47,400	$ 71,775	$ 74,100	$ 60,000							
59	New Hampshire Allocated Percentage		39.96%	40.09%	40.28%	39.88%	39.23%							
60	NH Futures Hedging Net Cost		$ 11,029	$ 19,001	$ 28,910	$ 29,550	$ 23,538		$ -	$ -	$ -	$ -	$ -	$ -
61	NH Commodity Costs													
62	Pipeline Excl Hedging		$ 787,987	$ 1,756,372	$ 1,975,295	$ 1,936,691	$ 1,439,735	$ 925,573	$ 440,118	$ 301,101	$ 263,150	$ 263,809	$ 269,572	$ 581,265
63	Hedging (Gain)/Loss Estimate		$ 11,029	$ 19,001	$ 28,910	$ 29,550	$ 23,538	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64	Storage		$ 514,698	$ 819,627	$ 932,166	$ 878,800	$ 496,601	$ -	$ -	$ -	$ -	$ -	$ -	$ -
65	Peaking		$ 5,476	$ 151,941	$ 1,560,278	$ 441,289	$ 160,847	$ 5,328	$ 5,039	$ 4,917	$ 5,026	$ 5,031	$ 4,719	$ 5,105
66	Total Commodity Costs		$ 1,319,189	$ 2,746,942	$ 4,496,649	$ 3,286,330	$ 2,120,721	$ 930,901	$ 445,157	$ 306,019	$ 268,176	$ 268,840	$ 274,292	$ 586,370

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

Line	Sales Revenues	Winter	Summer	Total
1	Volumes	Winter	Summer	Total
2	Residential Heat & Non Heat	16,234,589	3,398,435	19,633,024
3	Sales HLF Classes	2,448,624	1,757,926	4,206,549
4	Sales LLF Classes	16,182,767	2,713,210	18,895,976
5	Total	34,865,979	7,869,571	42,735,550
6	Rates	-	-	-
7	Residential Heat & Non Heat CGA			
8	Sales HLF Classes CGA			
9	Sales LLF Classes CGA			
10	Revenues			
11	Residential Heat & Non Heat	(11,536,299)	(1,361,413)	(12,897,712)
12	Sales HLF Classes	(1,524,758)	(628,283)	(2,153,041)
13	Sales LLF Classes	(11,714,705)	(1,162,610)	(12,877,315)
14	Total Sales	(24,775,762)	(3,152,306)	(27,928,068)
15				
16				
17	**Gas Costs and Credits**			
18		Winter	Summer	Total
19	Net Demand Costs (Net of Injection Fees & Cap. Ass			
20	Pipeline	1,673,790	1,671,899	3,345,689
21	Storage	6,034,946	2,495,109	8,530,055
22	Peaking	1,304,759	252,650	1,557,408
23	Total Demand Costs	9,013,494	4,419,659	13,433,152
24				
25	Asset Management and Capacity Release			
26	NUI AMA Revenue	(2,122,539)	(2,122,539)	$ (4,245,078)
27	NUI Capacity Release	-	-	$ -
28	NUI AMA Rev & Cap. Release Subtotal	(2,122,539)	(2,122,539)	$ (4,245,078)
29	NH AMA Revenue	(947,280)	(947,280)	$ (1,894,561)
30	NH Capacity Release	-	-	$ -
31	NH Total Asset Management and Capacity Release	$ (947,280)	$ (947,280)	$ (1,894,561)
32				
	PNGTS Refund	$ (1,387,970)	$ -	$ (1,387,970)
33	Net Demand Costs	$ 6,678,243	$ 3,472,378	$ 10,150,621
34				
35	NUI Commodity Costs			
36	NUI Total Pipeline Volumes			7,645,423
37	Pipeline Costs Modeled in Sendout™			$ 28,431,602
38	NYMEX Price Used for Forecast			
39	NYMEX Price Used for Update			
40	Increase/(Decrease) NYMEX Price			
41	Increase/(Decrease) in Pipeline Costs			
42	Updated Pipeline Costs			
43	Interruptible Volumes - NH			
44	Average Supply Cost ($/MMBtu)			
45	Interruptible Cost - NH			
46	Total Updated Pipeline Costs			
47	New Hampshire Allocated Percentage			
48	NH Updated Pipeline Costs			$ 10,940,669
49	Hedging (Gain)/Loss Estimate			
50	NYMEX Options Contracts			
51	Number of Contracts			
52	Option Contract Price			
53	Hedging Expenses			
54	NYMEX Option Strike Price			
55	NYMEX Price Used for Forecast			
56	Strike Price Hit			
57	Option Hedging Gain (Credit)			
58	Tota Northern Hedginf Net Cost			$ 280,875
59	New Hampshire Allocated Percentage			
60	NH Futures Hedging Net Cost	$ 112,028	$ -	$ 112,028
61	NH Commodity Costs			
62	Pipeline Excl Hedging	$ 8,821,653	$ 2,119,016	$ 10,940,669
63	Hedging (Gain)/Loss Estimate	$ 112,028	$ -	$ 112,028
64	Storage	$ 3,641,891	$ -	$ 3,641,891
65	Peaking	$ 2,325,159	$ 29,837	$ 2,354,996
66	Total Commodity Costs	$ 14,900,731	$ 2,148,854	$ 17,049,585

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

67	Inventory Finance Charge		$ 389	$ 648	$ 829	$ 725	$ 596	$ 267	$ -	$ -	$ -	$ -	$ -	$ -
65														
74	**Total Anticipated Direct Cost of Gas**		$ 2,568,588	$ 3,999,893	$ 5,749,780	$ 4,539,357	$ 3,370,327	$ 1,354,483	$ 1,051,615	$ 879,581	$ 841,738	$ 842,402	$ 846,909	$ 1,158,987
75					Winter							Summer		
76			(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)	(Forecast)
77		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-18
78	Working Capital													
79	Total Anticipated Direct Cost of Gas		$ 2,568,588	$ 3,999,893	$ 5,749,780	$ 4,539,357	$ 3,370,327	$ 1,354,483	$ 1,051,615	$ 879,581	$ 841,738	$ 842,402	$ 846,909	$ 1,158,987
80	Working Capital Percentage		0.1077%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%
81	Working Capital Allowance		$ 2,767	$ 4,308	$ 6,193	$ 4,889	$ 3,630	$ 1,459	$ 1,133	$ 947	$ 907	$ 907	$ 912	$ 1,248
82	Beginning Period Working Capital Balance		$ 3,397	$ 6,180	$ 10,518	$ 16,759	$ 21,716	$ 25,430	$ 26,981	$ 28,211	$ 29,260	$ 30,272	$ 31,288	$ 32,313
83	End of Period Working Capital Allowance		$ 6,164	$ 10,489	$ 16,711	$ 21,648	$ 25,346	$ 26,889	$ 28,114	$ 29,159	$ 30,167	$ 31,179	$ 32,200	$ 33,561
84	Interest		$ 17	$ 30	$ 48	$ 68	$ 83	$ 93	$ 98	$ 102	$ 105	$ 109	$ 112	$ 117
85	End of period with Interest	$ 3,397	$ 6,180	$ 10,518	$ 16,759	$ 21,716	$ 25,430	$ 26,981	$ 28,211	$ 29,260	$ 30,272	$ 31,288	$ 32,313	$ 33,678
86	Bad Debt													
92	Projected Bad Debt	$ -	$ 1,857.72	$ 1,857.72	$ 1,857.72	$ 1,857.72	$ 1,857.72	$ 1,857.72	$ 30,733.90	$ 30,733.90	$ 30,733.90	$ 30,733.90	$ 30,733.90	$ 30,733.90
93	Beginning Period Bad Debt Balance		$ (3,874)	$ (2,027)	$ (173)	$ 1,687	$ 3,554	$ 5,428	$ 7,308	$ 38,122	$ 69,046	$ 100,079	$ 131,221	$ 162,474
94	End of Period Bad Debt Balance		*$ (2,016)*	*$ (169)*	*$ 1,685*	*$ 3,545*	*$ 5,412*	*$ 7,286*	*$ 38,042*	*$ 68,856*	*$ 99,780*	*$ 130,812*	*$ 161,955*	*$ 193,208*
95	Interest		$ (10)	$ (4)	$ 3	$ 9	$ 16	$ 23	$ 80	$ 189	$ 299	$ 409	$ 519	$ 630
96	End of Period Bad Debt Balance with Interest	$ (3,874)	$ (2,027)	$ (173)	$ 1,687	$ 3,554	$ 5,428	$ 7,308	$ 38,122	$ 69,046	$ 100,079	$ 131,221	$ 162,474	$ 193,838
97	Local Production and Storage Capacity		$ 70,110	$ 70,110	$ 70,110	$ 70,110	$ 70,110	$ 70,110	$ -	$ -	$ -	$ -	$ -	$ -
98	NH PUC Consulting Costs		$ -	$ -	$ -			$ -	$ -					
99	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
100	Gas Cost Other than Bad Debt and Working Capital Over/Under Collection													
101	Beginning Balance Over/Under Collection		$ (358,002)	$ (660,023)	$ (1,106,974)	$ (890,912)	$ (1,192,458)	$ (1,957,273)	$ (2,738,421)	$ (2,332,118)	$ (1,891,757)	$ (1,429,698)	$ (967,431)	$ (518,515)
102	Net Costs - Revenues		$ (300,221)	$ (443,827)	$ 219,593	$ (297,863)	$ (759,247)	$ (772,848)	$ 415,266	$ 447,827	$ 467,930	$ 466,504	$ 451,543	$ 314,260
103	Ending Balance before Interest		$ (658,223)	$ (1,103,850)	$ (887,380)	$ (1,188,775)	$ (1,951,705)	$ (2,730,120)	$ (2,323,155)	$ (1,884,291)	$ (1,423,827)	$ (963,194)	$ (515,889)	$ (204,255)
104	Average Balance		$ (508,113)	$ (881,937)	$ (997,177)	$ (1,039,844)	$ (1,572,082)	$ (2,343,697)	$ (2,530,788)	$ (2,108,204)	$ (1,657,792)	$ (1,196,446)	$ (741,660)	$ (361,385)
105	Interest Rate		4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%
106	Interest Expense		$ (1,800)	$ (3,124)	$ (3,532)	$ (3,683)	$ (5,568)	$ (8,301)	$ (8,963)	$ (7,467)	$ (5,871)	$ (4,237)	$ (2,627)	$ (1,280)
108	Ending Balance Incl Interest Expense	$ (358,002)	$ (660,023)	$ (1,106,974)	$ (890,912)	$ (1,192,458)	$ (1,957,273)	$ (2,738,421)	$ (2,332,118)	$ (1,891,757)	$ (1,429,698)	$ (967,431)	$ (518,515)	$ (205,535)
109	**Total Over/Under Collection Ending Balance**	$ (358,479)	$ (655,869)	$ (1,096,629)	$ (872,466)	$ (1,167,188)	$ (1,926,415)	$ (2,704,132)	$ (2,265,784)	$ (1,793,451)	$ (1,299,347)	$ (804,921)	$ (323,728)	$ 21,981
110														
111	**Total Indirect Cost of Gas**	$ (358,479)	$ 142,651	$ 142,888	$ 144,390	$ 142,961	$ 139,839	$ 134,951	$ 38,815	$ 40,240	$ 41,908	$ 43,656	$ 45,385	$ 47,183
112														
113	**Total Cost of Gas**	$ (358,479)	$ 2,711,240	$ 4,142,781	$ 5,894,170	$ 4,682,319	$ 3,510,166	$ 1,489,434	$ 1,090,430	$ 919,821	$ 883,646	$ 886,058	$ 892,294	$ 1,206,170
114														
115	**Total Interest**	$ -	$ (1,793)	$ (3,098)	$ (3,481)	$ (3,606)	$ (5,469)	$ (8,185)	$ (8,785)	$ (7,176)	$ (5,467)	$ (3,720)	$ (1,995)	$ (533)

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

67	Inventory Finance Charge	$ 3,454	$ 3,065	$ 3,454
65				
74	**Total Anticipated Direct Cost of Gas**	$ 21,582,428	$ 5,621,232	$ 27,203,660
75				
76				
77		Winter	Summer	Total
78	Working Capital			
79	Total Anticipated Direct Cost of Gas			$ 27,203,660
80	Working Capital Percentage			
81	Working Capital Allowance			$ 29,300
82	Beginning Period Working Capital Balance			
83	End of Period Working Capital Allowance			
84	Interest			$ 981
85	End of period with Interest			
86	Bad Debt			
92	Projected Bad Debt	$ 184,403	$ 11,146	$ 195,550
93	Beginning Period Bad Debt Balance			
94	End of Period Bad Debt Balance			
95	Interest			$ 2,163
96	End of Period Bad Debt Balance with Interest			
97	Local Production and Storage Capacity	$ 420,658	$ -	$ 420,658
98	NH PUC Consulting Costs	$ -	$ -	$ -
99	Miscellaneous Overhead	$ 418,262	$ 94,406	$ 512,668
100	Gas Cost Other than Bad Debt and Working Capital (			
101	Beginning Balance Over/Under Collection			$ (16,043,582)
102	Net Costs - Revenues			$ 208,918
103	Ending Balance before Interest			$ (15,834,664)
104	Average Balance			$ (15,939,123)
105	Interest Rate			
106	Interest Expense			$ (56,451)
108	Ending Balance Incl Interest Expense			
109	**Total Over/Under Collection Ending Balance**			
110				
111	**Total Indirect Cost of Gas**	$ 489,202	$ 257,187	$ 746,389
112				
113	**Total Cost of Gas**	$ 22,430,109	$ 5,878,419	$ 27,950,049
114				
115	**Total Interest**	$ (25,631)	$ (27,676)	$ (53,307)

Northern Utilities Inc.
Calculation of Bad Debt Expense

LN					
1	**Actual Bad Debt Expense 12 Months Ended June 30, 2017**				
2					
3	Total		$	362,639	Company Analysis
4	Distribution		$	200,735	Company Analysis
5	Distribution (%)			55.35%	
6	Non-Distribution		$	161,904	Company Analysis
7	Non-Distribution(%)			44.65%	LN 6 / LN 3
8					
9	Winter Demand Cost (%)			94.30%	Schedule 1A, LN 82 Winter
10	Summer Demand Cost (%)			5.70%	Schedule 1A, LN 82 Summer
11					
12	**Forecast Bad Debt Expense 12 Months Ended October 31, 2018**				
13					
14	Annual Total		$	438,000	Company Forecast
15	Annual Non-Distribution		$	195,550	LN 14* LN 7
16	Winter Non-Distribution		**$**	**184,403**	LN 9 * LN 15
17	Summer Non-Distribution		**$**	**11,146**	LN 10* LN 15

Northern Utilities, Inc. Estimated Gas Supply Demand Costs November 1, 2017 through October 31, 2018			
Line	Description	Estimate	Reference
1.	Pipeline Demand Costs	$ 9,265,284	Schedule 5A, Page 3 - Pipeline Allocated Cost
2.	Storage Allocated Pipeline Demand Costs	$ 20,506,530	Schedule 5A, Page 3 - Storage Allocated Cost
3.	Storage Demand Costs	$ 3,000,689	Schedule 5A, Page 4 - Annual Fixed Charges
4.	Peaking Allocated Pipeline Demand Costs	$ 2,186,690	Schedule 5A, Page 3 - Peaking Allocated Cost
5.	Peaking Contract Costs	$ 2,058,938	Schedule 5A, Page 5, Annual Fixed Charges
6.	Asset Management and Capacity Release Revenue	$ (4,245,078)	Schedule 5A, Page 6 - Total Asset Management and Capacity Release Revenue
7.	Total Demand Costs	$ 32,773,052	Sum Lines 1 through 6.

Northern Utilities, Inc.
Pipeline Contract Demand Cost Estimates
November 1, 2017 through October 31, 2018

Pipeline	Contract ID	Rate	Negotiated Rate	MDQ (Dth)	Receipt Zone	Delivery Zone	Demand Rate ($/MDQ)	Months Per Year	Support for Demand Rate	Monthly Demand	Annual Demand
Algonquin	93002F	AFT-1 (AFT-2)	No	4,211	Mendon, MA	Brockton, MA	$ 6.1138	12	Att to Sch 5A, P2, Line 1	$ 25,745	$ 308,943
Algonquin	93201A1C	AFT-1 (F-2/F-3)	No	1,251	Centerville, NJ	Taunton, MA	$ 6.5734	12	Att to Sch 5A, P2, Line 2	$ 8,223	$ 98,680
Granite	16-100-FT-NN	FT-NN	No	115,000	NA	NA	$ 4.4212	6	Att to Sch 5A, P2, Line 3	$ 508,438	$ 3,050,628
Granite	16-100-FT-NN	FT-NN	No	85,000	NA	NA	$ 4.4212	6	Att to Sch 5A, P2, Line 3	$ 375,802	$ 2,254,812
Iroquois	R181001	RTS-1	No	6,569	Zone 1	Zone 1	$ 5.9982	10	Att to Sch 5A, P2, Line 4	$ 39,402	$ 394,022
Iroquois	R181001	RTS-1	No	6,569	Zone 1	Zone 1	$ 5.5997	2	Att to Sch 5A, P2, Line 4	$ 36,784	$ 73,569
PNGTS	TBD	FT	Yes	6,003	Pittsburg	GSGT	$ 18.2500	12	Att to Sch 5A, P2, Line 5	$ 109,555	$ 1,314,657
PNGTS	TBD	FT	Yes	34,000	Pittsburg	GSGT	$ 18.2500	12	Att to Sch 5A, P2, Line 5	$ 620,500	$ 7,446,000
Tennessee	5083	FT-A	No	4,605	Zone 0	Zone 6	$ 23.2169	12	Att to Sch 5A, P2, Line 6	$ 106,914	$ 1,282,966
Tennessee	5083	FT-A	No	8,550	Zone L	Zone 6	$ 20.6088	12	Att to Sch 5A, P2, Line 7	$ 176,205	$ 2,114,463
Tennessee	5265	FT-A	No	2,653	Zone 4	Zone 6	$ 8.1475	12	Att to Sch 5A, P2, Line 8	$ 21,615	$ 259,384
Tennessee	5292	FT-A	No	1,406	Zone 5	Zone 6	$ 7.1563	12	Att to Sch 5A, P2, Line 9	$ 10,062	$ 120,741
Tennessee	31861	FT-A	No	2,226	Zone 5	Zone 6	$ 7.1563	12	Att to Sch 5A, P2, Line 9	$ 15,930	$ 191,159
Tennessee	39735	FT-A	No	929	Zone 5	Zone 6	$ 7.1563	12	Att to Sch 5A, P2, Line 9	$ 6,648	$ 79,778
Tennessee	41099	FT-A	No	4,267	Zone 5	Zone 6	$ 7.1563	12	Att to Sch 5A, P2, Line 9	$ 30,536	$ 366,431
Texas Eastern	800384	FT-1	No	965	M3	M3	$ 5.6240	12	Att to Sch 5A, P2, Line 10	$ 5,427	$ 65,126
TransCanada	33322	FT	No	34,000	Dawn	E. Hereford	$ 25.2338	5	Att to Sch 5A, P2, Line 11	$ 857,949	$ 4,289,746
TransCanada	33322	FT	No	34,000	Parkway	E. Hereford	$ 20.5729	7	Att to Sch 5A, P2, Line 12	$ 699,479	$ 4,896,350
TransCanada	TBD	FT	No	6,003	Parkway	E. Hereford	$ 20.5729	12	Att to Sch 5A, P2, Line 12	$ 123,499	$ 1,481,989
Union	M12256	M12	No	6,104	Dawn	Parkway	$ 2.6188	5	Att to Sch 5A, P2, Line 13	$ 15,985	$ 79,926
Union	M12256	M12	No	40,720	Dawn	Parkway	$ 2.6188	7	Att to Sch 5A, P2, Line 13	$ 106,638	$ 746,463
Vector	CRL-NUI-0725	FT-1	Yes	17,172	Alliance	Dawn	$ 7.6042	5	Att to Sch 5A, P2, Line 14	$ 130,579	$ 652,897
Vector	CRL-NUI-0727	FT-1	Yes	17,086	W-10	Dawn	$ 4.5625	5	Att to Sch 5A, P2, Line 15	$ 77,955	$ 389,774

Total Annual Demand Costs $ 31,958,503

Northern Utilities, Inc.
Pipeline Contract Demand Cost Allocations
November 1, 2017 through October 31, 2018

Pipeline	Contract ID	MDQ	Pipeline MDQ	Storage MDQ	Peaking MDQ	Pipeline %	Storage %	Peaking %	Annual Demand	Annual Pipeline Allocated Cost	Annual Storage Allocated Cost	Annual Peaking Allocated Cost
Algonquin	93002F	4,211	4,211			100%	0%	0%	$ 308,943	$ 308,943	$ -	$ -
Algonquin	93201A1C	1,251	1,251			100%	0%	0%	$ 98,680	$ 98,680	$ -	$ -
Granite	16-100-FT-NN	115,000	22,259	36,525	56,216	19%	32%	49%	$ 3,050,628	$ 590,469	$ 968,906	$ 1,491,253
Granite	16-100-FT-NN	85,000	22,259	36,525	26,216	26%	43%	31%	$ 2,254,812	$ 590,469	$ 968,906	$ 695,437
Iroquois	R181001	6,569	6,569			100%	0%	0%	$ 394,022	$ 394,022	$ -	$ -
Iroquois	R181001	6,569	6,569			100%	0%	0%	$ 73,569	$ 73,569	$ -	$ -
PNGTS	TBD	6,003	6,003			100%	0%	0%	$ 1,314,657	$ 1,314,657	$ -	$ -
PNGTS	TBD	34,000		34,000		0%	100%	0%	$ 7,446,000	$ -	$ 7,446,000	$ -
Tennessee	5083	4,605	4,605			100%	0%	0%	$ 1,282,966	$ 1,282,966	$ -	$ -
Tennessee	5083	8,550	8,550			100%	0%	0%	$ 2,114,463	$ 2,114,463	$ -	$ -
Tennessee	5265	2,653		2,653		0%	100%	0%	$ 259,384	$ -	$ 259,384	$ -
Tennessee	5292	1,406	1,406			100%	0%	0%	$ 120,741	$ 120,741	$ -	$ -
Tennessee	31861	2,226	2,226			100%	0%	0%	$ 191,159	$ 191,159	$ -	$ -
Tennessee	39735	929	929			100%	0%	0%	$ 79,778	$ 79,778	$ -	$ -
Tennessee	41099	4,267	4,267			100%	0%	0%	$ 366,431	$ 366,431	$ -	$ -
Texas Eastern	800384	965	965			100%	0%	0%	$ 65,126	$ 65,126	$ -	$ -
TransCanada	33322	34,000		34,000		0%	100%	0%	$ 4,289,746	$ -	$ 4,289,746	$ -
TransCanada	33322	34,000		34,000		0%	100%	0%	$ 4,896,350	$ -	$ 4,896,350	$ -
TransCanada	TBD	6,003	6,003			100%	0%	0%	$ 1,481,989	$ 1,481,989	$ -	$ -
Union	M12256	6,104	6,104			100%	0%	0%	$ 79,926	$ 79,926	$ -	$ -
Union	M12256	40,720	6,104	34,616		15%	85%	0%	$ 746,463	$ 111,896	$ 634,567	$ -
Vector	CRL-NUI-0725	17,172		17,172		0%	100%	0%	$ 652,897	$ -	$ 652,897	$ -
Vector	CRL-NUI-0727	17,086		17,086		0%	100%	0%	$ 389,774	$ -	$ 389,774	$ -
Annual Total Demand Costs									$ 31,958,503	$ 9,265,284	$ 20,506,530	$ 2,186,690

Northern Utilities, Inc.
Storage Contract Demand Cost Estimates
November 1, 2017 through October 31, 2018

Vendor	Contract ID	Rate	Negotiated	MSQ	Space Charge Billing Determinant	MDWQ	Space Rate	Demand Rate	Months Per Year	Support for Demand Rates	Annual Space Charge	Annual Demand Charge	Annual Fixed Charges
Tennessee	5195	FS-MA	No	259,337	259,337	4,243	$ 0.0205	$ 1.4938	12	Att to Sch 5A, P3, Line 1	$ 63,797	$ 76,058	$ 139,855
W-10	1052	Storage	Yes	3,400,000		34,000			5	Att to Sch 5A, P3, Line 2	$ -	$ -	$ 1,204,167
Union		Storage	Yes	4,000,000		41,200	$ 0.0592		7	Att to Sch 5A, P3, Line 3	$ 1,656,667		$ 1,656,667

Total Annual Fixed Charges $ 3,000,689

MSQ = Maximum Space Quantity
MDWQ = Maximum Daily Withdrawal Quantity

REDACTED

Northern Utilities, Inc.
Peaking Contract Demand Cost Estimates
November 1, 2017 through October 31, 2018

Denotes Confidential Information

Resource	Supplier	Contract Quantity	Maximum Daily Quantity	Months per Year	Annual Fixed Charges
LNG Contract	[redacted]	125,000	3,000	5	[redacted]
Peaking Contract 1		37,500	2,500	5	
Peaking Contract 2		450,000	30,000	5	
Total Peaking Supply Contract Demand Costs					$ 2,058,938

REDACTED

Northern Utilities, Inc.

Asset Management and Capacity Release Revenue Projections

November 1, 2017 through October 31, 2018

Denotes Confidential Information	
Asset Management Agreeement Revenue	
Resources	Projected Revenue
Washington 10 Storage (11/2017 through 3/2018)	[redacted]
Union Dawn Storage (4/2018 through 10/2018)	
Dawn Supply (11/2017 through 3/2018)	
Tennessee Long-Haul	
Tennessee Niagara	
Leidy / Transco Zone 6, non-NY (Texas Eastern, Algonquin)	
Iroquois Receipts (Iroquois, Tennessee, Algonquin)	
Total Asset Management	$ (4,245,078)

Capacity Release Revenue	
Resources	Projected Revenue
Total Capacity Release	$ -

Total Asset Management and Capacity Release Revenue	$ (4,245,078)

REDACTED

Northern Utilities, Inc.
Natural Gas Commodity Price Forecast
Based upon NYMEX Settlement for September 7, 2017

Denotes Confidential Information

Estimated Adders to NYMEX Last Day Settlement

Line	Supply Source	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
1	Tennesee Zone 4 200 Leg Pool	[redacted]											
2	Tennessee Zone 0												
3	Tennessee Zone L												
4	Tennessee Niagara												
5	Iroquois Receipts												
6	Dawn												
7	Leidy Hub												
8	Texas Eastern Zone M-3												
9	Transco Zone 6, Non-NY												
10	Tennesee Zone 4 313 Pool												
11	W10 Chicago City-Gate Supply												
12	W10 Dawn Supply												
13	Maritimes Delivered Baseload												
14	LNG Contract												
15	Peaking Contract 1												
16	Peaking Contract 2												
17	Incremental Supply												
18	NYMEX	$ 3.05	$ 3.20	$ 3.30	$ 3.30	$ 3.26	$ 2.93	$ 2.89	$ 2.92	$ 2.94	$ 2.95	$ 2.92	$ 2.94

Northern Utilities, Inc.
Transportation Contract Rates
November 2017 through October 2018
Fixed Demand Rates

Line	Pipeline	Rate Schedule	Receipt	Delivery	Demand Rate Support	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
1	Algonquin	AFT-1 (AFT-2)	N/A	N/A	Page 4	$ 6.1138	$ 6.1138	$ 6.1138	$ 6.1138	$ 6.1138	$ 6.1138	$ 6.1138	$ 6.1138	$ 6.1138	$ 6.1138	$ 6.1138	$ 6.1138
2	Algonquin	AFT-1 (F-2/F-3)	N/A	N/A	Page 4	$ 6.5734	$ 6.5734	$ 6.5734	$ 6.5734	$ 6.5734	$ 6.5734	$ 6.5734	$ 6.5734	$ 6.5734	$ 6.5734	$ 6.5734	$ 6.5734
3	Granite	FT-NN	N/A	N/A	Page 5	$ 4.4212	$ 4.4212	$ 4.4212	$ 4.4212	$ 4.4212	$ 4.4212	$ 4.4212	$ 4.4212	$ 4.4212	$ 4.4212	$ 4.4212	$ 4.4212
4	Iroquois	RTS-1	Zone 1	Zone 1	Page 6	$ 5.9982	$ 5.9982	$ 5.9982	$ 5.9982	$ 5.9982	$ 5.9982	$ 5.9982	$ 5.9982	$ 5.9982	$ 5.9982	$ 5.5997	$ 5.5997
5	PNGTS	FT	N/A	N/A	Page 7	$ 18.2500	$ 18.2500	$ 18.2500	$ 18.2500	$ 18.2500	$ 18.2500	$ 18.2500	$ 18.2500	$ 18.2500	$ 18.2500	$ 18.2500	$ 18.2500
6	Tennessee	FT-A	Zone 0	Zone 6	Page 8	$ 23.2169	$ 23.2169	$ 23.2169	$ 23.2169	$ 23.2169	$ 23.2169	$ 23.2169	$ 23.2169	$ 23.2169	$ 23.2169	$ 23.2169	$ 23.2169
7	Tennessee	FT-A	Zone L	Zone 6	Page 8	$ 20.6088	$ 20.6088	$ 20.6088	$ 20.6088	$ 20.6088	$ 20.6088	$ 20.6088	$ 20.6088	$ 20.6088	$ 20.6088	$ 20.6088	$ 20.6088
8	Tennessee	FT-A	Zone 4	Zone 6	Page 8	$ 8.1475	$ 8.1475	$ 8.1475	$ 8.1475	$ 8.1475	$ 8.1475	$ 8.1475	$ 8.1475	$ 8.1475	$ 8.1475	$ 8.1475	$ 8.1475
9	Tennessee	FT-A	Zone 5	Zone 6	Page 8	$ 7.1563	$ 7.1563	$ 7.1563	$ 7.1563	$ 7.1563	$ 7.1563	$ 7.1563	$ 7.1563	$ 7.1563	$ 7.1563	$ 7.1563	$ 7.1563
10	Texas Eastern	FT-1/FTS	M3	M3	Pages 10, 12	$ 5.6240	$ 5.6240	$ 5.6240	$ 5.6240	$ 5.6240	$ 5.6240	$ 5.6240	$ 5.6240	$ 5.6240	$ 5.6240	$ 5.6240	$ 5.6240
11	TransCanada	FT	Dawn	E. Hereford	Page 13	$ 25.2338	$ 25.2338	$ 25.2338	$ 25.2338	$ 25.2338	$ 25.2338	$ 25.2338	$ 25.2338	$ 25.2338	$ 25.2338	$ 25.2338	$ 25.2338
12	TransCanada	FT	Parkway	E. Hereford	Page 13	$ 20.5729	$ 20.5729	$ 20.5729	$ 20.5729	$ 20.5729	$ 20.5729	$ 20.5729	$ 20.5729	$ 20.5729	$ 20.5729	$ 20.5729	$ 20.5729
13	Union	M12	Dawn	Parkway	Page 13	$ 2.6188	$ 2.6188	$ 2.6188	$ 2.6188	$ 2.6188	$ 2.6188	$ 2.6188	$ 2.6188	$ 2.6188	$ 2.6188	$ 2.6188	$ 2.6188
14	Vector	FT-1	Alliance	Dawn	Page 18	$ 7.6042	$ 7.6042	$ 7.6042	$ 7.6042	$ 7.6042							
15	Vector	FT-1	W-10 Storage	Dawn	Page 19	$ 4.5625	$ 4.5625	$ 4.5625	$ 4.5625	$ 4.5625							

Variable Transportation Commodity Rates

Line	Pipeline	Rate Schedule	Receipt	Delivery	Commodity Rate Support	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
16	Algonquin	AFT-1 (AFT-2)	N/A	N/A	Page 4, 26	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
17	Algonquin	AFT-1 (F-2/F-3)	N/A	N/A	Page 4, 26	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125
18	Granite	FT-NN	N/A	N/A	Page 5, 26	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
19	Iroquois	RTS-1	Zone 1	Zone 1	Page 6, 26	$ 0.0047	$ 0.0047	$ 0.0047	$ 0.0047	$ 0.0047	$ 0.0047	$ 0.0047	$ 0.0047	$ 0.0047	$ 0.0047	$ 0.0047	$ 0.0047
20	LNG Trucking		Everett, MA	LNG Plant	Page 20	$ 1.2300	$ 1.2300	$ 1.2300	$ 1.2300	$ 1.2300	$ 1.2300	$ 1.2300	$ 1.2300	$ 1.2300	$ 1.2300	$ 1.2300	$ 1.2300
21	PNGTS	FT	N/A	N/A	Page 7, 26	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
22	Tennessee	FT-A	Zone 0	Zone 6	Page 9, 21, 26	$ 0.3464	$ 0.3464	$ 0.3464	$ 0.3464	$ 0.3464	$ 0.3464	$ 0.3464	$ 0.3464	$ 0.3464	$ 0.3464	$ 0.3464	$ 0.3464
23	Tennessee	FT-A	Zone L	Zone 6	Page 9, 21, 26	$ 0.3019	$ 0.3019	$ 0.3019	$ 0.3019	$ 0.3019	$ 0.3019	$ 0.3019	$ 0.3019	$ 0.3019	$ 0.3019	$ 0.3019	$ 0.3019
24	Tennessee	FT-A	Zone 4	Zone 6	Page 9, 21, 26	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165
25	Tennessee	FT-A	Zone 5	Zone 6	Page 9, 21, 26	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880
26	Texas Eastern	FT-1/FTS	M3	M3	Page 11, 26	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210
27	TransCanada	FT	Dawn	E. Hereford	N/A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28	TransCanada	FT	Parkway	E. Hereford	N/A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
29	Union	M12	Dawn	Parkway	N/A	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30	Vector	FT-1	Alliance	Dawn	Page 26	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
31	Vector	FT-1	W-10 Storage	Dawn	Page 26	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013

Transportation Fuel Rates

Line	Pipeline	Rate Schedule	Receipt	Delivery	Fuel Rate Support	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18
32	Algonquin	AFT-1 (AFT-2)	N/A	N/A	Page 22	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%
33	Algonquin	AFT-1 (F-2/F-3)	N/A	N/A	Page 22	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%
34	Granite	FT-NN	N/A	N/A	Page 5	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
35	Iroquois	RTS-1	Zone 1	Zone 1	Page 23	0.08%	0.08%	0.08%	0.08%	0.08%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
36	PNGTS	FT	N/A	N/A	Page 23	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
37	Tennessee	FT-A	Zone 0	Zone 6	Page 21	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%
38	Tennessee	FT-A	Zone L	Zone 6	Page 21	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%	3.70%
39	Tennessee	FT-A	Zone 4	Zone 6	Page 21	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%
40	Tennessee	FT-A	Zone 5	Zone 6	Page 21	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%
41	Texas Eastern	FT-1/FTS	M3	M3	Page 24	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%
42	TransCanada	FT	Dawn	E. Hereford	Page 23	1.54%	1.54%	1.54%	1.54%	1.54%	1.68%	1.68%	1.68%	1.68%	1.68%	1.68%	1.68%
43	TransCanada	FT	Parkway	E. Hereford	Page 23	0.71%	0.71%	0.71%	0.71%	0.71%	0.73%	0.73%	0.73%	0.73%	0.73%	0.73%	0.73%
44	Union	M12	Dawn	Parkway	Page 25	1.03%	1.03%	1.03%	1.03%	1.03%	0.57%	0.57%	0.57%	0.57%	0.57%	0.57%	0.57%
45	Vector	FT-1	Alliance	Dawn	Page 23	0.81%	0.81%	0.81%	0.81%	0.81%	1.18%	1.18%	1.18%	1.18%	1.18%	1.18%	1.18%
46	Vector	FT-1	W-10 Storage	Dawn	Page 23	0.29%	0.29%	0.29%	0.29%	0.29%	0.54%	0.54%	0.54%	0.54%	0.54%	0.54%	0.54%

Northern Utilities, Inc. Underground Storage Contract Rates November 2017 through October 2018										
Line	Storage	Rate Schedule	Notes	Reference	Space Rate	Demand Rate	Withdrawal Rate	Withdrawal Fuel Loss	Injection Rate	Injection Fuel Loss
1	Tennessee	FS-MA		Page 27	$ 0.0205	$ 1.4938	$ 0.0087	0.00%	$ 0.0087	1.37%
2	W-10	Storage	1	Pages 28, 29, 30			$ -	0.40%	$ -	1.00%
3	Union	Storage	2	Page 31			$ 0.07	0.60%	$ 0.07	0.60%

Note 1 The demand charge for W-10 Storage shall be $240,833.34 per month.
Note 2 The demand charge for Union shall be $236,666.67 per month.

Rate Schedule AFT-1
Firm Transportation Service

Maximum Reservation Charge: Conversion From:	Base Tariff Rate 1/ ($/Dth)	Total Rate ($/Dth)
(F-1/WS-1)	$6.5734	$6.5734
(F-2/F-3)	$6.5734	$6.5734
(F-4)	$6.5734	$6.5734
(STB/SS-3)	$6.5734	$6.5734
(FTP)	$11.8368	$11.8368
(PSS-T)	$9.7854	$9.7854
(AFT-2)	$6.1138	$6.1138
(AFT-3)	$10.7554	$10.7554
(AFT-5)	$12.6265	$12.6265
(ITP)	$13.0110	$13.0110
(X-35)	$10.2027	$10.2027
(X-39)	$13.2089	$13.2089
Minimum Reservation Charge:	$0.0000	$0.0000

Maximum Commodity Charge:	Base $/Dth Tariff Rate 1/ 2/
(F-1/WS-1)	$0.0112
(F-2/F-3)	$0.0112
(F-4)	$0.0112
(STB/SS-3)	$0.0112
(FTP)	$0.0000
(PSS-T)	$0.0000
(AFT-2)	$0.0000
(AFT-3)	$0.0000
(AFT-5)	$0.0000
(ITP)	$0.0000
(X-35)	$0.0000
(X-39)	$0.0000
Minimum Commodity Charge:	
AFT-1 (F-1/WS-1)	$0.0112
AFT-1 (F-2/F-3)	$0.0112
AFT-1 (F-4)	$0.0112
AFT-1 (STB/SS-3)	$0.0112
AFT-1 (All other)	$0.0000

Maximum Authorized Overrun Commodity Charge:	Base $/Dth Tariff Rate 1/ 2/
(F-1/WS-1)	$0.2273
(F-2/F-3)	$0.2273
(F-4)	$0.2273
(STB/SS-3)	$0.2273
(FTP)	$0.3892
(PSS-T)	$0.3217
(AFT-2)	$0.2010
(AFT-3)	$0.3536
(AFT-5)	$0.4151
(ITP)	$0.4278
(X-35)	$0.3354
(X-39)	$0.4343
Minimum Authorized Overrun Commodity Charge:	
AFT-1 (F-1/WS-1)	$0.0112
AFT-1 (F-2/F-3)	$0.0112
AFT-1 (F-4)	$0.0112
AFT-1 (STB/SS-3)	$0.0112
AFT-1 (All other)	$0.0000

1/ The Base Tariff is the effective rate on file with the Commission, excluding adjustments approved by the Commission.

4.2 Rate Schedule FT-NN
Firm Transportation Service
Currently Effective Rates

	$/Dth	
	Base Tariff Rate	ACA Adj.
Reservation Charge:		
Maximum	$4.4212	N/A
Minimum	$0.0000	N/A
Commodity Charge:		
Maximum	$0.0000	a/
Minimum	$0.0000	a/
Authorized Overrun Commodity Charge:		
Maximum	$0.1453	a/
Minimum	$0.0000	a/
Fuel and Losses Percentage	0.35%	N/A
Volumetric Reservation Charge		
Maximum	$0.1453	a/
Minimum	$0.0000	a/

a/ The ACA Adj. Surcharge is revised annually and posted on the FERC website at the web address http://www.ferc.gov on the Annual Charges page of the Natural Gas Section. The ACA Adj. Surcharge is incorporated by reference in the Transporter's Tariff and shall apply to all transportation under this Rate Schedule as provided in Section 6.17 of the General Terms and Conditions.

---------- NON-EASTCHESTER RATES (All in $ Per Dth) 1/ ----------

	Minimum	Maximum		
		Effective 9/1/2016	Effective 9/1/2017	Effective 9/1/2018
RTS DEMAND (Monthly):				
Zone 1	$0.0000	$ 6.1928	$ 5.9982	$ 5.5997
Zone 2	$0.0000	$ 5.3381	$ 5.1678	$ 4.7998
Inter-Zone	$0.0000	$10.4755	$ 9.8672	$ 8.8026
RTS COMMODITY (Daily):				
Zone 1	$0.0034	$ 0.0034	$ 0.0034	$ 0.0034
Zone 2	$0.0022	$ 0.0022	$ 0.0022	$ 0.0022
Inter-Zone	$0.0056	$ 0.0056	$ 0.0056	$ 0.0056
ITS COMMODITY (Daily):				
Zone 1	$0.0034	$ 0.2070	$ 0.2006	$ 0.1875
Zone 2	$0.0022	$ 0.1777	$ 0.1721	$ 0.1600
Inter-Zone	$0.0056	$ 0.3500	$ 0.3300	$ 0.2950
VOLUMETRIC CAPACITY RELEASE (Daily) 2/:				
Zone 1	$0.0000	$ 0.2036	$ 0.1972	$ 0.1841
Zone 2	$0.0000	$ 0.1755	$ 0.1699	$ 0.1578
Inter-Zone	$0.0000	$ 0.3444	$ 0.3244	$ 0.2894

**SEE SHEET NOS. 4A, 4B, AND 4C FOR ADJUSTMENTS TO RATES WHICH MAY BE APPLICABLE

(Footnotes continued on Sheet 4.01)

Exhibit B
to Precedent Agreement

NEGOTIATED RATES

Negotiated Rate: $0.60/Dth/Day

Additional Terms: Shipper shall have the right to deliver, on a secondary basis, to the following meters, at the Negotiated Rate of $0.60/Dth/day. Delivery to all other secondary delivery points on this Negotiated Rate contract shall be priced at the Maximum Recourse Rate.

Meter #	Name	Operator
05-0525	Westbrook	M&NE
05-0600	Westbrook	Granite State
02-0650	Gorham	Maine Natural Gas
05-0725	Eliot	Granite State
05-0750	Eliot CNG	XPress Natural Gas
02-0775	Newington	Essential Power
02-0900	Newington	Eversource
05-0850	Newington	Granite State
05-1000	Haverhill	Tennessee Gas Pipeline
05-1025	Haverhill	National Grid
05-1050	Methuen	M&NE
05-1150	Dracut	Tennessee Gas Pipeline

NEGOTIATED RATE SURCHARGE MECHANISM:

PNGTS may file a limited Section 4 rate proceeding to add a surcharge to Shipper's negotiated rate, taking into account Shipper's contractual obligation(s) relative to the total contractual obligations of all classes of transportation agreements, to reflect a cost of service impact of certain "Eligible Costs," defined as costs resulting from mandated compliance with new or revised requirements, regulations or legislation, that becomes effective on or after November 1, 2014, addressing (a) government-mandated environmental compliance obligations, e.g., climate change and greenhouse gas emissions, (b) compliance with the required use of best available control technology for emissions as mandated by the Environmental Protection Agency (or successor thereto), (c) Commission-mandated generic pipeline initiatives implemented on an industry-wide basis, including but not limited to the Commission's proposed policy regarding the modernization of natural gas facilities in Docket No. PL15-1-000 and (d) additional pipeline safety requirements issued by the United States Department of Transportation Pipeline and Hazardous Materials Safety Administration (or successor thereto) as a result of either new

RATES PER DEKATHERM

FIRM TRANSPORTATION RATES
RATE SCHEDULE FOR FT-A

Base
Reservation Rates

RECEIPT ZONE	DELIVERY ZONE 0	L	1	2	3	4	5	6
0	$5.5411		$11.5794	$15.5758	$15.8514	$17.4175	$18.4879	$23.1959
L		$4.9193						
1	$8.3417		$7.9962	$10.6413	$15.0745	$14.8460	$16.7429	$20.5878
2	$15.5759		$10.5774	$5.5014	$5.1427	$6.5803	$9.0504	$11.6830
3	$15.8514		$8.3784	$5.5458	$4.0009	$6.1457	$11.1149	$12.8437
4	$20.1259		$18.5544	$7.0708	$10.7456	$5.2598	$5.6884	$8.1265
5	$23.9973		$16.8625	$7.4172	$8.9748	$5.8432	$5.4810	$7.1353
6	$27.7603		$19.3678	$13.3296	$14.6845	$10.3726	$5.4568	$4.7237

Daily Base
Reservation Rate 1/

RECEIPT ZONE	DELIVERY ZONE 0	L	1	2	3	4	5	6
0	$0.1822		$0.3807	$0.5121	$0.5211	$0.5726	$0.6078	$0.7626
L		$0.1617						
1	$0.2742		$0.2629	$0.3499	$0.4956	$0.4881	$0.5505	$0.6769
2	$0.5121		$0.3478	$0.1809	$0.1691	$0.2163	$0.2975	$0.3841
3	$0.5211		$0.2755	$0.1823	$0.1315	$0.2021	$0.3654	$0.4223
4	$0.6617		$0.6100	$0.2325	$0.3533	$0.1729	$0.1870	$0.2672
5	$0.7890		$0.5544	$0.2439	$0.2951	$0.1921	$0.1802	$0.2346
6	$0.9127		$0.6367	$0.4382	$0.4828	$0.3410	$0.1794	$0.1553

Maximum Reservation
Rates 2 /, 3 /

RECEIPT ZONE	DELIVERY ZONE 0	L	1	2	3	4	5	6
0	$5.5621		$11.6004	$15.5968	$15.8724	$17.4385	$18.5089	$23.2169
L		$4.9403						
1	$8.3627		$8.0172	$10.6623	$15.0955	$14.8670	$16.7639	$20.6088
2	$15.5969		$10.5984	$5.5224	$5.1637	$6.6013	$9.0714	$11.7040
3	$15.8724		$8.3994	$5.5668	$4.0219	$6.1667	$11.1359	$12.8647
4	$20.1469		$18.5754	$7.0918	$10.7666	$5.2808	$5.7094	$8.1475
5	$24.0183		$16.8835	$7.4382	$8.9958	$5.8642	$5.5020	$7.1563
6	$27.7813		$19.3888	$13.3506	$14.7055	$10.3936	$5.4778	$4.7447

Notes:

1/ Applicable to demand charge credits and secondary points under discounted rate agreements.
2/ Includes a per Dth charge for the PCB Surcharge Adjustment per Article XXXII of the General Terms and Conditions of $0.0000.
3/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of $0.0210.

RATES PER DEKATHERM

COMMODITY RATES
RATE SCHEDULE FOR FT-A

Base
Commodity Rates

RECEIPT ZONE	DELIVERY ZONE 0	L	1	2	3	4	5	6
0	$0.0032		$0.0115	$0.0177	$0.0219	$0.2668	$0.2546	$0.3030
L		$0.0012						
1	$0.0042		$0.0081	$0.0147	$0.0179	$0.2269	$0.2313	$0.2641
2	$0.0167		$0.0087	$0.0012	$0.0028	$0.0734	$0.1178	$0.1305
3	$0.0207		$0.0169	$0.0026	$0.0002	$0.0982	$0.1358	$0.1482
4	$0.0250		$0.0205	$0.0087	$0.0105	$0.0454	$0.0642	$0.1041
5	$0.0284		$0.0256	$0.0100	$0.0118	$0.0639	$0.0633	$0.0787
6	$0.0346		$0.0300	$0.0143	$0.0163	$0.0984	$0.0533	$0.0324

Minimum
Commodity Rates 1/, 2/

RECEIPT ZONE	DELIVERY ZONE 0	L	1	2	3	4	5	6
0	$0.0032		$0.0115	$0.0177	$0.0219	$0.0250	$0.0284	$0.0346
L		$0.0012						
1	$0.0042		$0.0081	$0.0147	$0.0179	$0.0210	$0.0256	$0.0300
2	$0.0167		$0.0087	$0.0012	$0.0028	$0.0056	$0.0100	$0.0143
3	$0.0207		$0.0169	$0.0026	$0.0002	$0.0081	$0.0118	$0.0163
4	$0.0250		$0.0205	$0.0087	$0.0105	$0.0028	$0.0046	$0.0092
5	$0.0284		$0.0256	$0.0100	$0.0118	$0.0046	$0.0046	$0.0066
6	$0.0346		$0.0300	$0.0143	$0.0163	$0.0086	$0.0041	$0.0020

Maximum
Commodity Rates 1/, 2/, 3/

RECEIPT ZONE	DELIVERY ZONE 0	L	1	2	3	4	5	6
0	$0.0041		$0.0124	$0.0186	$0.0228	$0.2677	$0.2555	$0.3039
L		$0.0021						
1	$0.0051		$0.0090	$0.0156	$0.0188	$0.2278	$0.2322	$0.2650
2	$0.0176		$0.0096	$0.0021	$0.0037	$0.0743	$0.1187	$0.1314
3	$0.0216		$0.0178	$0.0035	$0.0011	$0.0991	$0.1367	$0.1491
4	$0.0259		$0.0214	$0.0096	$0.0114	$0.0463	$0.0651	$0.1050
5	$0.0293		$0.0265	$0.0109	$0.0127	$0.0648	$0.0642	$0.0796
6	$0.0355		$0.0309	$0.0152	$0.0172	$0.0993	$0.0542	$0.0333

Notes:

1/ Rates stated above exclude the ACA Surcharge as revised annually and posted on the FERC website at http://www.ferc.gov on the Annual Charges page of the Natural Gas section. The ACA Surcharge is incorporated by reference into Transporter's Tariff and shall apply to all transportation under this Rate Schedule as provided in Article XXIV of the General Terms and Conditions.
2/ The applicable F&LR's and EPCR's, determined pursuant to Article XXXVII of the General Terms and Conditions, are listed on Sheet No. 32.
3/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of $0.0009.

CURRENTLY EFFECTIVE SERVICE RATES APPLICABLE TO OPEN ACCESS, PART 284, RATE SCHEDULES IN FERC GAS TARIFF, EIGHTH REVISED VOLUME NO. 1

FT-1
RESERVATION
CHARGES

Pursuant to Sections 3.2(A), 3.3(A), and 3.5 of Rate Schedule FT-1:

	FT-1 RESERVATION CHARGE* $/dth		FT-1 RESERVATION CHARGE ADJUSTMENT $/dth	
ACCESS AREA	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM
STX-AAB	6.5820	0.0000	0.2164	0.0000
WLA-AAB	2.6020	0.0000	0.0856	0.0000
ELA-AAB	2.1520	0.0000	0.0708	0.0000
ETX-AAB	1.9660	0.0000	0.0646	0.0000
STX-STX	5.5090	0.0000	0.1811	0.0000
STX-WLA	5.6670	0.0000	0.1863	0.0000
STX-ELA	6.5810	0.0000	0.2164	0.0000
STX-ETX	6.5820	0.0000	0.2164	0.0000
WLA-WLA	1.8320	0.0000	0.0602	0.0000
WLA-ELA	2.6030	0.0000	0.0856	0.0000
WLA-ETX	2.6030	0.0000	0.0856	0.0000
ELA-ELA	2.1520	0.0000	0.0708	0.0000
ETX-ETX	1.9660	0.0000	0.0646	0.0000
ETX-ELA	2.1520	0.0000	0.0708	0.0000
MARKET AREA	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM
M1-M1	4.2300	0.0000	0.1391	0.0000
M1-M2	7.9460	0.0000	0.2612	0.0000
M1-M3	10.4800	0.0000	0.3446	0.0000
M2-M2	6.1430	0.0000	0.2020	0.0000
M2-M3	8.8160	0.0000	0.2898	0.0000
M3-M3	4.9640	0.0000	0.1631	0.0000

* Reservation Charge reflects a storage surcharge of: 0.0970

CURRENTLY EFFECTIVE SERVICE RATES APPLICABLE TO OPEN ACCESS, PART 284, RATE SCHEDULES IN FERC GAS TARIFF, EIGHTH REVISED VOLUME NO. 1

FT-1
USAGE
CHARGES

ZONE RATE
$/dth

Pursuant to Sections 3.2(A) and 3.3(A) of Rate Schedule FT-1:

	STX	WLA	ELA	ETX	M1	M2	M3
USAGE-1 - MAXIMUM							
from STX	0.0047	0.0052	0.0096	0.0096	0.0242	0.0509	0.0685
from WLA	0.0052	0.0027	0.0064	0.0064	0.0210	0.0477	0.0653
from ELA	0.0096	0.0064	0.0046	0.0046	0.0192	0.0459	0.0635
from ETX	0.0096	0.0064	0.0046	0.0046	0.0192	0.0459	0.0635
from M1	0.0242	0.0210	0.0192	0.0192	0.0146	0.0413	0.0589
from M2	0.0509	0.0477	0.0459	0.0459	0.0413	0.0282	0.0464
from M3	0.0685	0.0653	0.0635	0.0635	0.0589	0.0464	0.0197
USAGE-1 - MINIMUM							
from STX	0.0005	0.0010	0.0053	0.0053	0.0157	0.0424	0.0600
from WLA	0.0010	0.0000	0.0021	0.0021	0.0125	0.0392	0.0568
from ELA	0.0053	0.0021	0.0003	0.0003	0.0107	0.0374	0.0550
from ETX	0.0053	0.0021	0.0003	0.0003	0.0107	0.0374	0.0550
from M1	0.0157	0.0125	0.0107	0.0107	0.0104	0.0371	0.0547
from M2	0.0424	0.0392	0.0374	0.0374	0.0371	0.0240	0.0422
from M3	0.0600	0.0568	0.0550	0.0550	0.0547	0.0422	0.0155
USAGE-1 - BACKHAUL MAXIMUM							
from STX	0.0088						
from WLA		0.0059					
from ELA			0.0087				
from ETX				0.0087			
from M1				0.0231	0.0185		
from M2				0.0524	0.0478	0.0335	
from M3						0.0536	0.0242
USAGE-1 - BACKHAUL MINIMUM							
from STX	0.0046						
from WLA		0.0017					
from ELA			0.0044				
from ETX				0.0044			
from M1				0.0146	0.0143		
from M2				0.0439	0.0436	0.0293	
from M3						0.0494	0.0200
USAGE-2	0.1093	0.1093	0.1093	0.1093	0.2630	0.4118	0.5128

ACA COMMODITY SURCHARGE TO APPLICABLE CUSTOMERS, PURSUANT TO SECTION 15.5 OF THE GENERAL TERMS AND CONDITIONS.

CURRENTLY EFFECTIVE SERVICE RATES APPLICABLE TO OPEN ACCESS, PART 284, RATE SCHEDULES IN FERC GAS TARIFF, EIGHTH REVISED VOLUME NO. 1

FT-1 INCREMENTAL FACILITY CHARGE

PURSUANT TO SECTION 3.4 OF RATE SCHEDULE FT-1:

	INCREMENTAL FACILITY CHARGE $/dth Maximum	Minimum
To applicable customers converting from Rate Schedule FTS in Docket No. CP82-446: RESERVATION CHARGE	0.6600	0.0000
RESERVATION CHARGE ADJUSTMENT	0.0217	0.0000

Customer	dth
Bay State Gas Company	4,235
Boston Gas Company d/b/a National Grid	21,394
Colonial Gas Company d/b/a National Grid	1,951
Connecticut Natural Gas Corporation	6,340
Town of Middleborough, Massachusetts	116
New Jersey Natural Gas Company	1,060
Northern Utilities, Inc.	965
Southern Connecticut Gas Company	4,922
Yankee Gas Services Company	6,066

	Maximum	Minimum
To applicable customers converting from Rate Schedule FTS-4 in Docket No. CP87-4: RESERVATION CHARGE	3.0110	0.0000
RESERVATION CHARGE ADJUSTMENT	0.0990	0.0000

Customer	dth
Brooklyn Union Gas Company d/b/a National Grid	27,500
KeySpan Gas East Corporation d/b/a National Grid	22,500
New Jersey Natural Gas Company	40,000
Pivotal Utility Holdings, Inc.	10,000
Public Service Electric & Gas Company	40,000

	Maximum	Minimum
To applicable customers converting from Rate Schedule FTS-5 in Docket No. CP87-312: RESERVATION CHARGE	0.0000	0.0000
RESERVATION CHARGE ADJUSTMENT	0.0000	0.0000

Customer	dth
Colonial Gas Company d/b/a National Grid	2,326
Northeast Energy Associates	14,000
UGI Central Penn Gas, Inc.	4,000
Yankee Gas Services Company	125

	Maximum	Minimum
To applicable customers converting from Rate Schedule FTS-7 in Docket No. CP80-170: RESERVATION CHARGE	0.0000	0.0000
RESERVATION CHARGE ADJUSTMENT	0.0000	0.0000

Customer	dth
Connecticut Natural Gas Corporation	4,231
Yankee Gas Services Company	3,015

	Maximum	Minimum
To applicable customers converting from Rate Schedule FTS-8 in Docket No. CP85-803: RESERVATION CHARGE	0.0000	0.0000
RESERVATION CHARGE ADJUSTMENT	0.0000	0.0000

Customer	dth
Yankee Gas Services Company	39

Canadian Fixed Transportation Rates

Line	Item	Units	Currently Approved Tolls	Reference
1	Union Parkway Belt to East Hereford on TCPL			
2	Demand Toll	$CAD / GJ	$ 24.00088	Page 14
3	Delivery Pressure Demand Toll	$CAD / GJ	$ 1.01227	Page 15
4	Abandonment Surcharge	$CAD / GJ	$ 1.71287	Page 14
5	Total Demand Toll	$CAD / GJ	$ 26.72602	Sum Lines Above.
6	$CAD to $US	Ratio	0.7296	7/11/2017 Bank of Canada
7	Total Demand Toll	$US / GJ	$ 19.4993	Line 4 times Line 5
8	GJ per Dth	Ratio	1.055056	
9	Total Demand Toll	$US / Dth	$ 20.5729	Line 6 divided by Line 7
10				
11	Union Dawn to East Hereford on TCPL			
12	Demand Toll	$CAD / GJ	$ 29.48683	Page 16
13	Union Dawn Surcharge	$CAD / GJ	$ 0.10724	Page 15
14	Delivery Pressure Demand Toll	$CAD / GJ	$ 1.01227	Page 15
15	Abandonment Surcharge	$CAD / GJ	$ 2.17468	Page 16
16	Total Demand Toll	$CAD / GJ	$ 32.78102	Sum Lines Above.
17	$CAD to $US	Ratio	0.7296	7/11/2017 Bank of Canada
18	Total Demand Toll	$US / GJ	$ 23.9170	Line 13 times Line 14
19	GJ per Dth	Ratio	1.055056	
20	Total Demand Toll	$US / Dth	$ 25.2338	Line 15 divided by Line 16
21				
22	Dawn to Parkway on Union Pipeline			
23	Total Demand Toll	$CAD / GJ	$ 3.4020	Page 17
24	$CAD to $US	Ratio	0.7296	7/11/2017 Bank of Canada
25	Total Demand Toll	$US / GJ	$ 2.4821	Line 13 times Line 14
26	GJ per Dth	Ratio	1.055056	
27	Total Demand Toll	$US / Dth	$ 2.6188	Line 15 divided by Line 16

Line No.	Receipt Point	Delivery Point	FT Toll ($/GJ/Month)	Daily Equivalent FT for IT / STFT ($/GJ)	Abandonment Surcharge ($/GJ/Month)	Daily Equivalent Abandonment Surcharge ($/GJ)
1	Union NDA	Dawn Export	-	0.5522	-	0.0519
2	Union Parkway Belt	Empress	72.71500	2.3906	5.81387	0.1911
3	Union Parkway Belt	TransGas SSDA	62.22550	2.0458	4.93081	0.1621
4	Union Parkway Belt	Centram SSDA	57.92793	1.9045	4.56902	0.1502
5	Union Parkway Belt	Centram MDA	51.42698	1.6908	4.02174	0.1322
6	Union Parkway Belt	Centrat MDA	50.92176	1.6741	3.97920	0.1308
7	Union Parkway Belt	Union WDA	39.71839	1.3058	3.03602	0.0998
8	Union Parkway Belt	Nipigon WDA	35.11878	1.1546	2.64878	0.0871
9	Union Parkway Belt	Union NDA	16.92748	0.5565	1.11736	0.0367
10	Union Parkway Belt	Calstock NDA	27.12102	0.8917	1.97555	0.0650
11	Union Parkway Belt	Tunis NDA	20.82538	0.6847	1.44551	0.0475
12	Union Parkway Belt	GMIT NDA	16.14638	0.5308	1.05162	0.0346
13	Union Parkway Belt	Union SSMDA	24.24117	0.7970	1.73306	0.0570
14	Union Parkway Belt	Union NCDA	8.49264	0.2792	0.40726	0.0134
15	Union Parkway Belt	Union CDA	5.51758	0.1814	0.15682	0.0052
16	Union Parkway Belt	Union ECDA	4.32069	0.1421	0.05606	0.0018
17	Union Parkway Belt	Union EDA	11.84212	0.3893	0.68926	0.0227
18	Union Parkway Belt	Union Parkway Belt	4.04238	0.1329	0.03261	0.0011
19	Union Parkway Belt	Enbridge CDA	6.05839	0.1992	0.20233	0.0067
20	Union Parkway Belt	Enbridge Parkway CDA	4.04238	0.1329	0.03261	0.0011
21	Union Parkway Belt	Enbridge EDA	15.16514	0.4986	0.96900	0.0319
22	Union Parkway Belt	KPUC EDA	11.39043	0.3745	0.65122	0.0214
23	Union Parkway Belt	GMIT EDA	19.47488	0.6403	1.33184	0.0438
24	Union Parkway Belt	Enbridge SWDA	9.52802	0.3133	0.49442	0.0163
25	Union Parkway Belt	Union SWDA	9.61501	0.3161	0.50175	0.0165
26	Union Parkway Belt	Chippawa	7.30852	0.2403	0.30761	0.0101
27	Union Parkway Belt	Cornwall	15.38840	0.5059	0.98781	0.0325
28	Union Parkway Belt	East Hereford	24.00088	0.7891	1.71287	0.0563
29	Union Parkway Belt	Emerson 1	47.97256	1.5772	3.73091	0.1227
30	Union Parkway Belt	Emerson 2	47.97256	1.5772	3.73091	0.1227
31	Union Parkway Belt	Iroquois	14.36427	0.4723	0.90158	0.0296
32	Union Parkway Belt	Kirkwall	4.96613	0.1633	0.11039	0.0036
33	Union Parkway Belt	Napierville	19.10349	0.6281	1.30054	0.0428
34	Union Parkway Belt	Niagara Falls	7.25103	0.2384	0.30274	0.0100
35	Union Parkway Belt	North Bay Junction	12.73394	0.4187	0.76433	0.0251
36	Union Parkway Belt	Philipsburg	19.52568	0.6419	1.33608	0.0439
37	Union Parkway Belt	Spruce	50.92176	1.6741	3.97920	0.1308
38	Union Parkway Belt	St. Clair	10.10381	0.3322	0.54293	0.0179
39	Union Parkway Belt	Welwyn	57.92793	1.9045	4.56902	0.1502
40	Union Parkway Belt	Dawn Export	9.52802	0.3133	0.49442	0.0163
41	Union SSMDA	Empress	-	1.2958	-	0.1462
42	Union SSMDA	TransGas SSDA	-	1.0551	-	0.1172
43	Union SSMDA	Centram SSDA	-	0.9565	-	0.1053
44	Union SSMDA	Centram MDA	-	0.8074	-	0.0873
45	Union SSMDA	Centrat MDA	-	0.8068	-	0.0872
46	Union SSMDA	Union WDA	-	1.0857	-	0.1209
47	Union SSMDA	Nipigon WDA	-	1.1694	-	0.1310
48	Union SSMDA	Union NDA	-	0.8518	-	0.0926
49	Union SSMDA	Calstock NDA	-	1.0856	-	0.1209
50	Union SSMDA	Tunis NDA	-	0.9412	-	0.1034
51	Union SSMDA	GMIT NDA	-	0.8339	-	0.0905
52	Union SSMDA	Union SSMDA	-	0.0927	-	0.0011
53	Union SSMDA	Union NCDA	-	0.7068	-	0.0693
54	Union SSMDA	Union CDA	-	0.5940	-	0.0566
55	Union SSMDA	Union ECDA	-	0.6040	-	0.0578
56	Union SSMDA	Union EDA	-	0.7893	-	0.0786
57	Union SSMDA	Union Parkway Belt	-	0.5972	-	0.0570
58	Union SSMDA	Enbridge CDA	-	0.6405	-	0.0618
59	Union SSMDA	Enbridge Parkway CDA	-	0.5972	-	0.0570
60	Union SSMDA	Enbridge EDA	-	0.8712	-	0.0878
61	Union SSMDA	KPUC EDA	-	0.7782	-	0.0773
62	Union SSMDA	GMIT EDA	-	0.9773	-	0.0997
63	Union SSMDA	Enbridge SWDA	-	0.4620	-	0.0418
64	Union SSMDA	Union SWDA	-	0.4599	-	0.0416
65	Union SSMDA	Chippawa	-	0.6422	-	0.0620
66	Union SSMDA	Cornwall	-	0.8767	-	0.0884
67	Union SSMDA	East Hereford	-	1.0889	-	0.1122
68	Union SSMDA	Emerson 1	-	0.7281	-	0.0777
69	Union SSMDA	Emerson 2	-	0.7281	-	0.0777
70	Union SSMDA	Iroquois	-	0.8515	-	0.0856
71	Union SSMDA	Kirkwall	-	0.5744	-	0.0544
72	Union SSMDA	Napierville	-	0.9682	-	0.0987
73	Union SSMDA	Niagara Falls	-	0.6408	-	0.0619
74	Union SSMDA	North Bay Junction	-	0.7556	-	0.0810
75	Union SSMDA	Philipsburg	-	0.9786	-	0.0998
76	Union SSMDA	Spruce	-	0.8068	-	0.0872
77	Union SSMDA	St. Clair	-	0.4171	-	0.0402

TransCanada PipeLines Limited
Final Mainline Transportation Tolls Effective July 1, 2015 (Amended November 1, 2016) and
Final Abandonment Surcharges Effective January 1, 2017

Storage Transportation Service

Line No	Particulars	Monthly Toll ($/GJ/Month)	Daily Equivalent ($/GJ)	Abandonment Surcharge ($/GJ/Month)	Daily Equivalent Abandonment Surcharge ($/GJ)
	(a)	(b)	(c)	(d)	(e)
1	Centram MDA	5.23197	0.17201	0.32346	0.0106
2	Union WDA	39.71839	1.30581	3.03602	0.0998
3	Union NDA	16.92748	0.55652	1.11736	0.0367
4	Union EDA	11.84212	0.38933	0.68926	0.0227
5	KPUC EDA	11.39043	0.37448	0.65122	0.0214
6	GMIT EDA	19.47488	0.64027	1.33184	0.0438
7	Enbridge CDA	6.05839	0.19918	0.20233	0.0067
8	Enbridge EDA	15.16514	0.49858	0.96900	0.0319
9	Cornwall	15.38840	0.50592	0.98781	0.0325
10	Philipsburg	19.52568	0.64194	1.33608	0.0439

Firm Transportation - Short Notice

Line No	Particulars	Monthly Toll ($/GJ/Month)	Daily Equivalent ($/GJ)	Abandonment Surcharge ($/GJ/Month)	Daily Equivalent Abandonment Surcharge ($/GJ)
	(a)	(b)	(c)	(d)	(e)
11	Kirkwall to Thorold CDA	6.98093	0.22951	0.22659	0.0075
12	Union Parkway Belt to Goreway CDA	5.19730	0.17087	0.09011	0.0030
13	Union Parkway Belt to Victoria Square #2 CDA	6.13839	0.20181	0.16211	0.0053
14	Union Parkway Belt to Schomberg #2 CDA	6.07695	0.19979	0.15741	0.0052

Enhanced Market Balancing Service

Line No	Particulars	Monthly Toll ($/GJ/Month)	Daily Equivalent ($/GJ)	Abandonment Surcharge ($/GJ/Month)	Daily Equivalent Abandonment Surcharge ($/GJ)
	(a)	(b)	(c)	(d)	(e)
15	Union Parkway Belt to Union EDA	13.02633	0.42826	0.68926	0.0227

Delivery Pressure

Line No	Particulars	Monthly Toll ($/GJ/Month)	Daily Equivalent ($/GJ)
	(a)	(b)	(c)
16	Average Delivery Pressure Toll	1.01227	0.03328

Note: Delivery Pressure toll applies to the following locations: Emerson 1 , Emerson 2, Union SWDA, Enbridge SWDA, Dawn Export, Niagara Falls, Iroquois, Chippawa and East Hereford.
The Daily Equivalent Toll is only applicable to STS Injections, IT, Diversions, STFT and SSS.

Union Dawn Receipt Point Surcharge

Line No	Particulars	Monthly Toll ($/GJ/Month)	Daily Equivalent ($/GJ)
	(a)	(b)	(c)
17	Union Dawn Receipt Point Surcharge	0.10724	0.00353

Short Notice Balancing (SNB) Service

Line No.	Particulars	Monthly Toll ($/GJ/Month)	Daily Equivalent ($/GJ)
	(a)	(b)	(c)
18	SNB Toll		
Note:	This SNB Toll is a representative toll for the Eastern Region.	3.42005	0.1124

Energy Deficient Gas Allowance (EDGA) Service

Line No	Particulars	Capacity Charge ($/GJ/D)
	(a)	(b)
19	Western Section	1.52481
20	Eastern Section	0.41865

Note: The EDGA Service capacity charge for the Western Section is the effective Empress to North Bay Junction FT Toll and the capacity charge for the Eastern Section is the effective Parkway to North Bay Junction FT Toll.
The EDGA Service fuel charge for the Western Section includes the effective Empress to North Bay Junction monthly fuel ratio and the fuel charge for the Eastern Section includes the effective Parkway to North Bay Junction monthly fuel ratio.

Line No.	Receipt Point	Delivery Point	FT Toll ($/GJ/Month)	Daily Equivalent FT for IT / STFT ($/GJ)	Abandonment Surcharge ($/GJ/Month)	Daily Equivalent Abandonment Surcharge ($/GJ)
1	Union Dawn	TransGas SSDA	56.73986	1.8654	4.46900	0.1469
2	Union Dawn	Centram SSDA	52.44229	1.7241	4.10721	0.1350
3	Union Dawn	Centram MDA	45.94133	1.5104	3.55991	0.1170
4	Union Dawn	Centrat MDA	45.91822	1.5096	3.55796	0.1170
5	Union Dawn	Union WDA	44.86702	1.4751	3.46947	0.1141
6	Union Dawn	Nipigon WDA	40.60412	1.3349	3.11060	0.1023
7	Union Dawn	Union NDA	22.41374	0.7369	1.57922	0.0519
8	Union Dawn	Calstock NDA	32.60697	1.0720	2.43736	0.0801
9	Union Dawn	Tunis NDA	26.31072	0.8650	1.90732	0.0627
10	Union Dawn	GMIT NDA	21.63264	0.7112	1.51345	0.0498
11	Union Dawn	Union SSMDA	18.75522	0.6166	1.27125	0.0418
12	Union Dawn	Union NCDA	13.97828	0.4596	0.86908	0.0286
13	Union Dawn	Union CDA	9.39753	0.3090	0.48345	0.0159
14	Union Dawn	Union ECDA	9.80664	0.3224	0.51787	0.0170
15	Union Dawn	Union EDA	17.32685	0.5697	1.15101	0.0378
16	Union Dawn	Union Parkway Belt	9.52802	0.3133	0.49442	0.0163
17	Union Dawn	Enbridge CDA	11.28793	0.3711	0.64261	0.0211
18	Union Dawn	Enbridge Parkway CDA	9.52802	0.3133	0.49442	0.0163
19	Union Dawn	Enbridge EDA	20.65048	0.6789	1.43081	0.0470
20	Union Dawn	KPUC EDA	16.87578	0.5548	1.11303	0.0366
21	Union Dawn	GMIT EDA	24.96083	0.8206	1.79366	0.0590
22	Union Dawn	Enbridge SWDA	4.04238	0.1329	0.03261	0.0011
23	Union Dawn	Union SWDA	4.12876	0.1357	0.03992	0.0013
24	Union Dawn	Chippawa	11.35454	0.3733	0.64822	0.0213
25	Union Dawn	Cornwall	20.87405	0.6863	1.44962	0.0477
26	Union Dawn	East Hereford	29.48683	0.9694	2.17468	0.0715
27	Union Dawn	Emerson 1	42.48691	1.3968	3.26910	0.1075
28	Union Dawn	Emerson 2	42.48691	1.3968	3.26910	0.1075
29	Union Dawn	Iroquois	19.84992	0.6526	1.36339	0.0448
30	Union Dawn	Kirkwall	8.60427	0.2829	0.41665	0.0137
31	Union Dawn	Napierville	24.58883	0.8084	1.76235	0.0579
32	Union Dawn	Niagara Falls	11.29705	0.3714	0.64336	0.0212
33	Union Dawn	North Bay Junction	18.21958	0.5990	1.22614	0.0403
34	Union Dawn	Philipsburg	25.01102	0.8223	1.79789	0.0591
35	Union Dawn	Spruce	45.91822	1.5096	3.55796	0.1170
36	Union Dawn	St. Clair	4.61816	0.1518	0.08112	0.0027
37	Union Dawn	Welwyn	52.44229	1.7241	4.10721	0.1350
38	Union Dawn	Dawn Export	4.04238	0.1329	0.03261	0.0011
39	Union EDA	Empress	-	2.5656	-	0.2059
40	Union EDA	TransGas SSDA	-	2.2208	-	0.1768
41	Union EDA	Centram SSDA	-	2.0795	-	0.1650
42	Union EDA	Centram MDA	-	1.8658	-	0.1470
43	Union EDA	Centrat MDA	-	1.7718	-	0.1390
44	Union EDA	Union WDA	-	1.4034	-	0.1080
45	Union EDA	Nipigon WDA	-	1.2522	-	0.0953
46	Union EDA	Union NDA	-	0.6542	-	0.0450
47	Union EDA	Calstock NDA	-	0.9893	-	0.0732
48	Union EDA	Tunis NDA	-	0.7823	-	0.0557
49	Union EDA	GMIT NDA	-	0.6285	-	0.0428
50	Union EDA	Union SSMDA	-	1.0534	-	0.0786
51	Union EDA	Union NCDA	-	0.4582	-	0.0285
52	Union EDA	Union CDA	-	0.4378	-	0.0267
53	Union EDA	Union ECDA	-	0.3985	-	0.0234
54	Union EDA	Union EDA	-	0.1329	-	0.0011
55	Union EDA	Union Parkway Belt	-	0.3893	-	0.0227
56	Union EDA	Enbridge CDA	-	0.3656	-	0.0207
57	Union EDA	Enbridge Parkway CDA	-	0.3893	-	0.0227
58	Union EDA	Enbridge EDA	-	0.2733	-	0.0129
59	Union EDA	KPUC EDA	-	0.1971	-	0.0065
60	Union EDA	GMIT EDA	-	0.3848	-	0.0223
61	Union EDA	Enbridge SWDA	-	0.5697	-	0.0378
62	Union EDA	Union SWDA	-	0.5725	-	0.0381
63	Union EDA	Chippawa	-	0.4967	-	0.0317
64	Union EDA	Cornwall	-	0.2508	-	0.0110
65	Union EDA	East Hereford	-	0.5340	-	0.0348
66	Union EDA	Emerson 1	-	1.8103	-	0.1423
67	Union EDA	Emerson 2	-	1.8103	-	0.1423
68	Union EDA	Iroquois	-	0.2222	-	0.0086
69	Union EDA	Kirkwall	-	0.4197	-	0.0252
70	Union EDA	Napierville	-	0.3730	-	0.0213
71	Union EDA	Niagara Falls	-	0.4948	-	0.0315
72	Union EDA	North Bay Junction	-	0.5163	-	0.0334
73	Union EDA	Philipsburg	-	0.3868	-	0.0225
74	Union EDA	Spruce	-	1.7718	-	0.1390
75	Union EDA	St. Clair	-	0.5886	-	0.0394
76	Union EDA	Welwyn	-	2.0795	-	0.1650
77	Union EDA	Dawn Export	-	0.5697	-	0.0378

unionGas

Effective
2017-04-01
Rate M12
Page 1 of 5

TRANSPORTATION RATES

(A) Applicability

The charges under this schedule shall be applicable to a Shipper who enters into a Transportation Service Contract with Union.

Applicable Points
Dawn as a receipt point: Dawn (TCPL), Dawn (Facilities), Dawn (Tecumseh), Dawn (Vector) and Dawn (TSLE).
Dawn as a delivery point: Dawn (Facilities).

(B) Services

Transportation Service under this rate schedule shall be for transportation on Union's Dawn - Parkway facilities.

(C) Rates

The identified rates represent maximum prices for service. These rates may change periodically. Multi-year prices may also be negotiated, which may be higher than the identified rates.

	Monthly Demand Charges (applied to daily contract demand) Rate/GJ	Fuel and Commodity Charges: Union Supplied Fuel – Fuel and Commodity Charge Rate/GJ	Shipper Supplied Fuel – Fuel Ratio %	AND	Shipper Supplied Fuel – Commodity Charge Rate/GJ (2)
Firm Transportation (1)					
Dawn to Parkway (Cons) / Lisgar	$3.402	Monthly fuel and commodity rates shall be in accordance with schedule "C".	Monthly fuel ratios shall be in accordance with schedule "C".		$0.006
Dawn to Parkway (TCPL / EGT)	$3.402				$0.009
Dawn to Kirkwall	$2.865				$0.006
Kirkwall to Parkway (Cons) / Lisgar	$0.537				$0.002
Kirkwall to Parkway (TCPL / EGT)	$0.537				$0.005
M12-X Firm Transportation					
Between Dawn, Kirkwall and Parkway	$4.239	Monthly fuel and commodity rates shall be in accordance with schedule "C".	Monthly fuel ratios shall be in accordance with schedule "C".		Note (2)
Limited Firm/Interruptible Transportation (1)					
Dawn to Parkway (Cons) / Lisgar – Maximum	$8.165	Monthly fuel and commodity rates shall be in accordance with schedule "C".	Monthly fuel ratios shall be in accordance with schedule "C".		$0.006
Dawn to Parkway (TCPL / EGT) – Maximum	$8.165				$0.009
Dawn to Kirkwall – Maximum	$8.165				$0.006
Parkway (TCPL / EGT) to Parkway (Cons) / Lisgar (3)	n/a	n/a	0.157%		$0.002

Authorized Overrun (4)

Authorized overrun rates will be payable on all quantities in excess of Union's obligation on any day. The overrun charges payable will be calculated at the following rates. Overrun will be authorized at Union's sole discretion.

	Fuel and Commodity Charges: Union Supplied Fuel – Fuel and Commodity Charge Rate/GJ	Shipper Supplied Fuel – Fuel Ratio %	AND	Shipper Supplied Fuel – Commodity Charge Rate/GJ (2)
Transportation Overrun				
Dawn to Parkway (Cons) / Lisgar	Monthly fuel and commodity rates shall be in accordance with schedule "C".	Monthly fuel ratios shall be in accordance with schedule "C".		$0.118
Dawn to Parkway (TCPL / EGT)				$0.121
Dawn to Kirkwall				$0.100
Kirkwall to Parkway (Cons) / Lisgar				$0.020
Kirkwall to Parkway (TCPL / EGT)				$0.023
Parkway (TCPL) Overrun (5)	n/a	0.704%		n/a
M12-X Firm Transportation				
Dawn to Kirkwall / Parkway (Cons) / Lisgar	Monthly fuel and commodity rates shall be in accordance with schedule "C".	Monthly fuel ratios shall be in accordance with schedule "C".		$0.145
Dawn to Parkway (TCPL / EGT)				$0.148
Kirkwall to Parkway (Cons) / Lisgar				$0.141
Kirkwall to Parkway (TCPL / EGT)				$0.144
Parkway to Dawn / Kirkwall				$0.142
Kirkwall to Dawn				$0.141

CAPACITY RELEASE TRANSACTIONS
CONFIRMATION LETTER

1. Replacement Shipper's Name: Northern Utilities, Inc.

2. a. Master Service Agreement for Capacity Release Agreement No.: CRT-NUI-0079
   b. Underlying Rate Schedule No.: FT-1

3. Replacement Shipper's Firm Transportation Agreement No.: **CRL-NUI-0725**
   Temporary Assignment of Canadian portion Agreement No.: **CRL-NUI-C0725**

4. Releasing Shipper's Firm Transportation Agreement No.: FT1-DTE-0425

5. Commencement Date: **04/01/2008**
   Termination Date: **10/31/2017**

6. Reservation Quantity: **17,172 Dth/d**

7. Primary Receipt Point(s):

	Maximum Daily Reservation Quantity Dth
Alliance Interconnect	**17,172**

8. Primary Delivery Point(s):

	Maximum Daily Reservation Quantity Dth
St. Clair (US) Interconnect	**17,172**

9. Reservation Rate: $\boxed{\$7.6042/\text{Dth}}$ ($0.2500 per Dth on a 100% load factor basis), exclusive of ACA and fuel reimbursement.

10. Usage Rate: $0.00/Dth

11. Special Terms and Conditions of Release (if any):

Replacement shipper will receive corresponding Vector-Canada capacity from St. Clair (International Border) to Dawn at no additional cost.

The Term of the FT1-DTE-0425 contract underlying this release is subject to the June 30, 2005 Precedent Agreement between DTE Energy Trading, Inc. and Vector Pipeline L.P.

Authorized Signature of Replacement Shipper: D T

Name: DON TULLHINSKY

Title: ANALYST

Telephone: (503) 836-7254

Fax: (___) 508-870-2294

CAPACITY RELEASE TRANSACTIONS
CONFIRMATION LETTER

1. Replacement Shipper's Name: Northern Utilities, Inc.

2. a. Master Service Agreement for Capacity Release Agreement No.: CRT-NUI-0079
   b. Underlying Rate Schedule No.: FT-1

3. Replacement Shipper's Firm Transportation Agreement No.: **CRL-NUI-0727**
   Temporary Assignment of Canadian portion Agreement No.: **CRL-NUI-C0727**

4. Releasing Shipper's Firm Transportation Agreement No.: FT1-DTE-0426

5. Commencement Date: **11/01/2008** Winter Only (November 1 thru March 31 on an annual basis)
   Termination Date: **03/31/2017**

6. Reservation Quantity: **17,086 Dth/d**

7. Primary Receipt Point(s): Maximum Daily Reservation Quantity Dth

   Washington 10 Interconnect **17,086**

8. Primary Delivery Point(s): Maximum Daily Reservation Quantity Dth

   St. Clair (US) Interconnect **17,086**

9. Reservation Rate: $\boxed{\$4.5625/Dth}$ ($0.1500 per Dth on a 100% load factor basis), exclusive of ACA and fuel reimbursement.

10. Usage Rate: $0.00/Dth

11. Special Terms and Conditions of Release (if any):

    Replacement shipper will receive corresponding Vector-Canada capacity from St. Clair (International Border) to Dawn at no additional cost.

    The Term of the FT1-DTE-0425 contract underlying this release is subject to the June 30, 2005 Precedent Agreement between DTE Energy Trading, Inc. and Vector Pipeline L.P.

Authorized Signature of Replacement Shipper: DTC

Name: DON TULCHINSKY

Title: ANALYST

Telephone: ( ) 508-836 7257

Fax: ( ) 508-870-2244

REDACTED

LNG TRANSPORTATION RATE AGREEMENT

CONFIDENTIAL

DATE: September 21, 2015

[redacted]

SHIPPER:

Northern Utilities Inc.
d/b/a Unitil Services Corp.
6 Liberty Lane West
Hampton, NH 03842

EFFECTIVE DATE: 11/01/15

EXPIRATION DATE: 10/31/16

ORIGIN	DESTINATION	COMMODITY DATE	RATE
Everett, MA	Lewiston, ME	11/01/15 to 10/31/16	[redacted]

OTHER TERMS AND CONDITIONS:

[redacted]

[redacted]

SHIPPER: Northern Utilities Inc.

By: ______________________

Robert Furino

Its: ~~Director of Energy Contracts~~
Vice President

K:\Unitil 2014-15\Northern Utilities-LNG Trnsptn Rate Agrmnt 15-16

FUEL AND EPCR

F&LR 1/, 2/, 3/, 4/

RECEIPT ZONE	DELIVERY ZONE 0	L	1	2	3	4	5	6
0	0.42%		1.42%	2.15%	2.64%	3.16%	3.57%	4.25%
L		0.18%						
1	0.54%		1.02%	1.80%	2.18%	2.67%	3.24%	3.70%
2	2.19%		1.09%	0.17%	0.37%	0.75%	1.31%	1.80%
3	2.64%		2.18%	0.37%	0.06%	1.06%	1.54%	2.07%
4	3.16%		2.48%	1.08%	1.30%	0.39%	0.63%	1.13%
5	3.70%		3.24%	1.31%	1.56%	0.63%	0.62%	0.81%
6	4.43%		3.84%	1.80%	2.07%	1.06%	0.48%	0.21%

EPCR 3/, 4/

RECEIPT ZONE	DELIVERY ZONE 0	L	1	2	3	4	5	6
0	$0.0034		$0.0130	$0.0201	$0.0250	$0.0302	$0.0344	$0.0412
L		$0.0011						
1	$0.0046		$0.0091	$0.0167	$0.0204	$0.0253	$0.0310	$0.0356
2	$0.0201		$0.0098	$0.0010	$0.0030	$0.0065	$0.0120	$0.0164
3	$0.0250		$0.0204	$0.0030	$0.0000	$0.0096	$0.0142	$0.0189
4	$0.0302		$0.0234	$0.0097	$0.0118	$0.0031	$0.0054	$0.0102
5	$0.0344		$0.0310	$0.0120	$0.0142	$0.0054	$0.0053	$0.0071
6	$0.0412		$0.0356	$0.0164	$0.0189	$0.0095	$0.0040	$0.0014

1/ Included in the above F&LR is the Losses component of the F&LR equal to 0.01%.
2/ For service that is rendered entirely by displacement and for gas scheduled and allocated for receipt at the Dracut, Massachusetts receipt point, Shipper shall render only the quantity of gas associated with Losses of 0.01%.
3/ The F&LR's and EPCR's listed above are applicable to FT-A, FT-BH, FT-G, FT-GS, and IT.
4/ The F&LR's and EPCR's determined pursuant to Article XXXVII of the General Terms and Conditions.

FUEL REIMBURSEMENT PERCENTAGES

Period	Duration	FRP
SYSTEM SERVICES: 1/		
Winter	December 1 - March 31	0.97%
Spring, Summer And Fall	April 1 - November 30	0.91%
INCREMENTAL RAMAPO SERVICE: 1/		
Winter	December 1 - March 31	3.12%
Spring, Summer And Fall	April 1 - November 30	1.47%
INCREMENTAL AIM SERVICE: 1/		
Winter	December 1 - March 31	2.02%
Spring, Summer And Fall	April 1 - November 30	2.02%

1/ For all receipt points other than Beverly, Meter No. 00215

Fuel Reimbursement Percentages (FRP) pursuant to Section 32 of the General Terms and Conditions of this FERC Gas Tariff.

Historic Fuel Retention Ratios

Pipeline	Receipt	Delivery	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	Nov - Mar	May - Oct, Apr	Average
Iroquois	Zone 1	Zone 1	-0.50%	-0.20%	-0.30%	-0.20%	-1.00%	-0.20%	-0.30%	-0.20%	0.50%	0.40%	0.00%	-0.20%	0.08%	-0.37%	-0.18%
PNGTS	N/A	N/A	-0.20%	-0.20%	-0.40%	-0.40%	-0.60%	-0.60%	-0.80%	-0.80%	-0.80%	-0.80%	-0.80%	-0.80%	-0.80%	-0.46%	-0.60%
TransCanada	Dawn	E. Hereford	1.33%	1.43%	1.73%	2.16%	2.28%	2.15%	1.68%	1.33%	2.06%	1.27%	1.34%	0.71%	1.54%	1.68%	1.62%
TransCanada	Parkway	E. Hereford	0.44%	0.41%	0.81%	1.06%	1.06%	1.11%	0.90%	0.52%	1.09%	0.36%	0.69%	0.25%	0.71%	0.73%	0.73%
Vector	Alliance	Dawn	1.23%	1.29%	1.03%	1.06%	1.29%	1.32%	1.33%	0.77%	0.51%	0.57%	0.85%	1.03%	0.81%	1.18%	1.02%
Vector	W-10 Storage	Dawn	0.48%	0.49%	0.56%	0.81%	0.65%	0.45%	0.55%	0.26%	0.17%	0.19%	0.28%	0.34%	0.29%	0.54%	0.44%

CURRENTLY EFFECTIVE PERCENTAGES FOR APPLICABLE SHRINKAGE FOR ASA RATE SCHEDULES
Effective During the Winter Period: December 1 through March 31

FOR TRANSPORTATION SERVICE		STX (%)	WLA (%)	ELA (%)	ETX (%)	M1 (%)	M2 (%)	M3 (%)
|	from STX	1.09	1.25	2.12	2.12	3.08	4.70	5.81
Base	from WLA	0.50	0.50	1.38	1.38	2.34	3.96	5.07
Applicable	from ELA	1.05	1.05	1.05	1.05	2.01	3.63	4.74
Shrinkage	from ETX	1.09	1.05	1.05	1.05	2.01	3.63	4.74
Percentage	from M1	3.08	2.34	2.01	2.01	0.96	2.58	3.69
|	from M2	4.70	3.96	3.63	3.63	2.58	1.80	2.90
|	from M3	5.81	5.07	4.74	4.74	3.69	2.90	1.28
|	from STX	-0.02	-0.10	-0.59	-0.59	-0.19	-0.86	-1.34
Applicable	from WLA	0.65	0.41	-0.03	-0.03	0.37	-0.30	-0.78
Shrinkage	from ELA	0.48	0.30	0.34	0.34	0.74	0.07	-0.41
Adjustment	from ETX	0.44	0.30	0.34	0.34	0.74	0.07	-0.41
Percentage	from M1	-0.19	0.37	0.74	0.74	0.40	-0.27	-0.75
|	from M2	-0.86	-0.30	0.07	0.07	-0.27	0.05	-0.41
|	from M3	-1.34	-0.78	-0.41	-0.41	-0.75	-0.41	0.27
|	from STX	1.07	1.15	1.53	1.53	2.89	3.84	4.47
Applicable	from WLA	1.15	0.91	1.35	1.35	2.71	3.66	4.29
Shrinkage	from ELA	1.53	1.35	1.39	1.39	2.75	3.70	4.33
Percentage	from ETX	1.53	1.35	1.39	1.39	2.75	3.70	4.33
|	from M1	2.89	2.71	2.75	2.75	1.36	2.31	2.94
|	from M2	3.84	3.66	3.70	3.70	2.31	1.85	2.49
|	from M3	4.47	4.29	4.33	4.33	2.94	2.49	1.55

FOR TRANSPORTATION SERVICE UNDER CONTRACTS WITH PARTIAL BACKHAUL PATHS		STX (%)	WLA (%)	ELA (%)	ETX (%)	M1 (%)	M2 (%)	M3 (%)
|	from STX	0.00						
Base	from WLA		0.00					
Applicable	from ELA			0.00				
Shrinkage	from ETX				0.00			
Percentage	from M1				0.00	0.00		
|	from M2				0.00	0.00	0.00	
|	from M3						0.00	0.00
|	from STX	0.00						
Applicable	from WLA		0.00					
Shrinkage	from ELA			0.00				
Adjustment	from ETX				1.39			
Percentage	from M1				1.39	0.00		
|	from M2				1.39	0.00	0.00	
|	from M3						0.00	0.00
|	from STX	0.00						
Applicable	from WLA		0.00					
Shrinkage	from ELA			0.00				
Percentage	from ETX				1.39			
|	from M1				1.39	0.00		
|	from M2				1.39	0.00	0.00	
|	from M3						0.00	0.00

FOR STORAGE SERVICE	Base Applicable Shrinkage Percentage	Applicable Shrinkage Adjustment Percentage	Applicable Shrinkage Percentage
Monthly W/d (SS,SS-1,X-28)	2.86 %	-0.79 %	2.07 %
Monthly W/d (FSS,ISS-1)	1.76 %	-1.13 %	0.63 %
Monthly Injections	1.76 %	-1.13 %	0.63 %
Monthly Inventory Level	0.08 %	-0.02 %	0.06 %

Footnote: Due to the bidirectional flow patterns of Pipeline's Access Area Zones, there is no distinction between forwardhauls and backhauls for applicable Shrinkage purposes in the Access Area Zones.

SCHEDULE "C"

UNION GAS LIMITED
M12 Monthly Transportation Fuel Ratios and Fuel and Commodity Rates
Firm or Interruptible Transportation Commodity
Effective July 1, 2017

	VT1 Easterly Dawn to Parkway (TCPL), Parkway (EGT) With Dawn Compression		VT1 Easterly Dawn to Kirkwall, Lisgar, Parkway (Consumers) With Dawn Compression		VT3 Westerly Parkway to Kirkwall, Dawn	
Month	Fuel Ratio (%)	Fuel and Commodity Rate ($/GJ) (1)	Fuel Ratio (%)	Fuel and Commodity Rate ($/GJ) (1)	Fuel Ratio (%)	Fuel and Commodity Rate ($/GJ) (1)
April	0.862	0.046	0.545	0.030	0.157	0.010
May	0.612	0.036	0.370	0.021	0.157	0.010
June	0.508	0.031	0.271	0.017	0.398	0.019
July	0.494	0.030	0.259	0.017	0.396	0.019
August	0.393	0.025	0.158	0.013	0.396	0.019
September	0.389	0.025	0.158	0.013	0.392	0.019
October	0.739	0.041	0.464	0.027	0.157	0.010
November	0.882	0.047	0.622	0.032	0.157	0.010
December	0.995	0.051	0.733	0.038	0.157	0.010
January	1.147	0.057	0.870	0.043	0.157	0.010
February	1.089	0.054	0.820	0.041	0.157	0.010
March	1.018	0.052	0.736	0.038	0.157	0.010

	M12-X Easterly Kirkwall to Parkway (TCPL), Parkway (EGT)		M12-X Easterly Kirkwall to Lisgar, Parkway (Consumers)		M12-X Westerly Parkway to Kirkwall, Dawn	
Month	Fuel Ratio (%)	Fuel and Commodity Rate ($/GJ) (1)	Fuel Ratio (%)	Fuel and Commodity Rate ($/GJ) (1)	Fuel Ratio (%)	Fuel and Commodity Rate ($/GJ) (1)
April	0.474	0.026	0.157	0.009	0.293	0.015
May	0.399	0.021	0.157	0.009	0.293	0.015
June	0.394	0.021	0.157	0.009	0.293	0.015
July	0.392	0.021	0.157	0.009	0.293	0.015
August	0.392	0.021	0.157	0.009	0.293	0.015
September	0.388	0.021	0.157	0.009	0.293	0.015
October	0.432	0.023	0.157	0.009	0.293	0.015
November	0.418	0.022	0.157	0.009	0.157	0.010
December	0.420	0.022	0.157	0.009	0.157	0.010
January	0.434	0.023	0.157	0.009	0.157	0.010
February	0.426	0.023	0.157	0.009	0.157	0.010
March	0.439	0.023	0.157	0.009	0.157	0.010

Note:
(1) Fuel rate is calculated based on the July 2017 QRAM (EB-2017-0185) Dawn reference price of $4.206/GJ and includes cap-and-trade facility-related greenhouse gas obligation costs of $0.006/GJ for Dawn to Kirkwall / Parkway (Cons) / Lisgar, $0.009/GJ for Dawn to Parkway (TCPL / EGT), $0.002/GJ for Kirkwall to Lisgar / Parkway (Cons), $0.005/GJ for Kirkwall to Parkway (TCPL), and $0.003/GJ for Parkway to Dawn / Kirkwall.

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

FY 2016 GAS ANNUAL CHARGES
CORRECTION FOR ANNUAL CHARGES UNIT CHARGE
June 26, 2017

The annual charges unit charge (ACA) to be applied to in fiscal year 2018 for recovery of FY 2017 Current year and 2016 True-Up is **$0.0013** per Dekatherm (Dth). The new ACA surcharge will become effective October 1, 2017.

The following calculations were used to determine the FY 2017 unit charge:

2017 CURRENT:

Estimated Program Cost $61,436,000 divided by 47,684,694,955 Dth	=	0.0012883798

2016 TRUE-UP:

Debit/Credit Cost ($1,395,864) divided by 46,556,886,468 Dth	=	(0.0000299819)
TOTAL UNIT CHARGE	=	0.0012583879

If you have any questions, please contact Norman Richardson at (202)502-6219 or e-mail at Norman.Richardson@ferc.gov.

RATES PER DEKATHERM

FIRM STORAGE SERVICE
RATE SCHEDULE FS

Rate Schedule and Rate	Base Tariff Rate	Max Tariff Rate	F&LR 2/, 3/	EPCR 2/
FIRM STORAGE SERVICE (FS) - PRODUCTION AREA				
Deliverability Rate	$2.0334	$2.0334 1/		
Space Rate	$0.0207	$0.0207 1/		
Injection Rate	$0.0073	$0.0073	2.18%	$0.0000
Withdrawal Rate	$0.0073	$0.0073		
Overrun Rate	$0.2441	$0.2441 1/		
FIRM STORAGE SERVICE (FS) - MARKET AREA				
Deliverability Rate	$1.4938	$1.4938 1/		
Space Rate	$0.0205	$0.0205 1/		
Injection Rate	$0.0087	$0.0087	2.18%	$0.0000
Withdrawal Rate	$0.0087	$0.0087		
Overrun Rate	$0.1793	$0.1793 1/		

Notes:

1/ Includes a per Dth charge for the PCB Surcharge Adjustment per Article XXXII of the General Terms and Conditions of $0.000.
2/ The F&LR's and EPCR's determined pursuant to Article XXXVII of the General Terms and Conditions.
3/ The applicable F&LR pursuant to Article XXXVII of the General Terms and Conditions, associated with Losses is equal to 0.33%.

Attention: Vice-President, Washington 10 Storage Corporation
Telephone: (313) 235-6445
Fax: (313) 235-6450

SHIPPER:

NORTHERN UTILITIES, INC.
300 Friberg Parkway
Westborough, MA 01581-5039

INVOICES, STATEMENTS AND NOMINATIONS

Stacy Djucik
1500 – 165th Street
Hammond, IN 46324
Telephone: (219) 853-4320

ALL OTHER MATTERS

F. Chico DaFonte
Telephone: (508) 836-7253
Facsimile: (508) 870-2294
Email: fdafonte@nisource.com

ARTICLE VIII: FURTHER AGREEMENT

Article II is amended to add the following sentence at the end of the first paragraph:

The Monthly Deliverability Rate and Monthly Capacity Rate shall be paid in the form of a monthly demand charge of $240,833.34 (assuming a typical 12 month, April through March storage cycle). The parties agree that Transporter may, from time to time, modify the Monthly Deliverability Rate and the Monthly Capacity Rate set forth in Exhibit I, so long as the amounts set forth on the revised Exhibit I do not exceed Shipper's monthly demand charge of $240,833.34. Unless otherwise specified, the revised Exhibit I will be effective the first day of the month immediately following the date that Transporter provides a copy of the revised Exhibit I to Shipper.

EXHIBIT I

Rates:

Monthly Deliverability Rate:	$ 2.4754 per Dth
Monthly Capacity Rate:	$ 0.0238 per Dth
Injection Rate:	$ 0.00 per Dth
Withdrawal Rate:	$ 0.00 per Dth
Authorized Overrun Rate:	$ 0.05 per Dth
Interruptible Rate:	$ 0.05 per Dth

Service Parameters:

Maximum Storage Quantity (MSQ): 3,400,000 Dth

Maximum Daily Injection Quantity (MDIQ):

Inventory	MDIQ
April 1 through October 31	17,000 Dth/d Firm
November 1 through March 31	17,000 Dth/d Interruptible

Maximum Daily Withdrawal Quantity (MDWQ):

Inventory	MDWQ
November 1 through November 30	64,600 Dth/d Firm
December 1 through March 31	
Inventory ≥ 680,000 Dth	34,000 Dth/d Firm
Inventory ≥ 340,000 Dth and < 680,000 Dth	22,780 Dth/d Firm
Inventory ≥ 0 Dth and < 340,000 Dth	13,600 Dth/d Firm
April 1 through October 31	34,000Dth/d Interruptible

Primary Receipt Point(s):	W-10 / Vector Interconnect
Secondary Receipt Point(s):	W-10 / MichCon Interconnect
Primary Delivery Point(s):	W-10 / Vector Interconnect
Secondary Delivery Point(s):	W-10 / MichCon Interconnect

Long Term Gas Storage Open Season (June 19, 2017)

DTE Gas Storage is conducting an open season for storage services at its Washington 10 facility. Being offered is existing firm storage capacity, with the ability to choose MichCon Generic receipts or Receipts off Vector/Rover/Nexus.

Interested parties must submit a binding bid by **Noon (Eastern Time) on Wednesday, June 21, 2017**. For additional information please contact Steve Richman at 313-235-4275 or Mike Romain at 313-235-4213; michael.romain@dteenergy.com.

Open Season Description

Open Season Bid Form

Gas Storage Agreement

Fuel Rates Effective April 1, 2017 (March 23, 2017)

The fuel rate for Injections in the upcoming season beginning April 1, 2017 will be **1.00%.** The fuel rate for withdrawal will be **0.40%.** Wheels-from-Hub will remain unchanged.

Injections: 1.00%
Withdrawals: 0.40%
Wheel-from-hub to DTEGas 0.00%
Wheel-from-hub to Vector 0.50%

As always, we welcome your feedback. Please contact us with your questions or concerns.

Steve Richman (313.235.4275)
Mike Romain (313.235.4213)
Sandy Schmidt (313.235.1148)

MORE NOTICES ^

PLANNED OUTAGES

Notice of Maintenance Requiring Reduction of Injections into W10 (June 19, 2015)
W10 will be conducting maintenance on **July 16 and July 17**. During such time, total injections to W10 will be restricted to a set volume of 200,000 Dth/d to accommodate the maintenance work. Any Curtailment required as a result of this scheduled work will be made in accordance with Section 14 of the SOC. W10 will notify Shippers as soon as possible of any required Curtailment of injection volumes for the applicable days.

Currently, W10 is allowing authorized overrun of injections to its shippers. We apologize for any short-term inconvenience this required work may cause.

Please feel free to contact us should you have any questions or concerns
Steve Richman (313.235.4275)
Mike Romain (313.235.4213)
Sandy Schmidt (313.235.1148)

MORE OUTAGES ^

DTE GAS STORAGE FORMS

The following downloadable forms are available in PDF format:

- Agency Authorization* (for Customer Activity Web site)

WASHINGTON 10 STORAGE CORP. TARIFFS:

- MPSC Tariff

PRICING PROVISIONS

Shipper agrees to pay Union the following for the Storage Services:

(a) **Monthly Demand Charge:** For the period of April, 2018 to March, 2023 inclusive, a monthly demand charge of $236,666.67 US if the Maximum Storage Balance is 4,220,224 GJ (4,000,000 MMBtu); or a monthly demand charge of $201,666.67 US if Shipper elects a lower Maximum Storage Balance of 3,587,190 GJ (3,400,000 MMBtu).

(b) **Demand Charge Escalation:** *Intentionally blank*

(c) **Variable Storage Charges:**

(i) Firm: For each GJ of gas withdrawn from or injected into the Storage Account on a firm basis, a charge equal to $0.007 CDN/GJ;

(ii) Interruptible: For each GJ of gas withdrawn from or injected into the Storage Account on an interruptible basis, a charge equal to the price set out under the heading 'If Shipper supplies fuel Commodity Charge Price/GJ' in the 'Storage Services' section under '(C) Pricing' in the MPSS (currently $0.041CDN/GJ);

(iii) Authorized Overrun: For each GJ of gas withdrawn from or injected into the Storage Account on an authorized overrun basis, a charge equal to the price set out under the heading 'If Shipper supplies fuel Commodity Charge Price/GJ' in the 'Authorized Overrun' section under '(C) Pricing' in the MPSS (currently $0.041CDN/GJ);

(iv) Dehydration Charge: Not Applicable.

(d) **Fuel:**

(i) Firm and Interruptible: For each GJ of gas withdrawn from or injected into the Storage Account on a firm or interruptible basis, an amount of fuel in kind equal to the fuel ratio set out under the heading of 'If Shipper supplies fuel' in the 'Storage Services' section under '(C) Pricing' in the MPSS (currently 0.600%).

(ii) Authorized Overrun: For each GJ of gas withdrawn from or injected into the Storage Account on an authorized overrun basis, an amount of fuel in kind equal to the fuel ratio set out under the heading of 'If Shipper supplies fuel' in the 'Authorized Overrun' section under '(C) Pricing' in the MPSS (currently 1.03%).

(e) **Late Season Balance Charge and Early Season Balance Charge:** *Intentionally blank*

(f) **Shortfall Charge:** *Intentionally blank*

(g) **Other Charges:** Any and all other charges as may be set out in this Contract, and any charges relating to Unauthorized Overrun, Drafted Storage Balance and Overrun of Maximum Storage Balance as set out in the MPSS.

Northern Utilities, Inc. Retail Marketer Capacity Assignment Revenue Projections November 2017 through October 2018		
Item	Revenue	Reference
NH Division Pipeline Contract Capacity Assignment	$ (2,692,573)	Page 2
NH Division Storage Contract Capacity Assignment	$ (270,699)	Page 3
NH Division On-System Peaking Service Demand	$ (124,940)	Page 4
NH Division Off-System Peaking Capacity Release Revenue	$ (197,275)	Page 5
NH Division Asset Management and Capacity Release Revenue Assigned to Retail Suppliers	$ 119,967	Page 6
NH Division Capacity Assignment Demand Revenue	$ (3,165,518)	Sum of Items Above
PNGTS 2010 Rate Case Refund Assigned to Retail Suppliers	$ 349,735	Page 9

Northern Utilities, Inc.
New Hampshire Division Pipeline Capacity Assignment Estimates
November 2017 through October 2018

Pipeline	Contract ID	Pipeline Allocated Cost	Storage Allocated Cost	Capacity Assigned? (Y/N)	Pipeline Allocated MDQ	Storage Allocated MDQ	Assigned Pipeline MDQ	Assigned Storage MDQ	Assigned Pipeline Credits	Assigned Storage Credits	ME Annual Cap Assign Credit
Algonquin	93002F	$ 308,943	$ -	Y	4,211	-	(383)	-	$ (28,099)	$ -	$ (28,099)
Algonquin	93201A1C	$ 98,680	$ -	Y	1,251	-	(114)	-	$ (8,992)	$ -	$ (8,992)
Granite	16-100-FT-NN	$ 590,469	$ 968,906	Y	22,259	36,525	(2,025)	(3,295)	$ (53,718)	$ (87,407)	$ (141,125)
Granite	16-100-FT-NN	$ 590,469	$ 968,906	Y	22,259	36,525	(2,025)	(3,295)	$ (53,718)	$ (87,407)	$ (141,125)
Iroquois	R181001	$ 394,022	$ -	Y	6,569	-	(597)	-	$ (35,809)	$ -	$ (35,809)
Iroquois	R181001	$ 73,569	$ -	Y	6,569	-	(597)	-	$ (6,686)	$ -	$ (6,686)
PNGTS	TBD	$ 1,314,657	$ -	Y	6,003	-	(546)	-	$ (119,574)	$ -	$ (119,574)
PNGTS	TBD	$ -	$ 7,446,000	Y	-	34,000	-	(3,067)	$ -	$ (671,673)	$ (671,673)
Tennessee	5083	$ 1,282,966	$ -	Y	4,605	-	(419)	-	$ (116,735)	$ -	$ (116,735)
Tennessee	5083	$ 2,114,463	$ -	Y	8,550	-	(778)	-	$ (192,404)	$ -	$ (192,404)
Tennessee	5265	$ -	$ 259,384	Y	-	2,653	-	(239)	$ -	$ (23,367)	$ (23,367)
Tennessee	5292	$ 120,741	$ -	Y	1,406	-	(128)	-	$ (10,992)	$ -	$ (10,992)
Tennessee	31861	$ 191,159	$ -	Y	2,226	-	(202)	-	$ (17,347)	$ -	$ (17,347)
Tennessee	39735	$ 79,778	$ -	Y	929	-	(84)	-	$ (7,214)	$ -	$ (7,214)
Tennessee	41099	$ 366,431	$ -	Y	4,267	-	(388)	-	$ (33,320)	$ -	$ (33,320)
Texas Eastern	800384	$ 65,126	$ -	Y	965	-	(88)	-	$ (5,939)	$ -	$ (5,939)
TransCanada	33322	$ -	$ 4,289,746	Y	-	34,000	-	(3,067)	$ -	$ (386,960)	$ (386,960)
TransCanada	33322	$ -	$ 4,896,350	Y	-	34,000	-	(3,067)	$ -	$ (441,680)	$ (441,680)
TransCanada	TBD	$ 1,481,989	$ -	Y	6,003	-	(546)	-	$ (134,794)	$ -	$ (134,794)
Union	M12256	$ 79,926	$ -	Y	6,104	-	(555)	-	$ (7,267)	$ -	$ (7,267)
Union	M12256	$ 111,896	$ 634,567	Y	6,104	34,616	(555)	(3,123)	$ (10,174)	$ (57,250)	$ (67,424)
Vector	CRL-NUI-0725	$ -	$ 652,897	Y	-	17,172	-	(1,549)	$ -	$ (58,895)	$ (58,895)
Vector	CRL-NUI-0727	$ -	$ 389,774	Y	-	17,086	-	(1,541)	$ -	$ (35,154)	$ (35,154)
Total NH Capacity Assignment Credits									$ (842,780)	$ (1,849,792)	$ (2,692,573)

Northern Utilities, Inc.
New Hampshire Division Storage Contract Capacity Assignment Estimates
November 2017 through October 2018

Vendor	Contract ID	Annual Fixed Charges	Capacity Assigned (Y/N)	Company Managed (Y/N)	Assigned MSQ	Assigned MDWQ	NH Annual Cap Assign Credit
Tennessee	5195	$ 139,855	Y	N	(23,395)	(383)	$ (12,617)
W-10	01052	$ 1,204,167	Y	Y	(306,721)	(3,067)	$ (108,631)
Union	LST068	$ 1,656,667	Y	N	(360,849)	(3,717)	$ (149,452)

Total NH Division Storage Capacity Assignment $ (270,699)

MSQ = Maximum Space Quantity
MDWQ = Maximum Daily Withdrawal Quantity

Northern Utilities, Inc.
New Hampshire Division
On-System Peaking Demand Capacity Assignment Revenues
November 2017 through October 2018

Month	On-System Peaking Demand TCQ	Rate	Demand Revenue
Nov-17	586	$ 35.51	$ (20,823)
Dec-17	586	$ 35.51	$ (20,823)
Jan-18	586	$ 35.51	$ (20,823)
Feb-18	586	$ 35.51	$ (20,823)
Mar-18	586	$ 35.51	$ (20,823)
Apr-18	586	$ 35.51	$ (20,823)

Total Division Peaking Demand Revenue $ (124,940)

Northern Utilities, Inc.
New Hampshire Division
Off-System Peaking Capacity Assignment Release Revenues
November 2017 through October 2018

Month	Off-System Peaking Demand MDQ	Off-System Peaking Demand TCQ	Granite Demand Rate	Capacity Release Revenue
Nov-17	56,216	5,072	$ 4.4212	$ (22,423)
Dec-17	56,216	5,072	$ 4.4212	$ (22,423)
Jan-18	56,216	5,072	$ 4.4212	$ (22,423)
Feb-18	56,216	5,072	$ 4.4212	$ (22,423)
Mar-18	56,216	5,072	$ 4.4212	$ (22,423)
Apr-18	56,216	5,072	$ 4.4212	$ (22,423)
May-18	26,216	2,365	$ 4.4212	$ (10,457)
Jun-18	26,216	2,365	$ 4.4212	$ (10,457)
Jul-18	26,216	2,365	$ 4.4212	$ (10,457)
Aug-18	26,216	2,365	$ 4.4212	$ (10,457)
Sep-18	26,216	2,365	$ 4.4212	$ (10,457)
Oct-18	26,216	2,365	$ 4.4212	$ (10,457)

Total Division Off-System Peaking Demand Revenue $ (197,275)

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Northern Utilities, Inc.
New Hampshire Division
Asset Management and Capacity Release Revenue Assigned to Retail Suppliers
November 2017 through October 2018

Confidential Information

Asset Management Agreeement Revenue					
Resources	Projected Value	Company-Managed Resources	Resource Type	Percentage Capacity Assigned	Annual Value to ME Retail Marketers
Washington 10 Storage (11/2017 through 3/2018)	[redacted]	Yes	Pipeline	9.10%	[redacted]
Union Dawn Storage (4/2018 through 10/2018)		No	Storage	9.02%	
Dawn Supply (11/2017 through 3/2018)		No	Pipeline	9.10%	
Tennessee Long-Haul		No	Pipeline	9.10%	
Tennessee Niagara		No	Pipeline	9.10%	
Leidy / Transco Zone 6, non-NY (Texas Eastern, Algonquin)		Yes	Pipeline	9.10%	
Total Asset Management	$ (4,245,078)				$ 119,967

Capacity Release Revenue					
Resources	Annual Value	Company-Managed Resources	Resource Type	Percentage Capacity Assigned	Annual Value to ME Retail Marketers
	$ -	No	Pipeline	9.10%	$ -
Total Capacity Release	$ -				$ -

Total Asset Management and Capacity Release Revenue	$ (4,245,078)	$ 119,967

Northern Utilities, Inc.
NH Division Peaking Capacity Assignment Demand Rate
November 2017 through October 2018

Line	Description	Northern	NH Division
1	Capacity Allocation Factor		44.82%
2	Peaking Plants	6,500	2,913
3	Total	6,500	2,913
4	LNG Demand Costs	$ 446,250	$ 200,009
5	Peaking Plants Fixed Costs		$ 420,658
6	Total On-System Peaking Fixed Costs		$ 620,667
7	ME Division Peaking Service Demand Rate		$ 35.51

Northern Utilities
Retail Supplier Capacity Assignment Estimates
November 2017 through October 2018

	Pipeline MDQ	Storage MDQ	Peaking MDQ	Total MDQ
HLF Allocation	60.13%	14.67%	25.20%	100.00%
LLF Allocation	15.54%	31.09%	53.37%	100.00%
HLF MDQ	1,137	277	476	1,891
LLF MDQ	1,505	3,012	5,170	9,687
Retail Supplier Total	2,647	3,295	5,658	11,600
Northern MDQ	29,103	36,525	62,716	128,344
NH Cap Assign/ Total MDQ	9.10%	9.02%	9.02%	9.04%

On System Peaking	6,500
On System Peaking Allocation	10.36%

Northern Utilities, Inc.
New Hampshire Division
PNGTS 2010 Rate Case Refund Assigned to Retail Suppliers
November 2017 through October 2018

20% NH Allocated PNGTS Refund	$ (1,737,705)

44.82%

PNGTS Contract	MDQ	Percentage MDQ	Allocated PNGTS Litigation Items	NH Allocated MDQ	NH Assigned MDQ	Resource Type	Percentage Credit Allocated	Capacity Assignment Revenue
PNGTS (34,000 Dth)	34,000	100%	$ (1,737,705)	15,239	3,067	Storage	20.13%	$ 349,735
Estimated Net Refund to Retail Marketers	34,000	100%	$ (1,737,705)	15,239	3,067			$ 349,735

Estimated Net Refund to NH Sales Service Customers	$ (1,387,970)

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Northern Utilities, Inc.
Commodity Cost by Supply Source
November 2017 through April 2018

Description	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	Season
Pipeline Supplies							
FS-MA Path (TGP Zone 4 300 Leg)	[redacted]						
W10 Path (Chicago)	[redacted]						
W10 Path (Dawn)	[redacted]						
W10 Path Total	[redacted]						
Tennessee Zone 4 200 Leg	[redacted]						
Tennessee Zone 0	[redacted]						
Tennessee Zone L	[redacted]						
Tennessee Long-Haul Path	[redacted]						
Leidy Hub	[redacted]						
Texas Eastern Zone M-3	[redacted]						
Transco Zone 6, non-NY	[redacted]						
Algonquin Receipts Path	[redacted]						
Iroquois Receipts Path	[redacted]						
Tennessee Niagara Path	[redacted]						
Dawn Supply Path	[redacted]						
PNGTS Delivered	[redacted]						
PNGTS Delivered (Dec - Feb)	[redacted]						
Maritimes Delivered	[redacted]						
Baseload Delivered Supplies	[redacted]						
Incremental Delivered Supplies	[redacted]						
Total Pipeline	$ 2,072,992	$ 4,522,945	$ 5,110,765	$ 5,043,781	$ 3,796,883	$ 2,538,352	$ 23,085,717
NH CM Pipeline (Leidy/M-3)	[redacted]						
ME CM Pipeline (Leidy/M-3)	[redacted]						
NH CM Pipeline (Transco)	[redacted]						
ME CM Pipeline (Transco)	[redacted]						
NH CM Pipeline (Iroq Rec)	[redacted]						
ME CM Pipeline (Iroq Rec)	[redacted]						
Net Pipeline	**$ 1,971,953**	**$ 4,381,350**	**$ 4,904,060**	**$ 4,856,523**	**$ 3,669,966**	**$ 2,538,352**	**$ 22,322,204**
Underground Storage							
Tennessee Storage Path	$ -	$ 11,893	$ 165,775	$ 149,732	$ 164,861	$ -	$ 492,261
Washington 10 Storage Path	$ 1,317,573	$ 2,387,082	$ 2,517,656	$ 2,467,424	$ 1,411,084	$ -	$ 10,100,818
Total Storage	$ 1,317,573	$ 2,398,975	$ 2,683,431	$ 2,617,156	$ 1,575,945	$ -	$ 10,593,079
NH Company Managed Storage (W10)	$ (18,635)	$ (223,618)	$ (232,936)	$ (260,888)	$ (195,666)	$ -	$ (931,742)
ME Company Managed Storage (W10)	$ (10,897)	$ (130,761)	$ (136,209)	$ (152,555)	$ (114,416)	$ -	$ (544,838)
Net Storage	**$ 1,288,041**	**$ 2,044,595**	**$ 2,314,286**	**$ 2,203,714**	**$ 1,265,863**	**$ -**	**$ 9,116,500**
Peaking Supplies							
Peaking Contract 1	[redacted]						
Peaking Contract 2	[redacted]						
Off-System Peaking Contracts	[redacted]						
LNG	[redacted]						
Total Peaking	$ 13,703	$ 385,245	$ 3,937,874	$ 1,132,515	$ 410,008	$ 14,612	$ 5,893,956
NH Peaking Service (LNG)	[redacted]						
ME Peaking Service (LNG)	[redacted]						
Net Peaking	**$ 13,703**	**$ 379,025**	**$ 3,873,697**	**$ 1,106,595**	**$ 410,008**	**$ 14,612**	**$ 5,797,639**
Total NUI Commodity	$ 3,404,267	$ 7,307,165	$ 11,732,069	$ 8,793,452	$ 5,782,835	$ 2,552,964	$ 39,572,752
Company Managed Sales	$ (29,532)	$ (354,379)	$ (369,145)	$ (413,442)	$ (310,082)	$ -	$ (1,476,580)
Net Commodity Costs	**$ 3,374,735**	**$ 6,952,786**	**$ 11,362,924**	**$ 8,380,010**	**$ 5,472,753**	**$ 2,552,964**	**$ 38,096,173**

Northern Utilities, Inc.
Commodity Volumes by Supply Source (Dth)
November 2017 through April 2018

Description	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	Season
Pipeline Supplies							
FS-MA Path (TGP Zone 4 300 Leg)	67,978	65,204	0	0	388	67,978	201,548
W10 Path (Chicago)	0	0	7,190	89,817	379,272	0	476,279
W10 Path (Dawn)	0	0	3,224	5,910	47,164	564,576	620,873
W10 Path Total	0	0	10,414	95,727	426,435	564,576	1,097,152
Tennessee Zone 4 200 Leg	149,475	154,458	154,458	139,510	153,758	149,475	901,133
Tennessee Zone 0	23,293	20,177	28,964	50,820	30,972	0	154,226
Tennessee Zone L	0	23,572	41,630	67,242	37,450	0	169,895
Tennessee Long-Haul Path	172,768	198,207	225,052	257,572	222,179	149,475	1,225,253
Leidy Hub	28,687	29,625	29,625	26,758	29,625	28,687	173,006
Texas Eastern Zone M-3	263	290	290	262	290	263	1,660
Transco Zone 6, non-NY	8,580	8,866	8,866	8,008	8,866	8,580	51,766
Algonquin Receipts Path	37,530	38,781	38,781	35,028	38,781	37,530	226,431
Iroquois Receipts Path	189,682	195,925	195,925	176,965	195,925	0	954,421
Tennessee Niagara Path	59,222	61,196	61,196	55,274	61,196	59,222	357,309
Dawn Supply Path	152,254	157,329	157,329	142,103	157,329	5,075	771,418
PNGTS Delivered	0	0	0	0	0	0	0
PNGTS Delivered (Dec - Feb)	0	0	0	0	0	0	0
Maritimes Delivered	0	232,500	232,500	210,000	0	0	675,000
Baseload Delivered Supplies	0	232,500	232,500	210,000	0	0	675,000
Incremental Delivered Supplies	0	0	9,038	0	0	0	9,038
Total Pipeline	679,433	949,142	930,235	972,669	1,102,233	883,856	5,517,570
NH CM Pipeline (Leidy/M-3)	-2,640	-2,728	-2,728	-2,464	-2,728		-13,288
ME CM Pipeline (Leidy/M-3)	-1,770	-1,829	-1,829	-1,652	-1,829		-8,909
NH CM Pipeline (Transco)	-780	-806	-806	-728	-806		-3,926
ME CM Pipeline (Transco)	-510	-527	-527	-476	-527		-2,567
NH CM Pipeline (Iroq Rec)	-15,270	-15,779	-15,779	-14,252	-15,779		-76,859
ME CM Pipeline (Iroq Rec)	-10,170	-10,509	-10,509	-9,492	-10,509		-51,189
Net Pipeline	**648,293**	**916,964**	**898,057**	**943,605**	**1,070,055**	**883,856**	**5,360,832**
Underground Storage							
Tennessee Storage Path	0	5,039	70,244	63,446	69,856	0	208,585
Washington 10 Storage Path	432,148	782,933	825,760	809,285	462,818	0	3,312,944
Total Storage	432,148	787,973	896,004	872,731	532,674	0	3,521,529
NH Company Managed Storage (W10)	-6,112	-73,344	-76,400	-85,568	-64,176	0	-305,600
ME Company Managed Storage (W10)	-3,574	-42,888	-44,675	-50,036	-37,527		-178,700
Net Storage	**422,462**	**671,741**	**774,929**	**737,127**	**430,971**	**0**	**3,037,229**
Peaking Supplies							
Peaking Contract 1	0	4,983	18,802	12,456	1,128	0	37,369
Peaking Contract 2	0	15,626	290,635	72,193	11,665	0	390,119
Off-System Peaking Contracts	0	20,608	309,436	84,649	12,794	0	427,488
LNG	2,145	20,931	32,819	16,816	36,989	2,145	111,844
Total Peaking	2,145	41,539	342,256	101,465	49,783	2,145	539,332
NH Peaking Service (LNG)	0	-586	-5,860	-2,344	0		-8,790
ME Peaking Service (LNG)	0	-343	-3,430	-1,372	0		-5,145
Net Peaking	**2,145**	**40,610**	**332,966**	**97,749**	**49,783**	**2,145**	**525,397**
Total NUI Commodity	1,113,726	1,778,654	2,168,494	1,946,865	1,684,690	886,001	9,578,431
Company Managed Sales	-40,826	-149,339	-162,543	-168,384	-133,881	0	-654,973
Net Commodity Costs	**1,072,900**	**1,629,315**	**2,005,951**	**1,778,481**	**1,550,809**	**886,001**	**8,923,458**

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Northern Utilities, Inc.
Average Delivered Commodity Cost by Supply Source ($/Dth)
November 2017 through April 2018

Description	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	Season
Pipeline Supplies							
FS-MA Path (TGP Zone 4 300 Leg)	[redacted]						
W10 Path (Chicago)	[redacted]						
W10 Path (Dawn)	[redacted]						
W10 Path Total	[redacted]						
Tennessee Zone 4 200 Leg	[redacted]						
Tennessee Zone 0	[redacted]						
Tennessee Zone L	[redacted]						
Tennessee Long-Haul Path	[redacted]						
Leidy Hub	[redacted]						
Texas Eastern Zone M-3	[redacted]						
Transco Zone 6, non-NY	[redacted]						
Algonquin Receipts Path	[redacted]						
Iroquois Receipts Path	[redacted]						
Tennessee Niagara Path	[redacted]						
Dawn Supply Path	[redacted]						
PNGTS Delivered	[redacted]						
PNGTS Delivered (Dec - Feb)	[redacted]						
Maritimes Delivered	[redacted]						
Baseload Delivered Supplies	[redacted]						
Incremental Delivered Supplies	[redacted]						
Total Pipeline	$ 3.051	$ 4.765	$ 5.494	$ 5.186	$ 3.445	$ 2.872	$ 4.184
NH CM Pipeline (Leidy/M-3)	[redacted]						
ME CM Pipeline (Leidy/M-3)	[redacted]						
NH CM Pipeline (Transco)	[redacted]						
ME CM Pipeline (Transco)	[redacted]						
NH CM Pipeline (Iroq Rec)	[redacted]						
ME CM Pipeline (Iroq Rec)	[redacted]						
Net Pipeline	**$ 3.042**	**$ 4.778**	**$ 5.461**	**$ 5.147**	**$ 3.430**	**$ 2.872**	**$ 4.164**
Underground Storage							
Tennessee Storage Path		$ 2.360	$ 2.360	$ 2.360	$ 2.360		$ 2.360
Washington 10 Storage Path	$ 3.049	$ 3.049	$ 3.049	$ 3.049	$ 3.049		$ 3.049
Total Storage	$ 3.049	$ 3.044	$ 2.995	$ 2.999	$ 2.959		$ 3.008
NH Company Managed Storage (W10)	$ 3.049	$ 3.049	$ 3.049	$ 3.049	$ 3.049		$ 3.049
ME Company Managed Storage (W10)	$ 3.049	$ 3.049	$ 3.049	$ 3.049	$ 3.049		$ 3.049
Net Storage	**$ 3.049**	**$ 3.044**	**$ 2.986**	**$ 2.990**	**$ 2.937**		**$ 3.002**
Peaking Supplies							
Peaking Contract 1	[redacted]						
Peaking Contract 2	[redacted]						
Off-System Peaking Contracts	[redacted]						
LNG	[redacted]						
Total Peaking	$ 6.388	$ 9.274	$ 11.506	$ 11.162	$ 8.236	$ 6.812	$ 10.928
NH Peaking Service (LNG)	[redacted]						
ME Peaking Service (LNG)	[redacted]						
Net Peaking	**$ 6.388**	**$ 9.333**	**$ 11.634**	**$ 11.321**	**$ 8.236**	**$ 6.812**	**$ 11.035**
Total NUI Commodity	$ 3.057	$ 4.108	$ 5.410	$ 4.517	$ 3.433	$ 2.881	$ 4.131
Company Managed Sales	$ 0.723	$ 2.373	$ 2.271	$ 2.455	$ 2.316		$ 2.254
Net Commodity Costs	**$ 3.145**	**$ 4.267**	**$ 5.665**	**$ 4.712**	**$ 3.529**	**$ 2.881**	**$ 4.269**

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Northern Utilities, Inc.
Average Delivered Commodity Cost by Supply Source ($/Dth)
May 2018 through October 2018

Description	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Season
Pipeline Supplies							
FS-MA Path (TGP Zone 4 300 Leg)	[redacted]						
W10 Path (Chicago)							
W10 Path (Dawn)							
W10 Path Total							
Tennessee Zone 4 200 Leg							
Tennessee Zone 0							
Tennessee Zone L							
Tennessee Long-Haul Path							
Leidy Hub							
Texas Eastern Zone M-3							
Transco Zone 6, non-NY							
Algonquin Receipts Path							
Iroquois Receipts Path							
Tennessee Niagara Path							
Dawn Supply Path							
PNGTS Delivered							
PNGTS Delivered (Dec - Feb)							
Maritimes Delivered							
Baseload Delivered Supplies							
Incremental Delivered Supplies							
Total Pipeline	$ 1,273,432	$ 862,289	$ 761,921	$ 763,018	$ 800,369	$ 1,648,370	$ 6,109,399
NH CM Pipeline (Leidy/M-3)	[redacted]						
ME CM Pipeline (Leidy/M-3)							
NH CM Pipeline (Transco)							
ME CM Pipeline (Transco)							
NH CM Pipeline (Iroq Rec)							
ME CM Pipeline (Iroq Rec)							
Net Pipeline	**$ 1,273,432**	**$ 862,289**	**$ 761,921**	**$ 763,018**	**$ 800,369**	**$ 1,648,370**	**$ 6,109,399**
Underground Storage							
Tennessee Storage Path	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Washington 10 Storage Path	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Storage	$ -	$ -	$ -	$ -	$ -	$ -	$ -
NH Company Managed Storage (W10)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
ME Company Managed Storage (W10)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Net Storage	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Peaking Supplies							
Peaking Contract 1	[redacted]						
Peaking Contract 2							
Off-System Peaking Contracts							
LNG							
Total Peaking	$ 14,580	$ 14,082	$ 14,551	$ 14,551	$ 14,012	$ 14,477	$ 86,253
NH Peaking Service (LNG)	[redacted]						
ME Peaking Service (LNG)							
Net Peaking	**$ 14,580**	**$ 14,082**	**$ 14,551**	**$ 14,551**	**$ 14,012**	**$ 14,477**	**$ 86,253**
Total NUI Commodity	$ 1,288,012	$ 876,371	$ 776,473	$ 777,570	$ 814,381	$ 1,662,847	$ 6,195,652
Company Managed Sales							$ -
Net Commodity Costs	**$ 1,288,012**	**$ 876,371**	**$ 776,473**	**$ 777,570**	**$ 814,381**	**$ 1,662,847**	**$ 6,195,652**

Northern Utilities, Inc.
Commodity Volumes by Supply Source (Dth)
May 2018 through October 2018

Description	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Season
Pipeline Supplies							
FS-MA Path (TGP Zone 4 300 Leg)	70,244	67,978	70,244	70,244	67,978	70,244	416,931
W10 Path (Chicago)	0	0	0	0	0	0	0
W10 Path (Dawn)	146,604	62,922	0	29,509	50,289	274,741	564,065
W10 Path Total	146,604	62,922	0	29,509	50,289	274,741	564,065
Tennessee Zone 4 200 Leg	151,182	149,475	154,458	154,458	149,475	154,458	913,504
Tennessee Zone 0	0	0	0	0	0	0	0
Tennessee Zone L	0	0	0	0	0	0	0
Tennessee Long-Haul Path	151,182	149,475	154,458	154,458	149,475	154,458	913,504
Leidy Hub	29,643	28,687	29,643	29,643	28,687	29,643	175,944
Texas Eastern Zone M-3	272	263	272	272	263	272	1,616
Transco Zone 6, non-NY	8,866	8,580	0	0	8,580	8,866	34,892
Algonquin Receipts Path	38,781	37,530	29,915	29,915	37,530	38,781	212,452
Iroquois Receipts Path	66,556	0	0	0	0	0	66,556
Tennessee Niagara Path	0	0	0	0	0	61,196	61,196
Dawn Supply Path	1,365	3,902	28,282	0	1,133	15,205	49,887
PNGTS Delivered	0	0	0	0	0	0	0
PNGTS Delivered (Dec - Feb)	0	0	0	0	0	0	0
Maritimes Delivered	0	0	0	0	0	0	0
Baseload Delivered Supplies	0	0	0	0	0	0	0
Incremental Delivered Supplies	0	0	0	0	0	0	0
Total Pipeline	474,732	321,807	282,899	284,126	306,404	614,624	2,284,591
NH CM Pipeline (Leidy/M-3)	0	0	0	0	0	0	0
ME CM Pipeline (Leidy/M-3)	0	0	0	0	0	0	0
NH CM Pipeline (Transco)	0	0	0	0	0	0	0
ME CM Pipeline (Transco)	0	0	0	0	0	0	0
NH CM Pipeline (Iroq Rec)	0	0	0	0	0	0	0
ME CM Pipeline (Iroq Rec)	0	0	0	0	0	0	0
Net Pipeline	**474,732**	**321,807**	**282,899**	**284,126**	**306,404**	**614,624**	**2,284,591**
Underground Storage							
Tennessee Storage Path	0	0	0	0	0	0	0
Washington 10 Storage Path	0	0	0	0	0	0	0
Total Storage	0	0	0	0	0	0	0
NH Company Managed Storage (W10)	0	0	0	0	0	0	0
ME Company Managed Storage (W10)	0	0	0	0	0	0	0
Net Storage	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Peaking Supplies							
Peaking Contract 1	0	0	0	0	0	0	0
Peaking Contract 2	0	0	0	0	0	0	0
Off-System Peaking Contracts	0	0	0	0	0	0	0
LNG	2,217	2,145	2,217	2,217	2,145	2,217	13,156
Total Peaking	2,217	2,145	2,217	2,217	2,145	2,217	13,156
NH Peaking Service (LNG)	0	0	0	0	0	0	0
ME Peaking Service (LNG)	0	0	0	0	0	0	0
Net Peaking	**2,217**	**2,145**	**2,217**	**2,217**	**2,145**	**2,217**	**13,156**
Total NUI Commodity	476,948	323,952	285,115	286,342	308,549	616,841	2,297,747
Net Commodity Costs	**476,948**	**323,952**	**285,115**	**286,342**	**308,549**	**616,841**	**2,297,747**

REDACTED

Denotes Confidential Information

Northern Utilities, Inc.
Commodity Volumes by Supply Source (Dth)
May 2018 through October 2018

Description	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Season
Pipeline Supplies							
FS-MA Path (TGP Zone 4 300 Leg)	[redacted]						
W10 Path (Chicago)							
W10 Path (Dawn)							
W10 Path Total							
Tennessee Zone 4 200 Leg							
Tennessee Zone 0							
Tennessee Zone L							
Tennessee Long-Haul Path							
Leidy Hub							
Texas Eastern Zone M-3							
Transco Zone 6, non-NY							
Algonquin Receipts Path							
Iroquois Receipts Path							
Tennessee Niagara Path							
Dawn Supply Path							
PNGTS Delivered							
PNGTS Delivered (Dec - Feb)							
Maritimes Delivered							
Baseload Delivered Supplies							
Incremental Delivered Supplies							
Total Pipeline	$ 2.682	$ 2.680	$ 2.693	$ 2.685	$ 2.612	$ 2.682	$ 2.674
NH CM Pipeline (Leidy/M-3)	[redacted]						
ME CM Pipeline (Leidy/M-3)							
NH CM Pipeline (Transco)							
ME CM Pipeline (Transco)							
NH CM Pipeline (Iroq Rec)							
ME CM Pipeline (Iroq Rec)							
Net Pipeline	**$ 2.682**	**$ 2.680**	**$ 2.693**	**$ 2.685**	**$ 2.612**	**$ 2.682**	**$ 2.674**
Underground Storage							
Tennessee Storage Path							
Washington 10 Storage Path							
Total Storage							
NH Company Managed Storage (W10)							
ME Company Managed Storage (W10)							
Net Storage							
Peaking Supplies							
Peaking Contract 1	[redacted]						
Peaking Contract 2							
Off-System Peaking Contracts							
LNG							
Total Peaking	$ 6.578	$ 6.565	$ 6.565	$ 6.565	$ 6.532	$ 6.531	$ 6.556
NH Peaking Service (LNG)	[redacted]						
ME Peaking Service (LNG)							
Net Peaking	**$ 6.578**	**$ 6.565**	**$ 6.565**	**$ 6.565**	**$ 6.532**	**$ 6.531**	**$ 6.556**
Total NUI Commodity	$ 2.701	$ 2.705	$ 2.723	$ 2.716	$ 2.639	$ 2.696	$ 2.696
Net Commodity Costs	**$ 2.701**	**$ 2.705**	**$ 2.723**	**$ 2.716**	**$ 2.639**	**$ 2.696**	**$ 2.696**

REDACTED

Source of Supply: Tennessee Zone 4 200 Leg Pool
Delivered to Northern via Tennessee and Granite Pipelines

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Purchased Volumes	Line 9	151,714	156,772	156,772	141,600	156,061	151,714	914,633
2	City Gate Delivered Volume	Line 34	149,475	154,458	154,458	139,510	153,758	149,475	901,133
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Sum Lines 26 and 36	$ 17,669	$ 18,258	$ 18,258	$ 16,491	$ 18,176	$ 17,669	$ 106,522
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Tennessee Zone 4 Supply Costs								
9	Purchased Volumes	Sendout Optimization	151,714	156,772	156,772	141,600	156,061	151,714	914,633
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 3.105
11	NYMEX Cost	Line 9 times Line 10	$ 455,143	$ 493,830	$ 509,507	$ 457,368	$ 496,274	$ 427,835	$ 2,839,958
12	NYMEX Basis Price	Att NUI-FXW-10, Line 1 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 2								
19	Tennessee Gas Pipeline (Contract 5083)								
20	Receipt Point: Tennessee Zone 4 200 Leg Pool								
21	Delivery Point: Pleasant St. (Interconnection with Granite)								
22	Received Volume	Line 15	151,714	156,772	156,772	141,600	156,061	151,714	914,633
23	Fuel Loss Rate	Att NUI-FXW-10, Line 39 of Page 2	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%
24	Delivered Volume	Line 22 times (1 - Line 23)	150,000	155,000	155,000	140,000	154,298	150,000	904,298
25	Variable Transportation Rate	Att NUI-FXW-10, Line 24 of Page 2	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165
26	Variable Transportation Costs	Line 24 times Line 25	$ 17,475	$ 18,058	$ 18,058	$ 16,310	$ 17,976	$ 17,475	$ 105,351
27									
28	Transportation Segment 3								
29	Granite State Gas Transmission (Contract 14-001-FT-NN)								
30	Receipt Point: Pleasant St.								
31	Delivery Point: Northern City Gates								
32	Received Volume	Line 24	150,000	155,000	155,000	140,000	154,298	150,000	904,298
33	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
34	City Gate Delivered Volume	Line 32 times (1 - Line 33)	149,475	154,458	154,458	139,510	153,758	149,475	901,133
35	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
36	Variable Transportation Costs	Line 34 times Line 35	$ 194	$ 201	$ 201	$ 181	$ 200	$ 194	$ 1,171

REDACTED

Source of Supply: Tennessee Zone 0
Delivered to Northern via Tennessee and Granite Pipelines

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Purchased Volumes	Line 22	24,412	21,147	30,356	53,262	32,460	-	161,637
2	City Gate Delivered Volume	Line 34	23,293	20,177	28,964	50,820	30,972	-	154,226
3	Total Purchase Cost	Line 2 times Line 3	[redacted]						
4	Variable Transportation Costs	Sum Lines 26 and 36	$ 8,127	$ 7,040	$ 10,106	$ 17,732	$ 10,807	$ -	$ 53,812
5	Total City Gate Delivered Costs	Sum Lines 4 and 5	[redacted]						
6	Average Delivered Price	Line 6 divided by Line 2							
7									
8	Tennessee Zone 0 Supply Costs								
9	Purchased Volumes	Sendout Optimization	24,412	21,147	30,356	53,262	32,460	-	161,637
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 3.179
11	NYMEX Cost	Line 9 times Line 10	$ 73,236	$ 66,613	$ 98,658	$ 172,036	$ 103,223	$ -	$ 513,766
12	NYMEX Basis Price	Att NUI-FXW-10, Line 2 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1A								
19	Tennessee Gas Pipeline (Contract 5083)								
20	Receipt Point: Tennessee Zone 0								
21	Delivery Point: Pleasant St. (Interconnection with Granite)								
22	Received Volume	Line 9	24,412	21,147	30,356	53,262	32,460	-	161,637
23	Fuel Loss Rate	Att NUI-FXW-10, Line 37 of Page 2	4.25%	4.25%	4.25%	4.25%	4.25%		4.25%
24	Delivered Volume	Line 22 times (1 - Line 23)	23,375	20,248	29,066	50,998	31,080	-	154,768
25	Variable Transportation Rate	Att NUI-FXW-10, Line 22 of Page 2	$ 0.3464	$ 0.3464	$ 0.3464	$ 0.3464	$ 0.3464		$ 0.3464
26	Variable Transportation Costs	Line 24 times Line 25	$ 8,097	$ 7,014	$ 10,069	$ 17,666	$ 10,766	$ -	$ 53,612
27									
28	Transportation Segment 2A								
29	Granite State Gas Transmission (Contract 14-001-FT-NN)								
30	Receipt Point: Pleasant St.								
31	Delivery Point: Northern City Gates								
32	Received Volume	Line 24	23,375	20,248	29,066	50,998	31,080	-	154,768
33	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
34	City Gate Delivered Volume	Line 32 times (1 - Line 33)	23,293	20,177	28,964	50,820	30,972	-	154,226
35	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
36	Variable Transportation Costs	Line 34 times Line 35	$ 30	$ 26	$ 38	$ 66	$ 40	$ -	$ 200

REDACTED

Source of Supply: Tennessee Zone L
Delivered to Northern via Tennessee and Granite Pipelines

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Purchased Volumes	Line 22	-	24,563	43,382	70,071	39,026	-	177,042
2	City Gate Delivered Volume	Line 34	-	23,572	41,630	67,242	37,450	-	169,895
3	Total Purchase Cost	Line 2 times Line 3	[redacted]						
4	Variable Transportation Costs	Sum Lines 26 and 36	$ -	$ 7,172	$ 12,666	$ 20,459	$ 11,395	$ -	$ 51,692
5	Total City Gate Delivered Costs	Sum Lines 4 and 5	[redacted]						
6	Average Delivered Price	Line 6 divided by Line 2							
7									
8	Tennessee Zone L Supply Costs								
9	Purchased Volumes	Sendout Optimization	-	24,563	43,382	70,071	39,026	-	177,042
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 3.213
11	NYMEX Cost	Line 9 times Line 10	$ -	$ 77,375	$ 140,990	$ 226,330	$ 124,101	$ -	$ 568,797
12	NYMEX Basis Price	Att NUI-FXW-10, Line 3 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1B								
19	Tennessee Gas Pipeline (Contract 5083)								
20	Receipt Point: Tennessee Zone L								
21	Delivery Point: Pleasant St. (Interconnection with Granite)								
22	Received Volume	Line 9	-	24,563	43,382	70,071	39,026	-	177,042
23	Fuel Loss Rate	Att NUI-FXW-10, Line 38 of Page 2		3.70%	3.70%	3.70%	3.70%		3.70%
24	Delivered Volume	Line 22 times (1 - Line 23)	-	23,655	41,777	67,479	37,582	-	170,491
25	Variable Transportation Rate	Att NUI-FXW-10, Line 23 of Page 2		$ 0.3019	$ 0.3019	$ 0.3019	$ 0.3019		$ 0.3019
26	Variable Transportation Costs	Line 24 times Line 25	$ -	$ 7,141	$ 12,612	$ 20,372	$ 11,346	$ -	$ 51,471
27									
28	Transportation Segment 2B								
29	Granite State Gas Transmission (Contract 14-001-FT-NN)								
30	Receipt Point: Pleasant St.								
31	Delivery Point: Northern City Gates								
32	Received Volume	Line 24	-	23,655	41,777	67,479	37,582	-	170,491
33	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
34	City Gate Delivered Volume	Line 32 times (1 - Line 33)	-	23,572	41,630	67,242	37,450	-	169,895
35	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
36	Variable Transportation Costs	Line 34 times Line 35	$ -	$ 31	$ 54	$ 87	$ 49	$ -	$ 221

REDACTED

Source of Supply: Niagara (Interconnect of TransCanada and Tennessee Pipelines)
Delivered to Northern via Tennessee and Granite Pipelines
Delivered to Northern via Tennessee and Bay State Exhange Agreement

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
2	Purchased Volumes	Line 9	59,916	61,913	61,913	55,921	61,913	59,916	361,492
3	City Gate Delivered Volume	Line 45	59,222	61,196	61,196	55,274	61,196	59,222	357,309
4	Total Purchase Cost	Line 15	[redacted]						
5	Variable Transportation Costs	Sum Lines 27, 37 and 47	$ 5,307	$ 5,484	$ 5,484	$ 4,953	$ 5,484	$ 5,307	$ 32,018
6	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
7	Average Delivered Price	Line 5 divided by Line 2							
8									
9	Niagara Supply Costs								
10	Purchased Volumes	Sendout Optimization	59,916	61,913	61,913	55,921	61,913	59,916	361,492
11	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 3.105
12	NYMEX Cost	Line 9 times Line 10	$ 179,747	$ 195,026	$ 201,217	$ 180,626	$ 196,883	$ 168,962	$ 1,122,461
13	NYMEX Basis Price	Att NUI-FXW-10, Line 4 of Page 1	[redacted]						
14	NYMEX Basis Costs	Line 9 times Line 12							
15	Total Purchase Price	Line 10 plus Line 12							
16	Total Purchase Cost	Line 11 plus Line 13							
17									
18	Transportation Fuel Losses and Variable Charges								
19	Transportation Segment 1A								
20	Tennessee Gas Pipeline (Contract 5292)								
21	Receipt Point: Niagara								
22	Delivery Point: Pleasant St. (Interconnection with Granite)								
23	Received Volume	Line 9	36,078	37,280	37,280	33,673	37,280	36,078	217,669
24	Fuel Loss Rate	Att NUI-FXW-10, Line 40 of Page 2	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%
25	Delivered Volume	Line 23 times (1 - Line 24)	35,786	36,978	36,978	33,400	36,978	35,786	215,906
26	Variable Transportation Rate	Att NUI-FXW-10, Line 25 of Page 2	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880
27	Variable Transportation Costs	Line 25 times Line 26	$ 3,149	$ 3,254	$ 3,254	$ 2,939	$ 3,254	$ 3,149	$ 19,000
28									
29	Transportation Segment 1B								
30	Tennessee Gas Pipeline (Contract 39375)								
31	Receipt Point: Niagara								
32	Delivery Point: Pleasant St. (Interconnection with Granite)								
33	Received Volume	Line 9	23,838	24,633	24,633	22,249	24,633	23,838	143,823
34	Fuel Loss Rate	Att NUI-FXW-10, Line 40 of Page 2	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%	0.81%
35	Delivered Volume	Line 33 times (1 - Line 34)	23,645	24,433	24,433	22,069	24,433	23,645	142,658
36	Variable Transportation Rate	Att NUI-FXW-10, Line 25 of Page 2	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880
37	Variable Transportation Costs	Line 35 times Line 36	$ 2,081	$ 2,150	$ 2,150	$ 1,942	$ 2,150	$ 2,081	$ 12,554
38									
39	Transportation Segment 2B								
40	Granite State Gas Transmission (Contract 14-001-FT-NN)								
41	Receipt Point: Pleasant St.								
42	Delivery Point: Northern City Gates								
43	Received Volume	Line 35	59,430	61,411	61,411	55,468	61,411	59,430	358,564
44	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
45	City Gate Delivered Volume	Line 43 times (1 - Line 44)	59,222	61,196	61,196	55,274	61,196	59,222	357,309
46	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
47	Variable Transportation Costs	Line 45 times Line 46	$ 77	$ 80	$ 80	$ 72	$ 80	$ 77	$ 465

REDACTED

Source of Supply: Iroquois Receipts (Interconnect of TransCanada and Iroquoios Pipelines)
Delivered to Northern via Iroquois, Tennessee and Granite Pipelines
Delivered to Northern via Iroquois, Tennessee, Algonquin Pipelines and Bay State Exchange Agreement

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
2	Purchased Volumes	Line 9	192,635	199,056	199,056	179,792	199,056	-	969,595
3	City Gate Delivered Volume	Line 38	189,682	195,925	195,925	176,965	195,925	-	954,421
4	Total Purchase Cost	Line 15	[redacted]						
5	Variable Transportation Costs	Sum Lines 30, 40, 50, 60, 70 and 80	$ 17,900	$ 18,497	$ 18,497	$ 16,707	$ 18,497	$ -	$ 90,096
6	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
7	Average Delivered Price	Line 5 divided by Line 2							
8									
9	Irqoquois Receipts Supply Costs								
10	Purchased Volumes	Sendout Optimization	192,635	199,056	199,056	179,792	199,056	-	969,595
11	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 3.162
12	NYMEX Cost	Line 9 times Line 10	$ 577,904	$ 627,026	$ 646,932	$ 580,729	$ 632,998	$ -	$ 3,065,588
13	NYMEX Basis Price	Att NUI-FXW-10, Line 5 of Page 1	[redacted]						
14	NYMEX Basis Costs	Line 9 times Line 12							
15	Total Purchase Price	Line 10 plus Line 12							
16	Total Purchase Cost	Line 11 plus Line 13							
17									
18	Transportation Fuel Losses and Variable Charges								
19	Transportation Segment 5								
20	Iroquois Pipeline (Contract R181001)								
21	Receipt Point: Waddington								
22	Delivery Point: Wright (Interconnection with Tennessee)								
23	Total Contract Recevied Volume	Sendout Optimization	192,635	199,056	199,056	179,792	199,056	-	969,595
24	Received Volume	Line 10	192,635	199,056	199,056	179,792	199,056	-	969,595
25	Percentage Allocated	Line 24 divided by Line 23	100.00%	100.00%	100.00%	100.00%	100.00%	0.00%	100%
26	Received Volume	Line 15	192,635	199,056	199,056	179,792	199,056	-	969,595
27	Fuel Loss Rate	Att NUI-FXW-10, Line 35 of Page 2	0.08%	0.08%	0.08%	0.08%	0.08%		0.08%
28	Delivered Volume	Line 26 times (1 - Line 27)	192,481	198,897	198,897	179,649	198,897	-	968,819
29	Variable Transportation Rate	Att NUI-FXW-10, Line 19 of Page 2	$ 0.0047	$ 0.0047	$ 0.0047	$ 0.0047	$ 0.0047		$ -
30	Variable Transportation Costs	Line 28 times Line 29	$ 905	$ 935	$ 935	$ 844	$ 935	$ -	$ -
31									
32	Transporation Segment 6A								
33	Tennessee Gas Pipeline (Contract 95196)								
34	Receipt Point: Wright								
35	Delivery Point: Bay State City Gate (Delivered to Northern via Exchange Agreement)								
36	Received Volume	Line 28	41,799	43,192	43,192	39,012	43,192	-	210,386
37	Fuel Loss Rate	Att NUI-FXW-10, Line 40 of Page 2	0.81%	0.81%	0.81%	0.81%	0.81%		0.81%
38	City Gate Delivered Volume	Line 36 times (1 - Line 37)	41,460	42,842	42,842	38,696	42,842	-	208,682
39	Variable Transportation Rate	Att NUI-FXW-10, Line 25 of Page 2	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880		$ 0.0880
40	Variable Transportation Costs	Line 38 times Line 39	$ 3,648	$ 3,770	$ 3,770	$ 3,405	$ 3,770	$ -	$ 18,364
41									
42	Transportation Segment 6B								
43	Tennessee Gas Pipeline (Contract 95196)								
44	Receipt Point: Wright								
45	Delivery Point: Pleasant St. (Interconnection with Granite)								
46	Received Volume	Line 38	21,657	22,379	22,379	20,213	22,379	-	109,006
47	Fuel Loss Rate	Att NUI-FXW-10, Line 40 of Page 2	0.81%	0.81%	0.81%	0.81%	0.81%		0.81%
48	Delivered Volume	Line 46 times (1 - Line 47)	21,481	22,198	22,198	20,049	22,198	-	108,123
49	Variable Transportation Rate	Att NUI-FXW-10, Line 25 of Page 2	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880		$ 0.0880
50	Variable Transportation Costs	Line 48 times Line 49	$ 1,890	$ 1,953	$ 1,953	$ 1,764	$ 1,953	$ -	$ 9,515
51									
52	Transportation Segment 7B								
53	Granite State Gas Transmission (Contract 14-001-FT-NN)								
54	Receipt Point: Pleasant St.								
55	Delivery Point: Northern City Gates								
56	Received Volume	Line 48	21,481	22,198	22,198	20,049	22,198	-	108,123
57	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
58	City Gate Delivered Volume	Line 56 times (1 - Line 57)	21,406	22,120	22,120	19,979	22,120	-	107,745
59	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
60	Variable Transportation Costs	Line 58 times Line 59	$ 28	$ 29	$ 29	$ 26	$ 29	$ -	$ 140
61									
62	Transportation Segment 6C								
63	Tennessee Gas Pipeline (Contract 41099)								
64	Receipt Point: Wright								
65	Delivery Point: Mendon (Interconnection with Algonquin)								
66	Received Volume	Line 28	129,025	133,326	133,326	120,423	133,326	-	649,426
67	Fuel Loss Rate	Att NUI-FXW-10, Line 40 of Page 2	0.81%	0.81%	0.81%	0.81%	0.81%		0.81%
68	Delivered Volume	Line 66 times (1 - Line 67)	127,980	132,246	132,246	119,448	132,246	-	644,166
69	Variable Transportation Rate	Att NUI-FXW-10, Line 25 of Page 2	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880	$ 0.0880		$ 0.0880
70	Variable Transportation Costs	Line 68 times Line 69	$ 11,262	$ 11,638	$ 11,638	$ 10,511	$ 11,638	$ -	$ 56,687
71									
72	Transportation Segment 7C								
73	Algonquin Gas Transmission (Contract 93200F)								
74	Receipt Point: Mendon								
75	Delivery Point: Bay State City Gate (Delivered to Northern via Exchange Agreement)								
76	Received Volume	Line 68	127,980	132,246	132,246	119,448	132,246	-	644,166
77	Fuel Loss Rate	Att NUI-FXW-10, Line 32 of Page 2	0.91%	0.97%	0.97%	0.97%	0.97%		0.96%
78	City Gate Delivered Volume	Line 76 times (1 - Line 77)	126,815	130,963	130,963	118,289	130,963	-	637,994
79	Variable Transportation Rate	Att NUI-FXW-10, Line 16 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013		$ 0.0013
80	Variable Transportation Costs	Line 78 times Line 79	$ 166	$ 172	$ 172	$ 155	$ 172	$	$ 837

REDACTED

Source of Supply: Dawn Supply
Delivered to Northern via Union, TCPL, PNGTS and Granite Pipelines

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Purchased Volumes	Line 9	155,482	160,665	160,665	145,117	160,665	5,160	787,754
2	City Gate Delivered Volume	Line 54	152,254	157,329	157,329	142,103	157,329	5,075	771,418
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Sum Lines 26 and 56	$ 397	$ 410	$ 410	$ 370	$ 410	$ 13	$ 2,009
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Portland Supply Costs								
9	Purchased Volumes	Sendout Optimization	155,482	160,665	160,665	145,117	160,665	5,160	787,754
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 3.159
11	NYMEX Cost	Line 9 times Line 10	$ 466,447	$ 506,095	$ 522,162	$ 468,728	$ 510,915	$ 14,551	$ 2,488,897
12	NYMEX Basis Price	Att NUI-FXW-10, Line 6 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1								
19	Union								
20	Receipt Point: Pittsburgh, NH (Interconnects with TransCanada at E. Hereford)								
21	Delivery Point: Granite (Westbrook)								
22	Received Volume	Line 9	155,482	160,665	160,665	145,117	160,665	5,160	787,754
23	Fuel Loss Rate	Att NUI-FXW-10, Line 44 of Page 2	1.03%	1.03%	1.03%	1.03%	1.03%	0.57%	1.03%
24	Delivered Volume	Line 22 times (1 - Line 23)	153,881	159,010	159,010	143,622	159,010	5,130	779,664
25	Variable Transportation Rate	Att NUI-FXW-10, Line 29 of Page 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
26	Variable Transportation Costs	Line 24 times Line 25	$ -	$ -	$ -	$ -	$ -	$ -	$ -
27									
28	Transportation Segment 2								
29	TransCanada								
30	Receipt Point: Pittsburgh, NH (Interconnects with TransCanada at E. Hereford)								
31	Delivery Point: Granite (Westbrook)								
32	Received Volume	Line 19	153,881	159,010	159,010	143,622	159,010	5,130	779,664
33	Fuel Loss Rate	Att NUI-FXW-10, Line 43 of Page 2	0.71%	0.71%	0.71%	0.71%	0.71%	0.73%	0.71%
34	Delivered Volume	Line 32 times (1 - Line 33)	152,788	157,881	157,881	142,602	157,881	5,093	774,128
35	Variable Transportation Rate	Att NUI-FXW-10, Line 28 of Page 2	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36	Variable Transportation Costs	Line 34 times Line 35	$ -	$ -	$ -	$ -	$ -	$ -	$ -
37									
38	Transportation Segment 3								
39	PNGTS C2C								
40	Receipt Point: Pittsburgh, NH (Interconnects with TransCanada at E. Hereford)								
41	Delivery Point: Granite (Westbrook)								
42	Received Volume	Line 29	152,788	157,881	157,881	142,602	157,881	5,093	774,128
43	Fuel Loss Rate	Att NUI-FXW-10, Line 36 of Page 2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
44	Delivered Volume	Line 42 times (1 - Line 43)	152,788	157,881	157,881	142,602	157,881	5,093	774,128
45	Variable Transportation Rate	Att NUI-FXW-10, Line 21 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
46	Variable Transportation Costs	Line 44 times Line 45	$ 199	$ 205	$ 205	$ 185	$ 205	$ 7	$ 1,006
47									
48	Transportation Segment 4								
49	Granite State Gas Transmission (Contract 14-001-FT-NN)								
50	Receipt Point: Granite (Westbrook)								
51	Delivery Point: Northern City Gates								
52	Received Volume	Line 24	152,788	157,881	157,881	142,602	157,881	5,093	774,128
53	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
54	City Gate Delivered Volume	Line 52 times (1 - Line 53)	152,254	157,329	157,329	142,103	157,329	5,075	771,418
55	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
56	Variable Transportation Costs	Line 54 times Line 55	$ 198	$ 205	$ 205	$ 185	$ 205	$ 7	$ 1,003

REDACTED

Source of Supply: Algonquin Receipts
Delivered to Northern via Algonquin Pipeline and Bay State Exchange

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Purchased Volumes	Line 9	29,406	30,386	30,386	27,445	30,386	29,406	177,415
2	City Gate Delivered Volume	Sum Lines 37	28,687	29,625	29,625	26,758	29,625	28,687	173,006
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Sum Lines 39	$ 967	$ 999	$ 999	$ 902	$ 999	$ 967	$ 5,831
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Leidy Hub Purchases								
9	Purchased Volumes	Sendout Optimization	29,406	30,386	30,386	27,445	30,386	29,406	177,415
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 3.105
11	NYMEX Cost	Line 9 times Line 10	$ 88,217	$ 95,716	$ 98,754	$ 88,649	$ 96,627	$ 82,924	$ 550,888
12	NYMEX Basis Price	Att NUI-FXW-10, Line 7 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1								
19	Texas Eastern								
20	Receipt Point: Leidy Hub								
21	Delivery Point: Lambertville (Interconnection between Texas Eastern and Algonquin)								
22	Received Volume	Line 13	29,406	30,386	30,386	27,445	30,386	29,406	177,415
23	Fuel Loss Rate	Att NUI-FXW-10, Line 41 of Page 2	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.20%
24	Delivered Volume	Line 22 times (1 - Line 23)	28,950	29,915	29,915	27,020	29,915	28,950	174,665
25	Variable Transportation Rate	Att NUI-FXW-10, Line 26 of Page 2	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210
26	Variable Transportation Costs	Line 24 times Line 25	$ 608	$ 628	$ 628	$ 567	$ 628	$ 608	$ 3,668
27									
28	Transportation Segment 2								
29	Algonquin Pipeline (Contract 93201A1C)								
30	Receipt Point: Lambertville								
31	Delivery Point: Bay State City Gate (Delivered to Northern via Exchange Agreement)								
32	Total Contract Recevied Volume	Sendout Optimization	29,216	30,208	30,208	27,285	30,208	29,216	176,340
33	Received Volume	Line 24	28,950	29,915	29,915	27,020	29,915	28,950	174,665
34	Percentage Allocated	Line 33 divided by Line 32	99.09%	99.03%	99.03%	99.03%	99.03%	99.09%	99.05%
35	Received Volume	Line 19	28,950	29,915	29,915	27,020	29,915	28,950	174,665
36	Fuel Loss Rate	Att NUI-FXW-10, Line 33 of Page 2	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	1.20%
37	City Gate Delivered Volume	Line 35 times (1 - Line 36)	28,687	29,625	29,625	26,758	29,625	28,687	173,006
38	Variable Transportation Rate	Att NUI-FXW-10, Line 17 of Page 2	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125
39	Variable Transportation Costs	Line 37 times Line 38	$ 359	$ 370	$ 370	$ 334	$ 370	$ 359	$ 2,163

REDACTED

Source of Supply: Algonquin Receipts
Delivered to Northern via Algonquin Pipeline and Bay State Exchange

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Purchased Volumes	Line 9	266	293	293	265	293	266	1,675
2	City Gate Delivered Volume	Sum Lines 27	263	290	290	262	290	263	1,660
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Sum Lines 29	$ 3	$ 4	$ 4	$ 3	$ 4	$ 3	$ 21
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Texas Eastern Zone M-3 Purchases								
9	Purchased Volumes	Sendout Optimization	266	293	293	265	293	266	1,675
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 3.109
11	NYMEX Cost	Line 9 times Line 10	$ 798	$ 923	$ 952	$ 855	$ 932	$ 750	$ 5,209
12	NYMEX Basis Price	Att NUI-FXW-10, Line 8 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1								
19	Algonquin Pipeline (Contract 93201A1C)								
20	Receipt Point: Algonquin Receipt Points								
21	Delivery Point: Bay State City Gate (Delivered to Northern via Exchange Agreement)								
22	Total Contract Recevied Volume	Sendout Optimization	29,216	30,208	30,208	27,285	30,208	29,216	176,340
23	Received Volume	Line 14	266	293	293	265	293	266	1,675
24	Percentage Allocated	Line 23 divided by Line 22	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	0.95%
25	Received Volume	Line 9	266	293	293	265	293	266	1,675
26	Fuel Loss Rate	Att NUI-FXW-10, Line 33 of Page 2	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	1.20%
27	City Gate Delivered Volume	Line 25 times (1 - Line 26)	263	290	290	262	290	263	1,660
28	Variable Transportation Rate	Att NUI-FXW-10, Line 17 of Page 2	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125
29	Variable Transportation Costs	Line 27 times Line 28	$ 3	$ 4	$ 4	$ 3	$ 4	$ 3	$ 21

REDACTED

Source of Supply: Algonquin Receipts
Delivered to Northern via Algonquin Pipeline and Bay State Exchange

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Purchased Volumes	Line 9	8,659	8,953	8,953	8,086	8,953	8,659	52,263
2	City Gate Delivered Volume	Sum Lines 24	8,580	8,866	8,866	8,008	8,866	8,580	51,766
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Sum Lines 26	$ 107	$ 111	$ 111	$ 100	$ 111	$ 107	$ 647
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	<u>Tranco Zone 6, non-NY Purchases</u>								
9	Purchased Volumes	Sendout Optimization	8,659	8,953	8,953	8,086	8,953	8,659	52,263
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 3.105
11	NYMEX Cost	Line 9 times Line 10	$ 25,976	$ 28,201	$ 29,097	$ 26,119	$ 28,470	$ 24,418	$ 162,282
12	NYMEX Basis Price	Att NUI-FXW-10, Line 9 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	<u>Transportation Fuel Losses and Variable Charges</u>								
18	Transportation Segment 1								
19	Algonquin Pipeline (Contract 93201A1C)								
20	Receipt Point: Algonquin Receipt Points								
21	Delivery Point: Bay State City Gate (Delivered to Northern via Exchange Agreement)								
22	Received Volume	Line 15	8,659	8,953	8,953	8,086	8,953	8,659	52,263
23	Fuel Loss Rate	Att NUI-FXW-10, Line 33 of Page 2	0.91%	0.97%	0.97%	0.97%	0.97%	0.91%	1.20%
24	City Gate Delivered Volume	Line 22 times (1 - Line 23)	8,580	8,866	8,866	8,008	8,866	8,580	51,766
25	Variable Transportation Rate	Att NUI-FXW-10, Line 17 of Page 2	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125
26	Variable Transportation Costs	Line 24 times Line 25	$ 107	$ 111	$ 111	$ 100	$ 111	$ 107	$ 647

REDACTED

Source of Supply: Tennessee Zone 4
Delivered to Northern via Tennessee and Granite Pipelines

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Purchased Volumes	Line 9	68,996	66,181	-	-	393	68,996	204,567
2	City Gate Delivered Volume	Line 37	67,978	65,204	-	-	388	67,978	201,548
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Sum Lines 29 and 39	$ 8,036	$ 7,708	$ -	$ -	$ 46	$ 8,036	$ 23,825
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Tennessee Zone 4 Supply Costs								
9	Purchased Volumes	Sendout Optimization	68,996	66,181	-	-	393	68,996	204,567
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 2.988
11	NYMEX Cost	Line 9 times Line 10	$ 206,989	$ 208,471	$ -	$ -	$ 1,251	$ 194,569	$ 611,280
12	NYMEX Basis Price	Att NUI-FXW-10, Line 10 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 2								
19	Tennessee Gas Pipeline (Contract 5265)								
20	Receipt Point: Tennessee FS-MA 300 Leg								
21	Delivery Point: Pleasant St. (Interconnection with Granite)								
22	Total Contract Recevied Volume	Sendout Optimization	68,996	71,296	71,296	64,396	71,296	68,996	416,277
23	Received Volume	Line 14	68,996	66,181	-	-	393	68,996	204,567
24	Percentage Allocated	Line 23 divided by Line 22	100.00%	92.83%	0.00%	0.00%	0.55%	100.00%	49.14%
25	Received Volume	Line 9	68,996	66,181	-	-	393	68,996	204,567
26	Fuel Loss Rate	Att NUI-FXW-10, Line 39 of Page 2	1.13%	1.13%			1.13%	1.13%	1.13%
27	Delivered Volume	Line 25 times (1 - Line 26)	68,217	65,433	-	-	389	68,217	202,256
28	Variable Transportation Rate	Att NUI-FXW-10, Line 24 of Page 2	$ 0.1165	$ 0.1165			$ 0.1165	$ 0.1165	$ 0.1165
29	Variable Transportation Costs	Line 27 times Line 28	$ 7,947	$ 7,623	$ -	$ -	$ 45	$ 7,947	$ 23,563
30									
31	Transportation Segment 3								
32	Granite State Gas Transmission (Contract 14-001-FT-NN)								
33	Receipt Point: Pleasant St.								
34	Delivery Point: Northern City Gates								
35	Received Volume	Line 27	68,217	65,433	-	-	389	68,217	202,256
36	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
37	City Gate Delivered Volume	Line 35 times (1 - Line 36)	67,978	65,204	-	-	388	67,978	201,548
38	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
39	Variable Transportation Costs	Line 37 times Line 38	$ 88	$ 85	$ -	$ -	$ 1	$ 88	$ 262

REDACTED

Source of Supply: Tennessee FS-MA Inventory
Delivered to Northern via Tennessee and Granite Pipelines

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Gross Withdrawn Volume	Line 9	-	5,115	71,296	64,396	70,903	-	211,710
2	City Gate Delivered Volume	Line 38	-	5,039	70,244	63,446	69,856	-	208,585
3	Total Withdrawal Costs	Line 16	$ -	$ 11,297	$ 157,472	$ 142,233	$ 156,603	$ -	$ 467,604
4	Variable Transportation Costs	Sum Lines 30 and 40	$ -	$ 596	$ 8,303	$ 7,500	$ 8,258	$ -	$ 24,657
5	Total City Gate Delivered Costs	Line 3 plus Line 4	$ -	$ 11,893	$ 165,775	$ 149,732	$ 164,861	$ -	$ 492,261
6	Average Delivered Price	Line 5 divided by Line 2		$ 2.360	$ 2.360	$ 2.360	$ 2.360		$ 2.360
7									
8	<u>Tennessee FS-MA Withdrawn Inventory (Segment 1)</u>								
9	Gross Withdrawn Volume	Sendout Optimization	-	5,115	71,296	64,396	70,903	-	211,710
10	Withdrawal Rate	Att NUI-FXW-10, Line 1 of Page 3		$ 0.0087	$ 0.0087	$ 0.0087	$ 0.0087		$ 0.0087
11	Withdrawal Charges	Line 9 times Line 10	$ -	$ 44	$ 620	$ 560	$ 617	$ -	$ 1,842
12	Inventory Rate	FXW-8		$ 2.2000	$ 2.2000	$ 2.2000	$ 2.2000		$ 2.2000
13	Withdrawn Inventory Value	Line 9 times Line 12	$ -	$ 11,253	$ 156,851	$ 141,672	$ 155,986	$ -	$ 465,762
14	Withdrawal Fuel Losses	Att NUI-FXW-10, Line 1 of Page 3 times L	-	-	-	-	-	-	-
15	Net Withdrawn Volume	Line 9 minus Line 14	-	5,115	71,296	64,396	70,903	-	211,710
16	Total Withdrawal Costs	Line 11 plus Line 13	$ -	$ 11,297	$ 157,472	$ 142,233	$ 156,603	$ -	$ 467,604
17									
18	<u>Transportation Fuel Losses and Variable Charges</u>								
19	Transportation Segment 2								
20	Tennessee Gas Pipeline (Contract 5265)								
21	Receipt Point: Tennessee FS-MA Withdrawal Meter								
22	Delivery Point: Pleasant St. (Interconnection with Granite)								
23	Total Contract Recevied Volume	Sendout Optimization	68,996	71,296	71,296	64,396	71,296	68,996	416,277
24	Received Volume	Line 15	-	5,115	71,296	64,396	70,903	-	211,710
	Percentage Allocated	Line 24 divided by Line 23	0.00%	7.17%	100.00%	100.00%	99.45%	0.00%	50.86%
26	Received Volume	Line 10	-	5,115	71,296	64,396	70,903	-	211,710
27	Fuel Loss Rate	Att NUI-FXW-10, Line 39 of Page 2		1.13%	1.13%	1.13%	1.13%		1.13%
28	Delivered Volume	Line 26 times (1 - Line 27)	-	5,057	70,490	63,669	70,102	-	209,318
29	Variable Transportation Rate	Att NUI-FXW-10, Line 24 of Page 2		$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165		$ 0.1165
30	Variable Transportation Costs	Line 28 times Line 29	$ -	$ 589	$ 8,212	$ 7,417	$ 8,167	$ -	$ 24,386
31									
32	Transportation Segment 3								
33	Granite State Gas Transmission (Contract 14-001-FT-NN)								
34	Receipt Point: Pleasant St.								
35	Delivery Point: Northern City Gates								
36	Received Volume	Line 28	-	5,057	70,490	63,669	70,102	-	209,318
37	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
38	City Gate Delivered Volume	Line 36 times (1 - Line 37)	-	5,039	70,244	63,446	69,856	-	208,585
39	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
40	Variable Transportation Costs	Line 38 times Line 39	$ -	$ 7	$ 91	$ 82	$ 91	$ -	$ 271

REDACTED

Source of Supply: Washington 10 Inventory
Delivered to Northern via TransCanada, PNGTS and Granite Pipelines

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Gross Withdrawn Volume	Line 9	443,503	803,507	847,459	830,551	474,980	-	3,400,000
2	City Gate Delivered Volume	Line 71	432,148	782,933	825,760	809,285	462,818	-	3,312,944
3	Total Withdrawal Costs	Line 16	$ 1,315,875	$ 2,384,005	$ 2,514,411	$ 2,464,244	$ 1,409,266	$ -	$ 10,087,800
4	Variable Transportation Costs	Sum Lines 27, 37, 50, 63 and 73	$ 1,698	$ 3,077	$ 3,245	$ 3,180	$ 1,819	$ -	$ 13,018
5	Total City Gate Delivered Costs	Line 3 plus Line 4	$ 1,317,573	$ 2,387,082	$ 2,517,656	$ 2,467,424	$ 1,411,084	$ -	$ 10,100,818
6	Average Delivered Price	Line 5 divided by Line 2	$ 3.049	$ 3.049	$ 3.049	$ 3.049	$ 3.049		$ 3.049
7									
8	<u>Washington 10 Withdrawn Inventory (Segment 1)</u>								
9	Gross Withdrawn Volume	Sendout Optimization	443,503	803,507	847,459	830,551	474,980	-	3,400,000
10	Withdrawal Rate	Att NUI-FXW-10, Line 3 of Page 3	$ -	$ -	$ -	$ -	$ -		$ -
11	Withdrawal Charges	Line 9 times Line 10	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	Inventory Rate	FXW-8	$ 2.9670	$ 2.9670	$ 2.9670	$ 2.9670	$ 2.9670		$ 2.9670
13	Withdrawn Inventory Value	Line 9 times Line 12	$ 1,315,875	$ 2,384,005	$ 2,514,411	$ 2,464,244	$ 1,409,266	$ -	$ 10,087,800
14	Withdrawal Fuel Losses	Att NUI-FXW-10, Line 3 of Page 3 times Line 9	1,774	3,214	3,390	3,322	1,900	-	13,600
15	Net Withdrawn Volume	Line 9 minus Line 14	441,729	800,293	844,069	827,228	473,080	-	3,386,400
16	Total Withdrawal Costs	Line 11 plus Line 13	$ 1,315,875	$ 2,384,005	$ 2,514,411	$ 2,464,244	$ 1,409,266	$ -	$ 10,087,800
17									
18	<u>Transportation Fuel Losses and Variable Charges</u>								
19	Transportation Segment 2A								
20	Vector Pipeline (Contract CRL-NUI-0725)								
21	Receipt Point: Washington 10 Withdrawal Meter								
22	Delivery Point: Dawn (Interconnects with TransCanada)								
23	Received Volume	Line 15	259,916	363,237	435,026	418,934	217,511	-	1,694,623
24	Fuel Loss Rate	Att NUI-FXW-10, Line 46 of Page 2	0.29%	0.29%	0.29%	0.29%	0.29%		0.29%
25	Delivered Volume	Line 23 times (1 - Line 24)	259,162	362,183	433,764	417,719	216,880	-	1,689,709
26	Variable Transportation Rate	Att NUI-FXW-10, Line 31 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013		$ 0.0013
27	Variable Transportation Costs	Line 25 times Line 26	$ 337	$ 471	$ 564	$ 543	$ 282	$ -	$ 2,197
28									
29	Transportation Segment 2B								
30	Vector Pipeline (Contract CRL-NUI-0727)								
31	Receipt Point: Washington 10 Withdrawal Meter								
32	Delivery Point: Union Dawn (Interconnects with TransCanada)								
33	Received Volume	Line 25	181,813	437,056	409,044	408,294	255,569	-	1,691,777
34	Fuel Loss Rate	Att NUI-FXW-10, Line 46 of Page 2	0.29%	0.29%	0.29%	0.29%	0.29%		0.29%
35	Delivered Volume	Line 33 times (1 - Line 34)	181,286	435,789	407,857	407,110	254,828	-	1,686,871
36	Variable Transportation Rate	Att NUI-FXW-10, Line 31 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013		$ 0.0013
37	Variable Transportation Costs	Line 35 times Line 36	$ 236	$ 567	$ 530	$ 529	$ 331	$ -	$ 2,193
38									
39	Transportation Segment 3								
40	TransCanada Pipeline (Contract 33322)								
41	Receipt Point: Union Dawn								
42	Delivery Point: E. Hereford (Interconnects with PNGTS at Pittsburgh)								
43	Total Contract Recevied Volume	Sendout Optimization	440,448	797,972	852,235	922,395	906,334	-	3,919,385
44	Received Volume	Line 34	440,448	797,972	841,621	824,829	471,708	-	3,376,579
45	Percentage Allocated	Line 44 divided by Line 43	100.00%	100.00%	98.75%	89.42%	52.05%	0.00%	86.15%
46	Received Volume	Line 35	440,448	797,972	841,621	824,829	471,708	-	3,376,579
47	Fuel Loss Rate	Att NUI-FXW-10, Line 42 of Page 2	1.54%	1.54%	1.54%	1.54%	1.54%		1.54%
48	Delivered Volume	Line 46 times (1 - Line 47)	433,666	785,683	828,660	812,127	464,444	-	3,324,580
49	Variable Transportation Rate	Att NUI-FXW-10, Line 27 of Page 2	$ -	$ -	$ -	$ -	$ -		$ -
50	Variable Transportation Costs	Line 48 times Line 49	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51									
52	Transportation Segment 4								
53	PNGTS (Contract 1997-004)								
54	Receipt Point: Pittsburgh, NH (Interconnects with TransCanada at E. Hereford)								
55	Delivery Point: Granite (Westbrook, Newington, Eliot)								
		Sendout Optimization							
		Line 48							
	Percentage Allocated	Line 57 divided by Line 56	100.00%	100.00%	98.75%	89.42%	52.05%	0.00%	75.12%
		Sendout Optimization							
60	Fuel Loss Rate	Att NUI-FXW-10, Line 36 of Page 2	0.00%	0.00%	0.00%	0.00%	0.00%		0.00%
61	Delivered Volume	Line 59 times (1 - Line 60)	433,666	785,683	828,660	812,127	464,444	-	3,324,580
62	Variable Transportation Rate	Att NUI-FXW-10, Line 21 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013		$ 0.0013
63	Variable Transportation Costs	Line 61 times Line 62	$ 564	$ 1,021	$ 1,077	$ 1,056	$ 604	$ -	$ 4,322
64									
65	Transportation Segment 5								
66	Granite State Gas Transmission (Contract 14-001-FT-NN)								
67	Receipt Point: Westbrook, Newington, Eliot								
68	Delivery Point: Northern City Gates								
69	Received Volume	Line 61	433,666	785,683	828,660	812,127	464,444	-	3,324,580
70	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
71	City Gate Delivered Volume	Line 69 times (1 - Line 70)	432,148	782,933	825,760	809,285	462,818	-	3,312,944
72	Variable Transportation Rate	Att NUI-FXW-10, Line 34 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
73	Variable Transportation Costs	Line 71 times Line 72	$ 562	$ 1,018	$ 1,073	$ 1,052	$ 602	$ -	$ 4,307

REDACTED

Source of Supply: W10 Chicago Purchases
Delivered to Northern via Granite Pipeline

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Purchased Volumes	Line 9	-	-	7,388	92,290	389,713	-	489,392
2	City Gate Delivered Volume	Line 26	-	-	7,190	89,817	379,272	-	476,279
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs		$ -	$ -	$ 28	$ 353	$ 1,490	$ -	$ 1,872
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	W10 Chicaogo Purchases								
9	Purchased Volumes	Sendout Optimization	-	-	7,388	92,290	389,713	-	489,392
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 3.190
11	NYMEX Cost	Line 9 times Line 10	$ -	$ -	$ 24,012	$ 298,097	$ 1,239,288	$ -	$ 1,561,397
12	NYMEX Basis Price	Att NUI-FXW-10, Line 11 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 2A								
19	Vector Pipeline (Contract CRL-NUI-0725)								
20	Receipt Point: Washington 10 Withdrawal Meter								
21	Delivery Point: Dawn (Interconnects with TransCanada)								
22		Sendout Optimization							
23	Received Volume	Line 13	-	-	7,388	92,290	389,713	-	1,872
24	Percentage Allocated	Line 23 divided by Line 22	0.00%	0.00%	100.00%	100.00%	100.00%	0.00%	0.38%
25	Received Volume	Line 15	-	-	7,388	92,290	389,713	-	489,392
26	Fuel Loss Rate	Att NUI-FXW-10, Line 45 of Page 2			0.81%	0.81%	0.81%		0.81%
27	Delivered Volume	Line 25 times (1 - Line 26)	-	-	7,328	91,542	386,557	-	485,427
28	Variable Transportation Rate	Att NUI-FXW-10, Line 30 of Page 2			$ 0.0013	$ 0.0013	$ 0.0013		$ 0.0013
29	Variable Transportation Costs	Line 27 times Line 28	$ -	$ -	$ 10	$ 119	$ 503	$ -	$ 631
30									
31	Transportation Segment 2B								
32	Transportation Segment 3								
33	TransCanada Pipeline (Contract 33322)								
34	Receipt Point: Union Dawn								
35	Delivery Point: E. Hereford (Interconnects with PNGTS at Pittsburgh)								
36	Total Contract Recevied Volume	Sendout Optimization	440,448	797,972	852,235	922,395	906,334	-	3,919,385
37	Received Volume	Line 25	-	-	7,328	91,542	386,557	-	485,427
38	Percentage Allocated	Line 37 divided by Line 36	0.00%	0.00%	0.86%	9.92%	42.65%	0.00%	12.39%
39	Received Volume	Line 25	-	-	7,328	91,542	386,557	-	
40	Fuel Loss Rate	Att NUI-FXW-10, Line 42 of Page 2			1.54%	1.54%	1.54%		
41	Delivered Volume	Line 39 times (1 - Line 40)	-	-	7,216	90,133	380,604	-	477,952
42	Variable Transportation Rate	Att NUI-FXW-10, Line 27 of Page 2			$ -	$ -	$ -		$ -
43	Variable Transportation Costs	Line 41 times Line 42	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44									
45	Transportation Segment 4								
46	PNGTS (Contract 1997-004)								
47	Receipt Point: Pittsburgh, NH (Interconnects with TransCanada at E. Hereford)								
48	Delivery Point: Granite (Westbrook, Newington, Eliot)								
49	Total Contract Recevied Volume	Sendout Optimization	433,665	785,683	839,111	908,190	892,377	566,559	4,425,586
50	Received Volume	Line 41	-	-	7,216	90,133	380,604	-	477,952
51	Percentage Allocated	Line 50 divided by Line 49	0.00%	0.00%	0.86%	9.92%	42.65%	0.00%	10.80%
52	Total Contract Recevied Volume	Sendout Optimization							
53	Fuel Loss Rate	Att NUI-FXW-10, Line 36 of Page 2			0.00%	0.00%	0.00%		0.00%
54	Delivered Volume	Line 52 times (1 - Line 53)	-	-	7,216	90,133	380,604	-	477,952
55	Variable Transportation Rate	Att NUI-FXW-10, Line 21 of Page 2			$ 0.0013	$ 0.0013	$ 0.0013		$ 0.0013
56	Variable Transportation Costs	Line 54 times Line 55	$ -	$ -	$ 9	$ 117	$ 495	$ -	$ 621
57									
58	Transportation Segment 5								
59	Granite State Gas Transmission (Contract 14-001-FT-NN)								
60	Receipt Point: Westbrook, Newington, Eliot								
61	Delivery Point: Northern City Gates								
62	Received Volume	Line 54	-	-	7,216	90,133	380,604	-	477,952
63	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
64	City Gate Delivered Volume	Line 62 times (1 - Line 63)	-	-	7,190	89,817	379,272	-	476,279
65	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
66	Variable Transportation Costs	Line 64 times Line 65	$ -	$ -	$ 9	$ 117	$ 493	$ -	$ 619

REDACTED

Source of Supply: W10 Dawn Purchases
Delivered to Northern via Granite Pipeline

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Purchased Volumes	Line 9	-	-	3,285	6,023	48,069	573,997	631,375
2	City Gate Delivered Volume	Line 79	-	-	3,224	5,910	47,164	564,576	620,873
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs		$ -	$ -	$ 8	$ 15	$ 123	$ 1,470	$ 1,617
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	W10 Dawn Purchases								
9	Purchased Volumes	Sendout Optimization	-	-	3,285	6,023	48,069	573,997	631,375
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 2.854
11	NYMEX Cost	Line 9 times Line 10	$ -	$ -	$ 10,678	$ 19,455	$ 152,861	$ 1,618,672	$ 1,801,666
12	NYMEX Basis Price	Att NUI-FXW-10, Line 12 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 2B								
19	Transportation Segment 3								
20	TransCanada Pipeline (Contract 33322)								
21	Receipt Point: Union Dawn								
22	Delivery Point: E. Hereford (Interconnects with PNGTS at Pittsburgh)								
23	Total Contract Recevied Volume	Sendout Optimization	440,448	797,972	852,235	922,395	906,334	-	3,919,385
24	Received Volume	Line 9	-	-	3,285	6,023	48,069		57,378
25	Percentage Allocated	Line 24 divided by Line 23	0.00%	0.00%	0.39%	0.65%	5.30%	0.00%	1.46%
26	Received Volume	Line 9	-	-	3,285	6,023	48,069	-	57,378
27	Fuel Loss Rate	Att NUI-FXW-10, Line 42 of Page 2	#DIV/0!	#DIV/0!	1.54%	1.54%	1.54%	#DIV/0!	1.54%
28	Delivered Volume	Line 26 times (1 - Line 27)	-	-	3,235	5,931	47,329	-	56,495
29	Variable Transportation Rate	Att NUI-FXW-10, Line 27 of Page 2	#DIV/0!	#DIV/0!	$ -	$ -	$ -	#DIV/0!	$ -
30	Variable Transportation Costs	Line 28 times Line 29	$ -	$ -	$ -	$ -	$ -	$ -	$ -
31									
32	Transportation Segment 2B								
33	Transportation Segment 3								
34	TransCanada Pipeline (Contract 33322)								
35	Receipt Point: Union Dawn								
36	Delivery Point: E. Hereford (Interconnects with PNGTS at Pittsburgh)								
37	Total Contract Recevied Volume	Sendout Optimization	-	-	-	-	-	573,997	573,997
38	Received Volume	Line 28						573,997	573,997
39	Percentage Allocated	Line 38 divided by Line 37	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
40	Received Volume	Line 28	-	-	-	-	-	573,997	573,997
41	Fuel Loss Rate	Att NUI-FXW-10, Line 44 of Page 2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.57%	0.57%
42	Delivered Volume	Line 40 times (1 - Line 41)	-	-	-	-	-	570,725	570,725
43	Variable Transportation Rate	Att NUI-FXW-10, Line 29 of Page 2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	$ -	$ -
44	Variable Transportation Costs	Line 42 times Line 43	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45									
46	Transportation Segment 2B								
47	Transportation Segment 3								
48	TransCanada Pipeline (Contract 33322)								
49	Receipt Point: Union Dawn								
50	Delivery Point: E. Hereford (Interconnects with PNGTS at Pittsburgh)								
51	Total Contract Recevied Volume	Sendout Optimization	-	-	-	-	-	570,725	570,725
52	Received Volume	Line 42						570,725	570,725
53	Percentage Allocated	Line 52 divided by Line 51	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%
54	Received Volume	Line 42	-	-	-	-	-	570,725	570,725
55	Fuel Loss Rate	Att NUI-FXW-10, Line 43 of Page 2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.73%	0.73%
56	Delivered Volume	Line 54 times (1 - Line 55)	-	-	-	-	-	566,559	566,559
57	Variable Transportation Rate	Att NUI-FXW-10, Line 28 of Page 2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	$ -	$ -
58	Variable Transportation Costs	Line 56 times Line 57	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59									
60	Transportation Segment 2B								
61	Transportation Segment 3								
62	TransCanada Pipeline (Contract 33322)								
63	Receipt Point: Union Dawn								
64	Delivery Point: E. Hereford (Interconnects with PNGTS at Pittsburgh)								
65	Total Contract Recevied Volume	Sendout Optimization	433,665	785,683	839,111	908,190	892,377	566,559	4,425,586
66	Received Volume	Line 56	-	-	3,235	5,931	47,329	566,559	623,054
67	Percentage Allocated	Line 66 divided by Line 65	0.00%	0.00%	0.39%	0.65%	5.30%	100.00%	14.08%
68	Received Volume	Line 56	-	-	3,235	5,931	47,329	566,559	623,054
69	Fuel Loss Rate	Att NUI-FXW-10, Line 36 of Page 2	#DIV/0!	#DIV/0!	0.00%	0.00%	0.00%	0.00%	0.00%
70	Delivered Volume	Line 68 times (1 - Line 69)	-	-	3,235	5,931	47,329	566,559	623,054
71	Variable Transportation Rate	Att NUI-FXW-10, Line 21 of Page 2	#DIV/0!	#DIV/0!	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
72	Variable Transportation Costs	Line 70 times Line 71	$ -	$ -	$ 4	$ 8	$ 62	$ 737	$ 810
73									
74	Granite State Gas Transmission (Contract 14-001-FT-NN)								
75	Receipt Point: Westbrook, Newington, Eliot								
76	Delivery Point: Northern City Gates								
77	Received Volume	Line 41	-	-	3,235	5,931	47,329	566,559	623,054
78	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
79	City Gate Delivered Volume	Line 77 times (1 - Line 78)	-	-	3,224	5,910	47,164	564,576	620,873
80	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
81	Variable Transportation Costs	Line 79 times Line 80	$ -	$ -	$ 4	$ 8	$ 61	$ 734	$ 807

REDACTED

Source of Supply: Maritimes Baseload Supply
City-Gate Delivered Supply

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Purchased Volumes	Line 9	-	232,500	232,500	210,000	-	-	675,000
2	City Gate Delivered Volume	Line 1	-	232,500	232,500	210,000	-	-	675,000
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	N/A	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Maritimes Supply Costs								
9	Purchased Volumes	Sendout Optimization	-	232,500	232,500	210,000	-	-	675,000
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 3.209
11	NYMEX Cost	Line 9 times Line 10	$ -	$ 732,375	$ 755,625	$ 678,300	$ -	$ -	$ 2,166,300
12	NYMEX Basis Price	Att NUI-FXW-10, Line 13 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							

REDACTED

Source of Supply: Northern LNG Inventory
On-System Storage

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Gross Withdrawn Volume	Line 9	2,145	20,931	32,819	16,816	36,989	2,145	111,844
2	City Gate Delivered Volume	Line 15	2,145	20,931	32,819	16,816	36,989	2,145	111,844
3	Total Withdrawal Costs	Line 16	[redacted]						
4	Variable Transportation Costs	N/A	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Total City Gate Delivered Costs	Line 3 plus Line 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Northern LNG Withdrawn Inventory								
9	Gross Withdrawn Volume	Sendout Optimization	2,145	20,931	32,819	16,816	36,989	2,145	111,844
10	Withdrawal Rate	N/A	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11	Withdrawal Charges	Line 9 times Line 10	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	Inventory Rate	FXW-8	[redacted]						
13	Withdrawn Inventory Value	Line 9 times Line 12							
14	Withdrawal Fuel Losses	N/A	-	-	-	-	-	-	-
15	Net Withdrawn Volume	Line 9 minus Line 14	2,145	20,931	32,819	16,816	36,989	2,145	111,844
16	Total Withdrawal Costs	Line 11 plus Line 13	[redacted]						

REDACTED

Source of Supply: Peaking Contract 1
Delivered to Northern via Granite Pipeline

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Purchased Volumes	Line 9	-	5,000	18,868	12,500	1,132	-	37,500
2	City Gate Delivered Volume	Line 24	-	4,983	18,802	12,456	1,128	-	37,369
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Line 26	$ -	$ 6	$ 24	$ 16	$ 1	$ -	$ 49
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Peaking Contract 1 Costs								
9	Purchased Volumes	Sendout Optimization	-	5,000	18,868	12,500	1,132	-	37,500
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 3.228
11	NYMEX Cost	Line 9 times Line 10	$ -	$ 15,750	$ 61,320	$ 40,375	$ 3,601	$ -	$ 121,046
12	NYMEX Basis Price	Att NUI-FXW-10, Line 15 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1								
19	Granite State Gas Transmission (Contract 14-001-FT-NN)								
20	Receipt Point: Pleasant St.								
21	Delivery Point: Northern City Gates								
22	Received Volume	Line 9	-	5,000	18,868	12,500	1,132	-	37,500
23	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
24	City Gate Delivered Volume	Line 22 times (1 - Line 23)	-	4,983	18,802	12,456	1,128	-	37,369
25	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
26	Variable Transportation Costs	Line 24 times Line 25	$ -	$ 6	$ 24	$ 16	$ 1	$ -	$ 49

REDACTED

Source of Supply: Peaking Contract 2
Delivered to Northern via Granite Pipeline

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Purchased Volumes	Line 9	-	15,681	291,656	72,447	11,706	-	391,489
2	City Gate Delivered Volume	Line 24	-	15,626	290,635	72,193	11,665	-	390,119
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Line 26	$ -	$ 20	$ 378	$ 94	$ 15	$ -	$ 507
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Peaking Supply 2 Costs								
9	Purchased Volumes	Sendout Optimization	-	15,681	291,656	72,447	11,706	-	391,489
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 3.240
11	NYMEX Cost	Line 9 times Line 10	$ -	$ 49,395	$ 947,881	$ 234,002	$ 37,226	$ -	$ 1,268,504
12	NYMEX Basis Price	Att NUI-FXW-10, Line 16 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1								
19	Granite State Gas Transmission (Contract 14-001-FT-NN)								
20	Receipt Point: Newington or Westbrook								
21	Delivery Point: Northern City Gates								
22	Received Volume	Line 9	-	15,681	291,656	72,447	11,706	-	391,489
23	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
24	City Gate Delivered Volume	Line 22 times (1 - Line 23)	-	15,626	290,635	72,193	11,665	-	390,119
25	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
26	Variable Transportation Costs	Line 24 times Line 25	$ -	$ 20	$ 378	$ 94	$ 15	$ -	$ 507

REDACTED

Source of Supply: Incremental Spot Purchases
Delivered to Northern via Granite Pipeline

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	2017-2018 Winter
1	Purchased Volumes	Line 9	-	-	9,069	-	-	-	9,069
2	City Gate Delivered Volume	Line 24	-	-	9,038	-	-	-	9,038
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Line 26	$ -	$ -	$ 12	$ -	$ -	$ -	$ 12
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	<u>Tennessee Zone 6 Supply</u>								
9	Purchased Volumes	Sendout Optimization	-	-	9,069	-	-	-	9,069
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 3.000	$ 3.150	$ 3.250	$ 3.230	$ 3.180	$ 2.820	$ 3.250
11	NYMEX Cost	Line 9 times Line 10	$ -	$ -	$ 29,475	$ -	$ -	$ -	$ 29,475
12	NYMEX Basis Price	Att NUI-FXW-10, Line 17 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	<u>Transportation Fuel Losses and Variable Charges</u>								
18	Transportation Segment 1								
19	Granite State Gas Transmission (Contract 14-001-FT-NN)								
20	Receipt Point: Newington or Westbrook								
21	Delivery Point: Northern City Gates								
22	Received Volume	Line 9	-	-	9,069	-	-	-	9,069
23	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
24	City Gate Delivered Volume	Line 22 times (1 - Line 23)	-	-	9,038	-	-	-	9,038
25	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
26	Variable Transportation Costs	Line 24 times Line 25	$ -	$ -	$ 12	$ -	$ -	$ -	$ 12

REDACTED

Source of Supply: Tennessee Zone 4 200 Leg Pool
Delivered to Northern via Tennessee and Granite Pipelines

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Purchased Volumes	Line 9	153,447	151,714	156,772	156,772	151,714	156,772	927,190
2	City Gate Delivered Volume	Line 34	151,182	149,475	154,458	154,458	149,475	154,458	913,504
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Sum Lines 26 and 36	$ 17,871	$ 17,669	$ 18,258	$ 18,258	$ 17,669	$ 18,258	$ 107,985
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Tennessee Zone 4 Supply Costs								
9	Purchased Volumes	Sendout Optimization	153,447	151,714	156,772	156,772	151,714	156,772	927,190
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	$ 2.830
11	NYMEX Cost	Line 9 times Line 10	$ 428,116	$ 427,835	$ 445,231	$ 446,799	$ 429,352	$ 446,799	$ 2,624,131
12	NYMEX Basis Price	Att NUI-FXW-10, Line 1 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 2								
19	Tennessee Gas Pipeline (Contract 5083)								
20	Receipt Point: Tennessee Zone 4 200 Leg Pool								
21	Delivery Point: Pleasant St. (Interconnection with Granite)								
22	Received Volume	Line 15	153,447	151,714	156,772	156,772	151,714	156,772	927,190
23	Fuel Loss Rate	Att NUI-FXW-10, Line 39 of Page 2	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%
24	Delivered Volume	Line 22 times (1 - Line 23)	151,713	150,000	155,000	155,000	150,000	155,000	916,713
25	Variable Transportation Rate	Att NUI-FXW-10, Line 24 of Page 2	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165
26	Variable Transportation Costs	Line 24 times Line 25	$ 17,675	$ 17,475	$ 18,058	$ 18,058	$ 17,475	$ 18,058	$ 106,797
27									
28	Transportation Segment 3								
29	Granite State Gas Transmission (Contract 14-001-FT-NN)								
30	Receipt Point: Pleasant St.								
31	Delivery Point: Northern City Gates								
32	Received Volume	Line 24	151,713	150,000	155,000	155,000	150,000	155,000	916,713
33	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
34	City Gate Delivered Volume	Line 32 times (1 - Line 33)	151,182	149,475	154,458	154,458	149,475	154,458	913,504
35	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
36	Variable Transportation Costs	Line 34 times Line 35	$ 197	$ 194	$ 201	$ 201	$ 194	$ 201	$ 1,188

REDACTED

Source of Supply: Tennessee Zone 0
Delivered to Northern via Tennessee and Granite Pipelines

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Purchased Volumes	Line 22	-	-	-	-	-	-	-
2	City Gate Delivered Volume	Line 34	-	-	-	-	-	-	-
3	Total Purchase Cost	Line 2 times Line 3	[redacted]						
4	Variable Transportation Costs	Sum Lines 26 and 36	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Total City Gate Delivered Costs	Sum Lines 4 and 5	[redacted]						
6	Average Delivered Price	Line 6 divided by Line 2							
7									
8	Tennessee Zone 0 Supply Costs								
9	Purchased Volumes	Sendout Optimization	-	-	-	-	-	-	-
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	
11	NYMEX Cost	Line 9 times Line 10	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	NYMEX Basis Price	Att NUI-FXW-10, Line 2 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1A								
19	Tennessee Gas Pipeline (Contract 5083)								
20	Receipt Point: Tennessee Zone 0								
21	Delivery Point: Pleasant St. (Interconnection with Granite)								
22	Received Volume	Line 9	-	-	-	-	-	-	-
23	Fuel Loss Rate	Att NUI-FXW-10, Line 37 of Page 2							
24	Delivered Volume	Line 22 times (1 - Line 23)	-	-	-	-	-	-	-
25	Variable Transportation Rate	Att NUI-FXW-10, Line 22 of Page 2							
26	Variable Transportation Costs	Line 24 times Line 25	$ -	$ -	$ -	$ -	$ -	$ -	$ -
27									
28	Transportation Segment 2A								
29	Granite State Gas Transmission (Contract 14-001-FT-NN)								
30	Receipt Point: Pleasant St.								
31	Delivery Point: Northern City Gates								
32	Received Volume	Line 24	-	-	-	-	-	-	-
33	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	
34	City Gate Delivered Volume	Line 32 times (1 - Line 33)	-	-	-	-	-	-	-
35	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	
36	Variable Transportation Costs	Line 34 times Line 35	$ -	$ -	$ -	$ -	$ -	$ -	$ -

REDACTED

Source of Supply: Tennessee Zone L
Delivered to Northern via Tennessee and Granite Pipelines

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Purchased Volumes	Line 22	-	-	-	-	-	-	-
2	City Gate Delivered Volume	Line 34	-	-	-	-	-	-	-
3	Total Purchase Cost	Line 2 times Line 3	[redacted]						
4	Variable Transportation Costs	Sum Lines 26 and 36	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Total City Gate Delivered Costs	Sum Lines 4 and 5	[redacted]						
6	Average Delivered Price	Line 6 divided by Line 2							
7									
8	Tennessee Zone L Supply Costs								
9	Purchased Volumes	Sendout Optimization	-	-	-	-	-	-	-
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	
11	NYMEX Cost	Line 9 times Line 10	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	NYMEX Basis Price	Att NUI-FXW-10, Line 3 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1B								
19	Tennessee Gas Pipeline (Contract 5083)								
20	Receipt Point: Tennessee Zone L								
21	Delivery Point: Pleasant St. (Interconnection with Granite)								
22	Received Volume	Line 9	-	-	-	-	-	-	-
23	Fuel Loss Rate	Att NUI-FXW-10, Line 38 of Page 2							
24	Delivered Volume	Line 22 times (1 - Line 23)	-	-	-	-	-	-	-
25	Variable Transportation Rate	Att NUI-FXW-10, Line 23 of Page 2							
26	Variable Transportation Costs	Line 24 times Line 25	$ -	$ -	$ -	$ -	$ -	$ -	$ -
27									
28	Transportation Segment 2B								
29	Granite State Gas Transmission (Contract 14-001-FT-NN)								
30	Receipt Point: Pleasant St.								
31	Delivery Point: Northern City Gates								
32	Received Volume	Line 24	-	-	-	-	-	-	-
33	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	
34	City Gate Delivered Volume	Line 32 times (1 - Line 33)	-	-	-	-	-	-	-
35	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	
36	Variable Transportation Costs	Line 34 times Line 35	$ -	$ -	$ -	$ -	$ -	$ -	$ -

REDACTED

Source of Supply: Niagara (Interconnect of TransCanada and Tennessee Pipelines)
Delivered to Northern via Tennessee and Granite Pipelines
Delivered to Northern via Tennessee and Bay State Exhange Agreement

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
2	Purchased Volumes	Line 9	-	-	-	-	-	61,913	61,913
3	City Gate Delivered Volume	Line 45	-	-	-	-	-	61,196	61,196
4	Total Purchase Cost	Line 15	[redacted]						
5	Variable Transportation Costs	Sum Lines 27, 37 and 47	$ -	$ -	$ -	$ -	$ -	$ 5,484	$ 5,484
6	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
7	Average Delivered Price	Line 5 divided by Line 2							
8									
9	Niagara Supply Costs								
10	Purchased Volumes	Sendout Optimization	-	-	-	-	-	61,913	61,913
11	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	$ 2.850
12	NYMEX Cost	Line 9 times Line 10	$ -	$ -	$ -	$ -	$ -	$ 176,452	$ 176,452
13	NYMEX Basis Price	Att NUI-FXW-10, Line 4 of Page 1	[redacted]						
14	NYMEX Basis Costs	Line 9 times Line 12							
15	Total Purchase Price	Line 10 plus Line 12							
16	Total Purchase Cost	Line 11 plus Line 13							
17									
18	Transportation Fuel Losses and Variable Charges								
19	Transportation Segment 1A								
20	Tennessee Gas Pipeline (Contract 5292)								
21	Receipt Point: Niagara								
22	Delivery Point: Pleasant St. (Interconnection with Granite)								
23	Received Volume	Line 9	-	-	-	-	-	37,280	37,280
24	Fuel Loss Rate	Att NUI-FXW-10, Line 40 of Page 2						0.81%	0.81%
25	Delivered Volume	Line 23 times (1 - Line 24)	-	-	-	-	-	36,978	36,978
26	Variable Transportation Rate	Att NUI-FXW-10, Line 25 of Page 2						$ 0.0880	$ 0.0880
27	Variable Transportation Costs	Line 25 times Line 26	$ -	$ -	$ -	$ -	$ -	$ 3,254	$ 3,254
28									
29	Transportation Segment 1B								
30	Tennessee Gas Pipeline (Contract 39375)								
31	Receipt Point: Niagara								
32	Delivery Point: Pleasant St. (Interconnection with Granite)								
33	Received Volume	Line 9	-	-	-	-	-	24,633	24,633
34	Fuel Loss Rate	Att NUI-FXW-10, Line 40 of Page 2						0.81%	0.81%
35	Delivered Volume	Line 33 times (1 - Line 34)	-	-	-	-	-	24,433	24,433
36	Variable Transportation Rate	Att NUI-FXW-10, Line 25 of Page 2						$ 0.0880	$ 0.0880
37	Variable Transportation Costs	Line 35 times Line 36	$ -	$ -	$ -	$ -	$ -	$ 2,150	$ 2,150
38									
39	Transportation Segment 2B								
40	Granite State Gas Transmission (Contract 14-001-FT-NN)								
41	Receipt Point: Pleasant St.								
42	Delivery Point: Northern City Gates								
43	Received Volume	Line 35	-	-	-	-	-	61,411	61,411
44	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
45	City Gate Delivered Volume	Line 43 times (1 - Line 44)	-	-	-	-	-	61,196	61,196
46	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
47	Variable Transportation Costs	Line 45 times Line 46	$ -	$ -	$ -	$ -	$ -	$ 80	$ 80

REDACTED

Source of Supply: Iroquois Receipts (Interconnect of TransCanada and Iroquoios Pipelines)
Delivered to Northern via Iroquois, Tennessee and Granite Pipelines
Delivered to Northern via Iroquois, Tennessee, Algonquin Pipelines and Bay State Exchange Agreement

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
2	Purchased Volumes	Line 9	67,365	-	-	-	-	-	67,365
3	City Gate Delivered Volume	Line 38	66,556	-	-	-	-	-	66,556
4	Total Purchase Cost	Line 15	[redacted]						
5	Variable Transportation Costs	Sum Lines 30, 40, 50, 60, 70 and 80	$ 6,246	$ -	$ -	$ -	$ -	$ -	$ 6,246
6	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
7	Average Delivered Price	Line 5 divided by Line 2							
8									
9	Irqoquois Receipts Supply Costs								
10	Purchased Volumes	Sendout Optimization	67,365	-	-	-	-	-	67,365
11	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	$ 2.790
12	NYMEX Cost	Line 9 times Line 10	$ 187,948	$ -	$ -	$ -	$ -	$ -	$ 187,948
13	NYMEX Basis Price	Att NUI-FXW-10, Line 5 of Page 1	[redacted]						
14	NYMEX Basis Costs	Line 9 times Line 12							
15	Total Purchase Price	Line 10 plus Line 12							
16	Total Purchase Cost	Line 11 plus Line 13							
17									
18	Transportation Fuel Losses and Variable Charges								
19	Transportation Segment 5								
20	Iroquois Pipeline (Contract R181001)								
21	Receipt Point: Waddington								
22	Delivery Point: Wright (Interconnection with Tennessee)								
23	Total Contract Recevied Volume	Sendout Optimization	67,365	-	-	-	-	-	67,365
24	Received Volume	Line 10	67,365	-	-	-	-	-	67,365
25	Percentage Allocated	Line 24 divided by Line 23	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100%
26	Received Volume	Line 15	67,365	-	-	-	-	-	67,365
27	Fuel Loss Rate	Att NUI-FXW-10, Line 35 of Page 2	0.00%						0.00%
28	Delivered Volume	Line 26 times (1 - Line 27)	67,365	-	-	-	-	-	67,365
29	Variable Transportation Rate	Att NUI-FXW-10, Line 19 of Page 2	$ 0.0047						$ 0.0047
30	Variable Transportation Costs	Line 28 times Line 29	$ 317	$ -	$ -	$ -	$ -	$ -	$ 317
31									
32	Transporation Segment 6A								
33	Tennessee Gas Pipeline (Contract 95196)								
34	Receipt Point: Wright								
35	Delivery Point: Bay State City Gate (Delivered to Northern via Exchange Agreement)								
36	Received Volume	Line 28	29,281	-	-	-	-	-	29,281
37	Fuel Loss Rate	Att NUI-FXW-10, Line 40 of Page 2	0.81%						0.81%
38	City Gate Delivered Volume	Line 36 times (1 - Line 37)	29,044	-	-	-	-	-	29,044
39	Variable Transportation Rate	Att NUI-FXW-10, Line 25 of Page 2	$ 0.0880						$ 0.0880
40	Variable Transportation Costs	Line 38 times Line 39	$ 2,556	$ -	$ -	$ -	$ -	$ -	$ 2,556
41									
42	Transportation Segment 6B								
43	Tennessee Gas Pipeline (Contract 95196)								
44	Receipt Point: Wright								
45	Delivery Point: Pleasant St. (Interconnection with Granite)								
46	Received Volume	Line 38	14,494	-	-	-	-	-	14,494
47	Fuel Loss Rate	Att NUI-FXW-10, Line 40 of Page 2	0.81%						0.81%
48	Delivered Volume	Line 46 times (1 - Line 47)	14,376	-	-	-	-	-	14,376
49	Variable Transportation Rate	Att NUI-FXW-10, Line 25 of Page 2	$ 0.0880						$ 0.0880
50	Variable Transportation Costs	Line 48 times Line 49	$ 1,265	$ -	$ -	$ -	$ -	$ -	$ 1,265
51									
52	Transportation Segment 7B								
53	Granite State Gas Transmission (Contract 14-001-FT-NN)								
54	Receipt Point: Pleasant St.								
55	Delivery Point: Northern City Gates								
56	Received Volume	Line 48	14,376	-	-	-	-	-	14,376
57	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
58	City Gate Delivered Volume	Line 56 times (1 - Line 57)	14,326	-	-	-	-	-	14,326
59	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
60	Variable Transportation Costs	Line 58 times Line 59	$ 19	$ -	$ -	$ -	$ -	$ -	$ 19
61									
62	Transportation Segment 6C								
63	Tennessee Gas Pipeline (Contract 41099)								
64	Receipt Point: Wright								
65	Delivery Point: Mendon (Interconnection with Algonquin)								
66	Received Volume	Line 28	23,590	-	-	-	-	-	23,590
67	Fuel Loss Rate	Att NUI-FXW-10, Line 40 of Page 2	0.81%						0.81%
68	Delivered Volume	Line 66 times (1 - Line 67)	23,399	-	-	-	-	-	23,399
69	Variable Transportation Rate	Att NUI-FXW-10, Line 25 of Page 2	$ 0.0880						$ 0.0880
70	Variable Transportation Costs	Line 68 times Line 69	$ 2,059	$ -	$ -	$ -	$ -	$ -	$ 2,059
71									
72	Transportation Segment 7C								
73	Algonquin Gas Transmission (Contract 93200F)								
74	Receipt Point: Mendon								
75	Delivery Point: Bay State City Gate (Delivered to Northern via Exchange Agreement)								
76	Received Volume	Line 68	23,399	-	-	-	-	-	23,399
77	Fuel Loss Rate	Att NUI-FXW-10, Line 32 of Page 2	0.91%						0.91%
78	City Gate Delivered Volume	Line 76 times (1 - Line 77)	23,186	-	-	-	-	-	23,186
79	Variable Transportation Rate	Att NUI-FXW-10, Line 16 of Page 2	$ 0.0013						$ 0.0013
80	Variable Transportation Costs	Line 78 times Line 79	$ 30	$ -	$ -	$ -	$ -	$ -	$ 30

REDACTED

Source of Supply: Dawn Supply
Delivered to Northern via Union, TCPL, PNGTS and Granite Pipelines

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Purchased Volumes	Line 9	1,388	3,967	28,754	-	1,151	15,458	50,719
2	City Gate Delivered Volume	Line 54	1,365	3,902	28,282	-	1,133	15,205	49,887
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Sum Lines 26 and 56	$ 4	$ 10	$ 74	$ -	$ 3	$ 40	$ 130
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Portland Supply Costs								
9	Purchased Volumes	Sendout Optimization	1,388	3,967	28,754	-	1,151	15,458	50,719
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	$ 2.840
11	NYMEX Cost	Line 9 times Line 10	$ 3,872	$ 11,188	$ 81,662	$ -	$ 3,259	$ 44,056	$ 144,037
12	NYMEX Basis Price	Att NUI-FXW-10, Line 6 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1								
19	Union								
20	Receipt Point: Pittsburgh, NH (Interconnects with TransCanada at E. Hereford)								
21	Delivery Point: Granite (Westbrook)								
22	Received Volume	Line 9	1,388	3,967	28,754	-	1,151	15,458	50,719
23	Fuel Loss Rate	Att NUI-FXW-10, Line 44 of Page 2	0.57%	0.57%	0.57%		0.57%	0.57%	0.57%
24	Delivered Volume	Line 22 times (1 - Line 23)	1,380	3,945	28,590	-	1,145	15,370	50,430
25	Variable Transportation Rate	Att NUI-FXW-10, Line 29 of Page 2	$ -	$ -	$ -		$ -	$ -	$ -
26	Variable Transportation Costs	Line 24 times Line 25	$ -	$ -	$ -	$ -	$ -	$ -	$ -
27									
28	Transportation Segment 2								
29	TransCanada								
30	Receipt Point: Pittsburgh, NH (Interconnects with TransCanada at E. Hereford)								
31	Delivery Point: Granite (Westbrook)								
32	Received Volume	Line 19	1,380	3,945	28,590	-	1,145	15,370	50,430
33	Fuel Loss Rate	Att NUI-FXW-10, Line 43 of Page 2	0.73%	0.73%	0.73%		0.73%	0.73%	0.73%
34	Delivered Volume	Line 32 times (1 - Line 33)	1,370	3,916	28,382	-	1,136	15,258	50,062
35	Variable Transportation Rate	Att NUI-FXW-10, Line 28 of Page 2	$ -	$ -	$ -		$ -	$ -	$ -
36	Variable Transportation Costs	Line 34 times Line 35	$ -	$ -	$ -	$ -	$ -	$ -	$ -
37									
38	Transportation Segment 3								
39	PNGTS C2C								
40	Receipt Point: Pittsburgh, NH (Interconnects with TransCanada at E. Hereford)								
41	Delivery Point: Granite (Westbrook)								
42	Received Volume	Line 29	1,370	3,916	28,382	-	1,136	15,258	50,062
43	Fuel Loss Rate	Att NUI-FXW-10, Line 36 of Page 2	0.00%	0.00%	0.00%		0.00%	0.00%	0.00%
44	Delivered Volume	Line 42 times (1 - Line 43)	1,370	3,916	28,382	-	1,136	15,258	50,062
45	Variable Transportation Rate	Att NUI-FXW-10, Line 21 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013		$ 0.0013	$ 0.0013	$ 0.0013
46	Variable Transportation Costs	Line 44 times Line 45	$ 2	$ 5	$ 37	$ -	$ 1	$ 20	$ 65
47									
48	Transportation Segment 4								
49	Granite State Gas Transmission (Contract 14-001-FT-NN)								
50	Receipt Point: Granite (Westbrook)								
51	Delivery Point: Northern City Gates								
52	Received Volume	Line 24	1,370	3,916	28,382	-	1,136	15,258	50,062
53	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
54	City Gate Delivered Volume	Line 52 times (1 - Line 53)	1,365	3,902	28,282	-	1,133	15,205	49,887
55	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
56	Variable Transportation Costs	Line 54 times Line 55	$ 2	$ 5	$ 37	$ -	$ 1	$ 20	$ 65

REDACTED

Source of Supply: Algonquin Receipts
Delivered to Northern via Algonquin Pipeline and Bay State Exchange

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Purchased Volumes	Line 9	30,386	29,406	30,386	30,386	29,406	30,386	180,356
2	City Gate Delivered Volume	Sum Lines 37	29,643	28,687	29,643	29,643	28,687	29,643	175,944
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Sum Lines 39	$ 999	$ 967	$ 999	$ 999	$ 967	$ 999	$ 5,928
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Leidy Hub Purchases								
9	Purchased Volumes	Sendout Optimization	30,386	29,406	30,386	30,386	29,406	30,386	180,356
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	$ 2.830
11	NYMEX Cost	Line 9 times Line 10	$ 84,777	$ 82,924	$ 86,296	$ 86,600	$ 83,218	$ 86,600	$ 510,416
12	NYMEX Basis Price	Att NUI-FXW-10, Line 7 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1								
19	Texas Eastern								
20	Receipt Point: Leidy Hub								
21	Delivery Point: Lambertville (Interconnection between Texas Eastern and Algonquin)								
22	Received Volume	Line 13	30,386	29,406	30,386	30,386	29,406	30,386	180,356
23	Fuel Loss Rate	Att NUI-FXW-10, Line 41 of Page 2	1.55%	1.55%	1.55%	1.55%	1.55%	1.55%	1.20%
24	Delivered Volume	Line 22 times (1 - Line 23)	29,915	28,950	29,915	29,915	28,950	29,915	177,560
25	Variable Transportation Rate	Att NUI-FXW-10, Line 26 of Page 2	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210	$ 0.0210
26	Variable Transportation Costs	Line 24 times Line 25	$ 628	$ 608	$ 628	$ 628	$ 608	$ 628	$ 3,729
27									
28	Transportation Segment 2								
29	Algonquin Pipeline (Contract 93201A1C)								
30	Receipt Point: Lambertville								
31	Delivery Point: Bay State City Gate (Delivered to Northern via Exchange Agreement)								
32	Total Contract Recevied Volume	Sendout Optimization	30,190	29,216	30,190	30,190	29,216	30,190	179,191
33	Received Volume	Line 24	29,915	28,950	29,915	29,915	28,950	29,915	177,560
34	Percentage Allocated	Line 33 divided by Line 32	99.09%	99.09%	99.09%	99.09%	99.09%	99.09%	99.09%
35	Received Volume	Line 19	29,915	28,950	29,915	29,915	28,950	29,915	177,560
36	Fuel Loss Rate	Att NUI-FXW-10, Line 33 of Page 2	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	1.20%
37	City Gate Delivered Volume	Line 35 times (1 - Line 36)	29,643	28,687	29,643	29,643	28,687	29,643	175,944
38	Variable Transportation Rate	Att NUI-FXW-10, Line 17 of Page 2	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125
39	Variable Transportation Costs	Line 37 times Line 38	$ 371	$ 359	$ 371	$ 371	$ 359	$ 371	$ 2,199

REDACTED

Source of Supply: Algonquin Receipts
Delivered to Northern via Algonquin Pipeline and Bay State Exchange

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Purchased Volumes	Line 9	275	266	275	275	266	275	1,631
2	City Gate Delivered Volume	Sum Lines 27	272	263	272	272	263	272	1,616
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Sum Lines 29	$ 3	$ 3	$ 3	$ 3	$ 3	$ 3	$ 20
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2	[redacted]						
7									
8	Texas Eastern Zone M-3 Purchases								
9	Purchased Volumes	Sendout Optimization	275	266	275	275	266	275	1,631
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	$ 2.830
11	NYMEX Cost	Line 9 times Line 10	$ 766	$ 750	$ 780	$ 783	$ 752	$ 783	$ 4,615
12	NYMEX Basis Price	Att NUI-FXW-10, Line 8 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12	[redacted]						
14	Total Purchase Price	Line 10 plus Line 12	[redacted]						
15	Total Purchase Cost	Line 11 plus Line 13	[redacted]						
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1								
19	Algonquin Pipeline (Contract 93201A1C)								
20	Receipt Point: Algonquin Receipt Points								
21	Delivery Point: Bay State City Gate (Delivered to Northern via Exchange Agreement)								
22	Total Contract Recevied Volume	Sendout Optimization	30,190	29,216	30,190	30,190	29,216	30,190	179,191
23	Received Volume	Line 14	275	266	275	275	266	275	1,631
24	Percentage Allocated	Line 23 divided by Line 22	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%
25	Received Volume	Line 9	275	266	275	275	266	275	1,631
26	Fuel Loss Rate	Att NUI-FXW-10, Line 33 of Page 2	0.91%	0.91%	0.91%	0.91%	0.91%	0.91%	1.20%
27	City Gate Delivered Volume	Line 25 times (1 - Line 26)	272	263	272	272	263	272	1,616
28	Variable Transportation Rate	Att NUI-FXW-10, Line 17 of Page 2	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125	$ 0.0125
29	Variable Transportation Costs	Line 27 times Line 28	$ 3	$ 3	$ 3	$ 3	$ 3	$ 3	$ 20

REDACTED

Source of Supply: Algonquin Receipts
Delivered to Northern via Algonquin Pipeline and Bay State Exchange

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Purchased Volumes	Line 9	8,947	8,659	-	-	8,659	8,947	35,212
2	City Gate Delivered Volume	Sum Lines 24	8,866	8,580	-	-	8,580	8,866	34,892
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Sum Lines 26	$ 111	$ 107	$ -	$ -	$ 107	$ 111	$ 436
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Tranco Zone 6, non-NY Purchases								
9	Purchased Volumes	Sendout Optimization	8,947	8,659	-	-	8,659	8,947	35,212
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	$ 2.822
11	NYMEX Cost	Line 9 times Line 10	$ 24,963	$ 24,418	$ -	$ -	$ 24,504	$ 25,500	$ 99,386
12	NYMEX Basis Price	Att NUI-FXW-10, Line 9 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1								
19	Algonquin Pipeline (Contract 93201A1C)								
20	Receipt Point: Algonquin Receipt Points								
21	Delivery Point: Bay State City Gate (Delivered to Northern via Exchange Agreement)								
22	Received Volume	Line 15	8,947	8,659	-	-	8,659	8,947	35,212
23	Fuel Loss Rate	Att NUI-FXW-10, Line 33 of Page 2	0.91%	0.91%			0.91%	0.91%	1.20%
24	City Gate Delivered Volume	Line 22 times (1 - Line 23)	8,866	8,580	-	-	8,580	8,866	34,892
25	Variable Transportation Rate	Att NUI-FXW-10, Line 17 of Page 2	$ 0.0125	$ 0.0125			$ 0.0125	$ 0.0125	$ 0.0125
26	Variable Transportation Costs	Line 24 times Line 25	$ 111	$ 107	$ -	$ -	$ 107	$ 111	$ 436

REDACTED

Source of Supply: Tennessee Zone 4
Delivered to Northern via Tennessee and Granite Pipelines

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Purchased Volumes	Line 9	71,296	68,996	71,296	71,296	68,996	71,296	423,177
2	City Gate Delivered Volume	Line 37	70,244	67,978	70,244	70,244	67,978	70,244	416,931
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Sum Lines 29 and 39	$ 8,303	$ 8,036	$ 8,303	$ 8,303	$ 8,036	$ 8,303	$ 49,285
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Tennessee Zone 4 Supply Costs								
9	Purchased Volumes	Sendout Optimization	71,296	68,996	71,296	71,296	68,996	71,296	423,177
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	$ 2.830
11	NYMEX Cost	Line 9 times Line 10	$ 198,916	$ 194,569	$ 202,481	$ 203,194	$ 195,259	$ 203,194	$ 1,197,614
12	NYMEX Basis Price	Att NUI-FXW-10, Line 10 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 2								
19	Tennessee Gas Pipeline (Contract 5265)								
20	Receipt Point: Tennessee FS-MA 300 Leg								
21	Delivery Point: Pleasant St. (Interconnection with Granite)								
22	Total Contract Recevied Volume	Sendout Optimization	71,296	68,996	71,296	71,296	68,996	71,296	
23	Received Volume	Line 14	71,296	68,996	71,296	71,296	68,996	71,296	
24	Percentage Allocated	Line 23 divided by Line 22	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
25	Received Volume	Line 9	71,296	68,996	71,296	71,296	68,996	71,296	423,177
26	Fuel Loss Rate	Att NUI-FXW-10, Line 39 of Page 2	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%	1.13%
27	Delivered Volume	Line 25 times (1 - Line 26)	70,490	68,217	70,490	70,490	68,217	70,490	418,395
28	Variable Transportation Rate	Att NUI-FXW-10, Line 24 of Page 2	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165	$ 0.1165
29	Variable Transportation Costs	Line 27 times Line 28	$ 8,212	$ 7,947	$ 8,212	$ 8,212	$ 7,947	$ 8,212	$ 48,743
30									
31	Transportation Segment 3								
32	Granite State Gas Transmission (Contract 14-001-FT-NN)								
33	Receipt Point: Pleasant St.								
34	Delivery Point: Northern City Gates								
35	Received Volume	Line 27	70,490	68,217	70,490	70,490	68,217	70,490	418,395
36	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
37	City Gate Delivered Volume	Line 35 times (1 - Line 36)	70,244	67,978	70,244	70,244	67,978	70,244	416,931
38	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
39	Variable Transportation Costs	Line 37 times Line 38	$ 91	$ 88	$ 91	$ 91	$ 88	$ 91	$ 542

REDACTED

Source of Supply: Tennessee FS-MA Inventory
Delivered to Northern via Tennessee and Granite Pipelines

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Gross Withdrawn Volume	Line 9	-	-	-	-	-	-	-
2	City Gate Delivered Volume	Line 38	-	-	-	-	-	-	-
3	Total Withdrawal Costs	Line 16	$ -	$ -	$ -	$ -	$ -	$ -	$ -
4	Variable Transportation Costs	Sum Lines 30 and 40	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Total City Gate Delivered Costs	Line 3 plus Line 4	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	<u>Tennessee FS-MA Withdrawn Inventory (Segment 1)</u>								
9	Gross Withdrawn Volume	Sendout Optimization	-	-	-	-	-	-	-
10	Withdrawal Rate	Att NUI-FXW-10, Line 1 of Page 3							
11	Withdrawal Charges	Line 9 times Line 10	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	Inventory Rate	FXW-8							
13	Withdrawn Inventory Value	Line 9 times Line 12	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14	Withdrawal Fuel Losses	Att NUI-FXW-10, Line 1 of Page 3 times L	-	-	-	-	-	-	-
15	Net Withdrawn Volume	Line 9 minus Line 14	-	-	-	-	-	-	-
16	Total Withdrawal Costs	Line 11 plus Line 13	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17									
18	<u>Transportation Fuel Losses and Variable Charges</u>								
19	Transportation Segment 2								
20	Tennessee Gas Pipeline (Contract 5265)								
21	Receipt Point: Tennessee FS-MA Withdrawal Meter								
22	Delivery Point: Pleasant St. (Interconnection with Granite)								
23	Total Contract Recevied Volume	Sendout Optimization	71,296	68,996	71,296	71,296	68,996	71,296	423,177
24	Received Volume	Line 15	-	-	-	-	-	-	-
	Percentage Allocated	Line 24 divided by Line 23	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
26	Received Volume	Line 10	-	-	-	-	-	-	-
27	Fuel Loss Rate	Att NUI-FXW-10, Line 39 of Page 2							
28	Delivered Volume	Line 26 times (1 - Line 27)	-	-	-	-	-	-	-
29	Variable Transportation Rate	Att NUI-FXW-10, Line 24 of Page 2							
30	Variable Transportation Costs	Line 28 times Line 29	$ -	$ -	$ -	$ -	$ -	$ -	$ -
31									
32	Transportation Segment 3								
33	Granite State Gas Transmission (Contract 14-001-FT-NN)								
34	Receipt Point: Pleasant St.								
35	Delivery Point: Northern City Gates								
36	Received Volume	Line 28	-	-	-	-	-	-	-
37	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	
38	City Gate Delivered Volume	Line 36 times (1 - Line 37)	-	-	-	-	-	-	-
39	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	
40	Variable Transportation Costs	Line 38 times Line 39	$ -	$ -	$ -	$ -	$ -	$ -	$ -

REDACTED

Source of Supply: Washington 10 Inventory
Delivered to Northern via TransCanada, PNGTS and Granite Pipelines

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Gross Withdrawn Volume	Line 9	-	-	-	-	-	-	-
2	City Gate Delivered Volume	Line 71	-	-	-	-	-	-	-
3	Total Withdrawal Costs	Line 16	$ -	$ -	$ -	$ -	$ -	$ -	$ -
4	Variable Transportation Costs	Sum Lines 27, 37, 50, 63 and 73	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Total City Gate Delivered Costs	Line 3 plus Line 4	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	<u>Washington 10 Withdrawn Inventory (Segment 1)</u>								
9	Gross Withdrawn Volume	Sendout Optimization	-	-	-	-	-	-	-
10	Withdrawal Rate	Att NUI-FXW-10, Line 3 of Page 3							
11	Withdrawal Charges	Line 9 times Line 10	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	Inventory Rate	FXW-8							
13	Withdrawn Inventory Value	Line 9 times Line 12	$ -	$ -	$ -	$ -	$ -	$ -	$ -
14	Withdrawal Fuel Losses	Att NUI-FXW-10, Line 3 of Page 3 times Line 9	-	-	-	-	-	-	-
15	Net Withdrawn Volume	Line 9 minus Line 14	-	-	-	-	-	-	-
16	Total Withdrawal Costs	Line 11 plus Line 13	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17									
18	<u>Transportation Fuel Losses and Variable Charges</u>								
19	Transportation Segment 2A								
20	Vector Pipeline (Contract CRL-NUI-0725)								
21	Receipt Point: Washington 10 Withdrawal Meter								
22	Delivery Point: Dawn (Interconnects with TransCanada)								
23	Received Volume	Line 15	-	-	-	-	-	-	-
24	Fuel Loss Rate	Att NUI-FXW-10, Line 46 of Page 2							
25	Delivered Volume	Line 23 times (1 - Line 24)	-	-	-	-	-	-	-
26	Variable Transportation Rate	Att NUI-FXW-10, Line 31 of Page 2							
27	Variable Transportation Costs	Line 25 times Line 26	$ -	$ -	$ -	$ -	$ -	$ -	$ -
28									
29	Transportation Segment 2B								
30	Vector Pipeline (Contract CRL-NUI-0727)								
31	Receipt Point: Washington 10 Withdrawal Meter								
32	Delivery Point: Union Dawn (Interconnects with TransCanada)								
33	Received Volume	Line 25	-	-	-	-	-	-	-
34	Fuel Loss Rate	Att NUI-FXW-10, Line 46 of Page 2							
35	Delivered Volume	Line 33 times (1 - Line 34)	-	-	-	-	-	-	-
36	Variable Transportation Rate	Att NUI-FXW-10, Line 31 of Page 2							
37	Variable Transportation Costs	Line 35 times Line 36	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38									
39	Transportation Segment 3								
40	TransCanada Pipeline (Contract 33322)								
41	Receipt Point: Union Dawn								
42	Delivery Point: E. Hereford (Interconnects with PNGTS at Pittsburgh)								
43	Total Contract Recevied Volume	Sendout Optimization	-	-	-	-	-	-	-
44	Received Volume	Line 34	-	-	-	-	-	-	-
45	Percentage Allocated	Line 44 divided by Line 43	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
46	Received Volume	Line 35	-	-	-	-	-	-	-
47	Fuel Loss Rate	Att NUI-FXW-10, Line 42 of Page 2							
48	Delivered Volume	Line 46 times (1 - Line 47)	-	-	-	-	-	-	-
49	Variable Transportation Rate	Att NUI-FXW-10, Line 27 of Page 2							
50	Variable Transportation Costs	Line 48 times Line 49	$ -	$ -	$ -	$ -	$ -	$ -	$ -
51									
52	Transportation Segment 4								
53	PNGTS (Contract 1997-004)								
54	Receipt Point: Pittsburgh, NH (Interconnects with TransCanada at E. Hereford)								
55	Delivery Point: Granite (Westbrook, Newington, Eliot)								
		Sendout Optimization							
		Line 48							
	Percentage Allocated	Line 57 divided by Line 56	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
		Sendout Optimization							
60	Fuel Loss Rate	Att NUI-FXW-10, Line 36 of Page 2							
61	Delivered Volume	Line 59 times (1 - Line 60)	-	-	-	-	-	-	-
62	Variable Transportation Rate	Att NUI-FXW-10, Line 21 of Page 2							
63	Variable Transportation Costs	Line 61 times Line 62	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64									
65	Transportation Segment 5								
66	Granite State Gas Transmission (Contract 14-001-FT-NN)								
67	Receipt Point: Westbrook, Newington, Eliot								
68	Delivery Point: Northern City Gates								
69	Received Volume	Line 61	-	-	-	-	-	-	-
70	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	
71	City Gate Delivered Volume	Line 69 times (1 - Line 70)	-	-	-	-	-	-	-
72	Variable Transportation Rate	Att NUI-FXW-10, Line 34 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	
73	Variable Transportation Costs	Line 71 times Line 72	$ -	$ -	$ -	$ -	$ -	$ -	$ -

REDACTED

Source of Supply: W10 Chicago Purchases
Delivered to Northern via Granite Pipeline

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Purchased Volumes	Line 9	-	-	-	-	-	-	-
2	City Gate Delivered Volume	Line 26	-	-	-	-	-	-	-
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs		$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	W10 Chicaogo Purchases								
9	Purchased Volumes	Sendout Optimization	-	-	-	-	-	-	-
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	
11	NYMEX Cost	Line 9 times Line 10	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	NYMEX Basis Price	Att NUI-FXW-10, Line 11 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 2A								
19	Vector Pipeline (Contract CRL-NUI-0725)								
20	Receipt Point: Washington 10 Withdrawal Meter								
21	Delivery Point: Dawn (Interconnects with TransCanada)								
22		Sendout Optimization							
23	Received Volume	Line 13	-	-	-	-	-	-	-
24	Percentage Allocated	Line 23 divided by Line 22	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
25	Received Volume	Line 15	-	-	-	-	-	-	-
26	Fuel Loss Rate	Att NUI-FXW-10, Line 45 of Page 2							
27	Delivered Volume	Line 25 times (1 - Line 26)	-	-	-	-	-	-	-
28	Variable Transportation Rate	Att NUI-FXW-10, Line 30 of Page 2							
29	Variable Transportation Costs	Line 27 times Line 28	$ -	$ -	$ -	$ -	$ -	$ -	$ -
30									
31	Transportation Segment 2B								
32	Transportation Segment 3								
33	TransCanada Pipeline (Contract 33322)								
34	Receipt Point: Union Dawn								
35	Delivery Point: E. Hereford (Interconnects with PNGTS at Pittsburgh)								
36	Total Contract Recevied Volume	Sendout Optimization	-	-	-	-	-	-	-
37	Received Volume	Line 25	-	-	-	-	-	-	
38	Percentage Allocated	Line 37 divided by Line 36	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
39	Received Volume	Line 25	-	-	-	-	-	-	
40	Fuel Loss Rate	Att NUI-FXW-10, Line 42 of Page 2							
41	Delivered Volume	Line 39 times (1 - Line 40)	-	-	-	-	-	-	-
42	Variable Transportation Rate	Att NUI-FXW-10, Line 27 of Page 2							
43	Variable Transportation Costs	Line 41 times Line 42	$ -	$ -	$ -	$ -	$ -	$ -	$ -
44									
45	Transportation Segment 4								
46	PNGTS (Contract 1997-004)								
47	Receipt Point: Pittsburgh, NH (Interconnects with TransCanada at E. Hereford)								
48	Delivery Point: Granite (Westbrook, Newington, Eliot)								
49	Total Contract Recevied Volume	Sendout Optimization	147,119	63,143	-	29,613	50,465	275,706	566,046
50	Received Volume	Line 41	-	-	-	-	-	-	-
51	Percentage Allocated	Line 50 divided by Line 49	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
52	Total Contract Recevied Volume	Sendout Optimization							
53	Fuel Loss Rate	Att NUI-FXW-10, Line 36 of Page 2							
54	Delivered Volume	Line 52 times (1 - Line 53)	-	-	-	-	-	-	-
55	Variable Transportation Rate	Att NUI-FXW-10, Line 21 of Page 2							
56	Variable Transportation Costs	Line 54 times Line 55	$ -	$ -	$ -	$ -	$ -	$ -	$ -
57									
58	Transportation Segment 5								
59	Granite State Gas Transmission (Contract 14-001-FT-NN)								
60	Receipt Point: Westbrook, Newington, Eliot								
61	Delivery Point: Northern City Gates								
62	Received Volume	Line 54	-	-	-	-	-	-	-
63	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	
64	City Gate Delivered Volume	Line 62 times (1 - Line 63)	-	-	-	-	-	-	-
65	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	
66	Variable Transportation Costs	Line 64 times Line 65	$ -	$ -	$ -	$ -	$ -	$ -	$ -

REDACTED

Source of Supply: W10 Dawn Purchases
Delivered to Northern via Granite Pipeline

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Purchased Volumes	Line 9	149,051	63,972	-	30,002	51,128	279,325	573,477
2	City Gate Delivered Volume	Line 79	146,604	62,922	-	29,509	50,289	274,741	564,065
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs		$ 382	$ 164	$ -	$ 77	$ 131	$ 716	$ 1,469
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	W10 Dawn Purchases								
9	Purchased Volumes	Sendout Optimization	149,051	63,972	-	30,002	51,128	279,325	573,477
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	$ 2.829
11	NYMEX Cost	Line 9 times Line 10	$ 415,851	$ 180,401	$ -	$ 85,505	$ 144,692	$ 796,077	$ 1,622,526
12	NYMEX Basis Price	Att NUI-FXW-10, Line 12 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 2B								
19	Transportation Segment 3								
20	TransCanada Pipeline (Contract 33322)								
21	Receipt Point: Union Dawn								
22	Delivery Point: E. Hereford (Interconnects with PNGTS at Pittsburgh)								
23	Total Contract Recevied Volume	Sendout Optimization							
24	Received Volume	Line 9							-
25	Percentage Allocated	Line 24 divided by Line 23	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
26	Received Volume	Line 9	-	-	-	-	-	-	
27	Fuel Loss Rate	Att NUI-FXW-10, Line 42 of Page 2							
28	Delivered Volume	Line 26 times (1 - Line 27)	-	-	-	-	-	-	-
29	Variable Transportation Rate	Att NUI-FXW-10, Line 27 of Page 2							
30	Variable Transportation Costs	Line 28 times Line 29	$ -	$ -	$ -	$ -	$ -	$ -	$ -
31									
32	Transportation Segment 2B								
33	Transportation Segment 3								
34	TransCanada Pipeline (Contract 33322)								
35	Receipt Point: Union Dawn								
36	Delivery Point: E. Hereford (Interconnects with PNGTS at Pittsburgh)								
37	Total Contract Recevied Volume	Sendout Optimization							
38	Received Volume	Line 28	149,051	63,972	-	30,002	51,128	279,325	573,477
39	Percentage Allocated	Line 38 divided by Line 37	100.00%	100.00%	0.00%	100.00%	100.00%	100.00%	100.00%
40	Received Volume	Line 28	149,051	63,972	-	30,002	51,128	279,325	
41	Fuel Loss Rate	Att NUI-FXW-10, Line 44 of Page 2	0.57%	0.57%		0.57%	0.57%	0.57%	0.57%
42	Delivered Volume	Line 40 times (1 - Line 41)	148,201	63,607	-	29,831	50,837	277,733	570,209
43	Variable Transportation Rate	Att NUI-FXW-10, Line 29 of Page 2	$ -	$ -		$ -	$ -	$ -	$ -
44	Variable Transportation Costs	Line 42 times Line 43	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45									
46	Transportation Segment 2B								
47	Transportation Segment 3								
48	TransCanada Pipeline (Contract 33322)								
49	Receipt Point: Union Dawn								
50	Delivery Point: E. Hereford (Interconnects with PNGTS at Pittsburgh)								
51	Total Contract Recevied Volume	Sendout Optimization							
52	Received Volume	Line 42	148,201	63,607	-	29,831	50,837	277,733	570,209
53	Percentage Allocated	Line 52 divided by Line 51	100.00%	100.00%	0.00%	100.00%	100.00%	100.00%	100.00%
54	Received Volume	Line 42	148,201	63,607	-	29,831	50,837	277,733	
55	Fuel Loss Rate	Att NUI-FXW-10, Line 43 of Page 2	0.73%	0.73%		0.73%	0.73%	0.73%	0.73%
56	Delivered Volume	Line 54 times (1 - Line 55)	147,119	63,143	-	29,613	50,465	275,706	566,046
57	Variable Transportation Rate	Att NUI-FXW-10, Line 28 of Page 2	$ -	$ -		$ -	$ -	$ -	$ -
58	Variable Transportation Costs	Line 56 times Line 57	$ -	$ -	$ -	$ -	$ -	$ -	$ -
59									
60	Transportation Segment 2B								
61	Transportation Segment 3								
62	TransCanada Pipeline (Contract 33322)								
63	Receipt Point: Union Dawn								
64	Delivery Point: E. Hereford (Interconnects with PNGTS at Pittsburgh)								
65	Total Contract Recevied Volume	Sendout Optimization							
66	Received Volume	Line 56	147,119	63,143	-	29,613	50,465	275,706	566,046
67	Percentage Allocated	Line 66 divided by Line 65	100.00%	100.00%	0.00%	100.00%	100.00%	100.00%	100.00%
68	Received Volume	Line 56	147,119	63,143	-	29,613	50,465	275,706	
69	Fuel Loss Rate	Att NUI-FXW-10, Line 36 of Page 2	0.00%	0.00%		0.00%	0.00%	0.00%	0.00%
70	Delivered Volume	Line 68 times (1 - Line 69)	147,119	63,143	-	29,613	50,465	275,706	566,046
71	Variable Transportation Rate	Att NUI-FXW-10, Line 21 of Page 2	$ 0.0013	$ 0.0013		$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
72	Variable Transportation Costs	Line 70 times Line 71	$ 191	$ 82	$ -	$ 38	$ 66	$ 358	$ 736
73									
74	Granite State Gas Transmission (Contract 14-001-FT-NN)								
75	Receipt Point: Westbrook, Newington, Eliot								
76	Delivery Point: Northern City Gates								
77	Received Volume	Line 41	147,119	63,143	-	29,613	50,465	275,706	566,046
78	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
79	City Gate Delivered Volume	Line 77 times (1 - Line 78)	146,604	62,922	-	29,509	50,289	274,741	564,065
80	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013
81	Variable Transportation Costs	Line 79 times Line 80	$ 191	$ 82	$ -	$ 38	$ 65	$ 357	$ 733

REDACTED

Source of Supply: Maritimes Baseload Supply
City-Gate Delivered Supply

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Purchased Volumes	Line 9	-	-	-	-	-	-	-
2	City Gate Delivered Volume	Line 1	-	-	-	-	-	-	-
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	N/A	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Maritimes Supply Costs								
9	Purchased Volumes	Sendout Optimization	-	-	-	-	-	-	-
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	
11	NYMEX Cost	Line 9 times Line 10	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	NYMEX Basis Price	Att NUI-FXW-10, Line 13 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							

REDACTED

Source of Supply: Northern LNG Inventory
On-System Storage

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Gross Withdrawn Volume	Line 9	2,217	2,145	2,217	2,217	2,145	2,217	13,156
2	City Gate Delivered Volume	Line 15	2,217	2,145	2,217	2,217	2,145	2,217	13,156
3	Total Withdrawal Costs	Line 16	[redacted]						
4	Variable Transportation Costs	N/A	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Total City Gate Delivered Costs	Line 3 plus Line 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Northern LNG Withdrawn Inventory								
9	Gross Withdrawn Volume	Sendout Optimization	2,217	2,145	2,217	2,217	2,145	2,217	13,156
10	Withdrawal Rate	N/A	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11	Withdrawal Charges	Line 9 times Line 10	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	Inventory Rate	FXW-8	[redacted]						
13	Withdrawn Inventory Value	Line 9 times Line 12							
14	Withdrawal Fuel Losses	N/A	-	-	-	-	-	-	-
15	Net Withdrawn Volume	Line 9 minus Line 14	2,217	2,145	2,217	2,217	2,145	2,217	13,156
16	Total Withdrawal Costs	Line 11 plus Line 13	[redacted]						

REDACTED

Source of Supply: Peaking Contract 1
Delivered to Northern via Granite Pipeline

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Purchased Volumes	Line 9	-	-	-	-	-	-	-
2	City Gate Delivered Volume	Line 24	-	-	-	-	-	-	-
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Line 26	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Peaking Contract 1 Costs								
9	Purchased Volumes	Sendout Optimization	-	-	-	-	-	-	-
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	
11	NYMEX Cost	Line 9 times Line 10	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	NYMEX Basis Price	Att NUI-FXW-10, Line 15 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1								
19	Granite State Gas Transmission (Contract 14-001-FT-NN)								
20	Receipt Point: Pleasant St.								
21	Delivery Point: Northern City Gates								
22	Received Volume	Line 9	-	-	-	-	-	-	-
23	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	
24	City Gate Delivered Volume	Line 22 times (1 - Line 23)	-	-	-	-	-	-	-
25	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	
26	Variable Transportation Costs	Line 24 times Line 25	$ -	$ -	$ -	$ -	$ -	$ -	$ -

REDACTED

Source of Supply: Peaking Contract 2
Delivered to Northern via Granite Pipeline

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Purchased Volumes	Line 9	-	-	-	-	-	-	-
2	City Gate Delivered Volume	Line 24	-	-	-	-	-	-	-
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Line 26	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Peaking Supply 2 Costs								
9	Purchased Volumes	Sendout Optimization	-	-	-	-	-	-	-
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	
11	NYMEX Cost	Line 9 times Line 10	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	NYMEX Basis Price	Att NUI-FXW-10, Line 16 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1								
19	Granite State Gas Transmission (Contract 14-001-FT-NN)								
20	Receipt Point: Newington or Westbrook								
21	Delivery Point: Northern City Gates								
22	Received Volume	Line 9	-	-	-	-	-	-	-
23	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	
24	City Gate Delivered Volume	Line 22 times (1 - Line 23)	-	-	-	-	-	-	-
25	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	
26	Variable Transportation Costs	Line 24 times Line 25	$ -	$ -	$ -	$ -	$ -	$ -	$ -

REDACTED

Source of Supply: Incremental Spot Purchases
Delivered to Northern via Granite Pipeline

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	2018 Summer
1	Purchased Volumes	Line 9	-	-	-	-	-	-	-
2	City Gate Delivered Volume	Line 24	-	-	-	-	-	-	-
3	Total Purchase Cost	Line 15	[redacted]						
4	Variable Transportation Costs	Line 26	$ -	$ -	$ -	$ -	$ -	$ -	$ -
5	Total City Gate Delivered Costs	Sum Lines 3 and 4	[redacted]						
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	Tennessee Zone 6 Supply								
9	Purchased Volumes	Sendout Optimization	-	-	-	-	-	-	-
10	Monthly NYMEX Price	Att NUI-FXW-10, Line 18 of Page 1	$ 2.790	$ 2.820	$ 2.840	$ 2.850	$ 2.830	$ 2.850	
11	NYMEX Cost	Line 9 times Line 10	$ -	$ -	$ -	$ -	$ -	$ -	$ -
12	NYMEX Basis Price	Att NUI-FXW-10, Line 17 of Page 1	[redacted]						
13	NYMEX Basis Costs	Line 9 times Line 12							
14	Total Purchase Price	Line 10 plus Line 12							
15	Total Purchase Cost	Line 11 plus Line 13							
16									
17	Transportation Fuel Losses and Variable Charges								
18	Transportation Segment 1								
19	Granite State Gas Transmission (Contract 14-001-FT-NN)								
20	Receipt Point: Newington or Westbrook								
21	Delivery Point: Northern City Gates								
22	Received Volume	Line 9	-	-	-	-	-	-	-
23	Fuel Loss Rate	Att NUI-FXW-10, Line 34 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	
24	City Gate Delivered Volume	Line 22 times (1 - Line 23)	-	-	-	-	-	-	-
25	Variable Transportation Rate	Att NUI-FXW-10, Line 18 of Page 2	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	$ 0.0013	
26	Variable Transportation Costs	Line 24 times Line 25	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Northern Utilities, Inc.
Hedging Expense and Option Contract Value
November 2017 through March 2018
As of 9/7/2017

Description	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Winter
NYMEX Options Contracts	12	20	29	30	25	116
Option Contract Price	$ 0.230	$ 0.237	$ 0.248	$ 0.247	$ 0.240	
Hedging Expense	$ 27,600	$ 47,400	$ 71,775	$ 74,100	$ 60,000	$280,875

Description	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Winter
NYMEX Options Contracts	12	20	29	30	25	116
NYMEX Option Strike Price	$ 3.500	$ 4.000	$ 4.300	$ 4.500	$ 4.650	
Futures Price	$ 3.050	$ 3.200	$ 3.300	$ 3.300	$ 3.260	
Option Contract Value[1]	$ -	$ -	$ -	$ -	$ -	$ -

[1] If Futures Price exceeds Strike Price upon contract settlement, then value upon expiration equals the difference between the Futures Price and Strike Price. If Futures Price is below the Strike Price upon contract settlement, then the option will expire with no value.

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical Residential Heating Bill - 738 therms/year
Comparison of Winter 2017-2018 vs. Winter 2016-2017

#	Description		Rate	Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
1				Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
2		Typical Usage: therms (*)		56	98	130	137	110	78	609	44	20	14	14	14	23	129	738
3	**Winter 2017 - 2018**																	
4	Customer Charge	units @	$ 21.36	$21.36	$21.36	$21.36	$21.36	$21.36	$21.36	$128.16								
5	First	50 units @	$0.6468	$32.34	$32.34	$32.34	$32.34	$32.34	$32.34	$194.04								
6	Over	50 units @	$0.5332	$3.17	$25.62	$42.82	$46.63	$32.03	$14.69	$164.96								
7		COG 1	$0.7103	$39.73						$39.73								
8		COG 2	$0.7103		$69.65					$69.65								
9		COG 3	$0.7103			$92.56				$92.56								
10		COG 4	$0.7103				$97.63			$97.63								
11		COG 5	$0.7103					$78.19		$78.19								
12		COG 6	$0.7103						$55.08	$55.08								
13		LDAC	$0.0560	$3.13	$5.49	$7.30	$7.70	$6.16	$4.34	$34.13								
14	**Summer 2017**																	
15	Customer Charge	units @	$ 21.36								$ 21.36	$21.36	$21.36	$21.36	$ 21.36	$21.36	$128.16	
16	First	50 units @	$0.5449								$23.85	$10.87	$7.40				$42.12	
17	Over	50 units @	$0.5449								$0.00	$0.00	$0.00				$0.00	
18	First (1)	50 units @	$0.5678											$8.15	$7.80	$13.26	$29.21	
19	Over (1)	50 units @	$0.5678											$0.00	$0.00	$0.00	$0.00	
20		COG 1	$0.4055								$17.75						$17.75	
21		COG 2	$0.4055									$8.09					$8.09	
22		COG 3	$0.4055										$5.51				$5.51	
23		COG 4	$0.4055											$5.82			$5.82	
24		COG 5	$0.4055												$5.57		$5.57	
25		COG 6	$0.4055													$9.47	$9.47	
26	Summer Period 2017 Weighted Avg. COG		$0.4055															
27		LDAC	$ 0.0489								$2.14	$0.98	$0.66	$0.70	$0.67	$1.14	$6.30	
28			**TOTAL**	$99.73	$154.47	$196.38	$205.65	$170.08	$127.81	**$954.13**	$65.10	$41.30	$34.93	$36.03	$35.41	$45.23	$258.00	$1,212.13

		Nov	Dec	Jan	Feb	Mar	Apr	Winter
Base Rate Change Winter 17-18 vs. Winter 16-17	**$ Change**	$1.28	$2.25	$2.98	$3.15	$2.52	$1.78	**$13.95**
	% Change	1%	1%	1%	2%	2%	1%	**1%**
COG Change Winter 17-18 vs. Winter 16-17	**$ Change**	-$2.55	-$2.08	-$7.90	-$8.33	$5.16	-$9.17	**-$24.86**
	% Change	-3%	-1%	-4%	-4%	3%	-7%	**-3%**
LDAC Change Winter 17-18 vs. Winter 16-17	**$ Change**	$0.43	$0.76	$1.00	$1.06	$0.85	$0.60	**$4.69**
	% Change	0%	0%	1%	1%	1%	0%	**0%**

#	Description		Rate	Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
27				Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
28		Typical Usage: therms		56	98	130	137	110	78	609	44	20	14	14	14	23	129	738
29	**Winter 2016 - 2017**																	
30	Customer Charge	units @	$ 21.36	$21.36	$21.36	$21.36	$21.36	$21.36	$21.36	$128.16								
31	First	50 units @	$0.6239	$31.20	$31.20	$31.20	$31.20	$31.20	$31.20	$187.17								
32	Over	50 units @	$0.5103	$3.03	$24.52	$40.98	$44.62	$30.66	$14.06	$157.88								
33		COG 1	$0.7558	$42.28						$42.28								
34		COG 2	$0.7315		$71.73					$71.73								
35		COG 3	$0.7709			$100.46				$100.46								
36		COG 4	$0.7709				$105.96			$105.96								
37		COG 5	$0.6634					$73.02		$73.02								
38		COG 6	$0.8286						$64.25	$64.25								
39	Winter Period 16-17 Weighted Avg. COG		$0.7511															
40		LDAC	$ 0.0483	$2.70	$4.74	$6.29	$6.64	$5.32	$3.75	$29.43								
41	**Summer 2016**																	
42	Customer Charge	units @	$ 21.36								$21.36	$21.36	$21.36	$21.36	$21.36	$21.36	$128.16	
43	First	50 units @	$0.5449								$23.85	$10.87	$7.40	$7.82	$7.49	$12.73	$70.16	
44	Over	50 units @	$0.5449								$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	
45		COG 1	$0.3196								$13.99						$13.99	
46		COG 2	$0.3430									$6.84					$6.84	
47		COG 3	$0.3904										$5.30				$5.30	
48		COG 4	$0.3904											$5.60			$5.60	
49		COG 5	$0.3904												$5.37		$5.37	
50		COG 6	$0.3904													$9.12	$9.12	
51	Summer Period 2016 Wighted Avg. COG		$0.3590															
52		LDAC	$ 0.0374								$1.64	$0.75	$0.51	$0.54	$0.51	$0.87	$4.82	
53			**TOTAL**	$100.57	$153.55	$200.29	$209.77	$161.55	$134.61	**$960.34**	$60.84	$39.82	$34.57	$35.32	$34.73	$44.08	$249.35	$1,209.70
54			**Change**	($0.83)	$0.92	($3.91)	($4.12)	$8.53	($6.80)	**($6.21)**	$4.26	$1.48	$0.36	$0.71	$0.68	$1.16	**$8.65**	$2.43
55			**% Chg**	-0.83%	0.60%	-1.95%	-1.97%	5.28%	-5.05%	**-0.65%**	7.01%	3.71%	1.04%	2.01%	1.96%	2.62%	**3.47%**	0.20%

*-Note- Weighted by usage. Actual Weather Normalized.
(1) Temporary rate delivery charge of $0.0229 per therm shall be billed to all customers per Order No. 26,043 in Docket No. DG 17-070.

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical G-40 Commercial & Industrial Bill - 1,867 therms/year

Comparison of Winter 2017-2018 vs. Winter 2016-2017

				Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
1				Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
2		Typical Usage: therms (*)		132	251	359	374	294	201	1,611	98	38	22	24	24	49	256	1,867
3	**Winter 2017 - 2018**																	
4	Customer Charge	units @	$ 67.45	$67.45	$67.45	$67.45	$67.45	$67.45	$67.45	$404.70								
5	First	75 units @	$0.1844	$13.83	$13.83	$13.83	$13.83	$13.83	$13.83	$82.98								
6	Over	75 units @	$0.1844	$10.58	$32.50	$52.28	$55.09	$40.39	$23.31	$214.15								
7		COG 1	$0.7236	$95.79						$95.79								
8		COG 2	$0.7236		$181.80					$181.80								
9		COG 3	$0.7236			$259.42				$259.42								
10		COG 4	$0.7236				$270.45			$270.45								
11		COG 5	$0.7236					$212.76		$212.76								
12		COG 6	$0.7236						$145.73	$145.73								
13		LDAC	$0.0293	$3.88	$7.36	$10.50	$10.95	$8.62	$5.90	$47.21								
14	**Summer 2017**																	
15	Customer Charge	units @	$ 67.45								$ 67.45	$67.45	$67.45	$67.45	$ 67.45	$67.45	$404.70	
16	First	75 units @	$0.1615								$12.11	$6.20	$3.52				$21.82	
17	Over	75 units @	$0.1615								$3.78	$0.00	$0.00				$3.78	
18	First (1)	75 units @	$0.1844											$4.43	$4.39	$9.06	$17.88	
19	Over (1)	75 units @	$0.1844											$0.00	$0.00	$0.00	$0.00	
20		COG 1	$0.4465								$43.95						$43.95	
21		COG 2	$0.4465									$17.13					$17.13	
22		COG 3	$0.4465										$9.72				$9.72	
23		COG 4	$0.4465											$10.73			$10.73	
24		COG 5	$0.4465												$10.63		$10.63	
25		COG 6	$0.4465													$21.93	$21.93	
26	Summer Period 2015 Weighted Avg. COG		$0.4465															
27		LDAC	$ 0.0296								$2.91	$1.14	$0.64	$0.71	$0.70	$1.45	$7.56	
28			**TOTAL**	$191.54	$302.94	$403.49	$417.77	$343.05	$256.22	**$1,914.99**	$130.21	$91.91	$81.33	$83.33	$83.17	$99.89	$569.83	$2,484.82
29				Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
30		Typical Usage: therms		132	251	359	374	294	201	1,611	98	38	22	24	24	49	256	1,867
31	**Winter 2016 - 2017**																	
32	Customer Charge	units @	$ 67.45	$67.45	$67.45	$67.45	$67.45	$67.45	$67.45	$404.70								
33	First	75 units @	$0.1615	$12.11	$12.11	$12.11	$12.11	$12.11	$12.11	$72.68								
34	Over	75 units @	$0.1615	$9.27	$28.46	$45.79	$48.25	$35.37	$20.41	$187.55								
35		COG 1	$0.7696	$101.88						$101.88								
36		COG 2	$0.7453		$187.25					$187.25								
37		COG 3	$0.7847			$281.33				$281.33								
38		COG 4	$0.7847				$293.28			$293.28								
39		COG 5	$0.6772					$199.12		$199.12								
40		COG 6	$0.8424						$169.65	$169.65								
41	Winter Period 14-15 Weighted Avg. COG		$0.7649															
42		LDAC	$ 0.0294	$3.89	$7.39	$10.54	$10.99	$8.64	$5.92	$47.37								
43	**Summer 2016**																	
44	Customer Charge	units @	$ 67.45								$67.45	$67.45	$67.45	$67.45	$67.45	$67.45	$404.70	
45	First	75 units @	$0.1615								$12.11	$6.20	$3.52	$3.88	$3.84	$7.93	$37.48	
46	Over	75 units @	$0.1615								$3.78	$0.00	$0.00	$0.00	$0.00	$0.00	$3.78	
47		COG 1	$0.3619								$35.62						$35.62	
48		COG 2	$0.3853									$14.78					$14.78	
49		COG 3	$0.4327										$9.42				$9.42	
50		COG 4	$0.4327											$10.40			$10.40	
51		COG 5	$0.4327												$10.30		$10.30	
52		COG 6	$0.4327													$21.25	$21.25	
53	Summer Period 2014 Wighted Avg. COG		$0.3983															
54		LDAC	$ 0.0223								$2.19	$0.86	$0.49	$0.54	$0.53	$1.10	$5.70	
55			**TOTAL**	$194.61	$302.66	$417.22	$432.08	$322.70	$275.55	**$1,944.82**	$121.16	$89.28	$80.87	$82.27	$82.12	$97.73	$553.43	$2,498.25
56			**Change**	($3.07)	$0.28	($13.73)	($14.31)	$20.35	($19.33)	**($29.83)**	$9.05	$2.63	$0.46	$1.06	$1.05	$2.16	**$16.40**	($13.43)
57			**% Chg**	-1.58%	0.09%	-3.29%	-3.31%	6.31%	-7.02%	**-1.53%**	7.47%	2.94%	0.57%	1.29%	1.28%	2.21%	**2.96%**	-0.54%

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

(1) Temporary rate delivery charge of $0.0229 per therm shall be billed to all customers per Order No. 26,043 in Docket No. DG 17-070.

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical G-41 Commercial & Industrial Bill - 18,671 therms/year

Comparison of Winter 2017-2018 vs. Winter 2016-2017

			Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
	Typical Usage: therms (*)		1,455	2,497	3,312	3,349	2,720	1,919	15,253	1,063	505	299	377	404	769	3,418	18,671
Winter 2017 - 2018																	
Customer Charge	units @	$ 196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$1,180.38								
All	units @	$0.2098	$305.26	$523.84	$694.92	$702.64	$570.71	$402.70	$3,200.06								
	COG 1	$0.7236	$1,052.85						$1,052.85								
	COG 2	$0.7236		$1,806.71					$1,806.71								
	COG 3	$0.7236			$2,396.79				$2,396.79								
	COG 4	$0.7236				$2,423.39			$2,423.39								
	COG 5	$0.7236					$1,968.37		$1,968.37								
	COG 6	$0.7236						$1,388.90	$1,388.90								
	LDAC	$0.0293	$42.63	$73.16	$97.05	$98.13	$79.70	$56.24	$446.91								
Summer 2017																	
Customer Charge	units @	$ 196.73								$ 196.73	$196.73	$196.73	$196.73	$ 196.73	$196.73	$1,180.38	
All	units @	$0.1622								$172.42	$81.92	$48.50				$302.83	
All (1)	units @	$0.1851											$69.76	$74.85	$142.42	$287.04	
	COG 1	$0.4465								$474.63						$474.63	
	COG 2	$0.4465									$225.49					$225.49	
	COG 3	$0.4465										$133.50				$133.50	
	COG 4	$0.4465											$168.28			$168.28	
	COG 5	$0.4465												$180.57		$180.57	
	COG 6	$0.4465													$343.56	$343.56	
Summer Period 2015 Weighted Avg. COG		$0.4465															
	LDAC	$ 0.0296								$31.46	$14.95	$8.85	$11.16	$11.97	$22.78	$101.17	
		TOTAL	$1,597.47	$2,600.43	$3,385.49	$3,420.88	$2,815.51	$2,044.56	**$15,864.35**	$875.24	$519.09	$387.58	$445.92	$464.12	$705.49	$3,397.44	$19,261.79

			Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
	Typical Usage: therms		1,455	2,497	3,312	3,349	2,720	1,919	15,253	1,063	505	299	377	404	769	3,418	18,671
Winter 2016 - 2017																	
Customer Charge	units @	$ 196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$1,180.38								
All	units @	$0.2098	$305.26	$523.84	$694.92	$702.64	$570.71	$402.70	$3,200.06								
	COG 1	$0.7696	$1,119.78						$1,119.78								
	COG 2	$0.7453		$1,860.89					$1,860.89								
	COG 3	$0.7847			$2,599.17				$2,599.17								
	COG 4	$0.7847				$2,628.02			$2,628.02								
	COG 5	$0.6772					$1,842.15		$1,842.15								
	COG 6	$0.8424						$1,616.92	$1,616.92								
Winter Period 14-15 Weighted Avg. COG		$0.7649															
	LDAC	$ 0.0294	$42.78	$73.41	$97.38	$98.46	$79.98	$56.43	$448.44								
Summer 2016																	
Customer Charge	units @	$ 196.73								$196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$1,180.38	
All	units @	$0.1622								$172.42	$81.92					$254.33	
	COG 1	$0.3619								$384.70						$384.70	
	COG 2	$0.3853									$194.59					$194.59	
	COG 3	$0.4327										$129.38				$129.38	
	COG 4	$0.4327											$163.08			$163.08	
	COG 5	$0.4327												$174.98		$174.98	
	COG 6	$0.4327													$332.94	$332.94	
Summer Period 2014 Wighted Avg. COG		$0.4037															
	LDAC	$ 0.0223								$23.70	$11.26	$6.67	$8.40	$9.02	$17.16	$76.22	
		TOTAL	$1,664.55	$2,654.86	$3,588.20	$3,625.85	$2,689.57	$2,272.78	**$16,495.81**	$777.55	$484.49	$332.77	$368.21	$380.73	$546.83	$2,890.59	$19,386.40
		Change	($67.08)	($54.43)	($202.71)	($204.96)	$125.95	($228.22)	**($631.46)**	$97.69	$34.59	$54.81	$77.71	$83.39	$158.66	**$506.85**	($124.61)
		% Chg	-4.03%	-2.05%	-5.65%	-5.65%	4.68%	-10.04%	**-3.83%**	12.56%	7.14%	16.47%	21.11%	21.90%	29.01%	**17.53%**	-0.64%

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

(1) Temporary rate delivery charge of $0.0229 per therm shall be billed to all customers per Order No. 26,043 in Docket No. DG 17-07C

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical G-51 Commercial & Industrial Bill - 17,391 therms/year

Comparison of Winter 2017-2018 vs. Winter 2016-2017

			Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
	Typical Usage: therms (*)		1,363	1,734	1,888	1,969	1,712	1,520	10,186	1,352	1,212	1,005	1,298	1,120	1,218	7,204	17,391
Winter 2017 - 2018																	
Customer Charge	units @	$ 196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$1,180.38								
First	1,300 units @	$0.1520	$197.60	$197.60	$197.60	$197.60	$197.60	$197.60	$1,185.60								
Over	1,300 units @	$0.1238	$7.81	$53.74	$72.75	$82.87	$51.00	$27.26	$295.43								
	COG 1	$0.6224	$848.38						$848.38								
	COG 2	$0.6224		$1,079.28					$1,079.28								
	COG 3	$0.6224			$1,174.85				$1,174.85								
	COG 4	$0.6224				$1,225.75			$1,225.75								
	COG 5	$0.6224					$1,065.53		$1,065.53								
	COG 6	$0.6224						$946.18	$946.18								
	LDAC	$0.0293	$39.94	$50.81	$55.31	$57.70	$50.16	$44.54	$298.46								
Summer 2017																	
Customer Charge	units @	$ 196.73								$ 196.73	$196.73	$196.73	$196.73	$ 196.73	$196.73	$1,180.38	
First	1,000 units @	$0.1183								$118.30	$118.30	$118.30				$354.90	
Over	1,000 units @	$0.0958								$33.67	$20.35	$0.45				$54.47	
First (1)	1,000 units @	$0.1412											$118.30	$118.30	$118.30	$354.90	
Over (1)	1,000 units @	$0.1187											$35.38	$14.24	$25.86	$75.48	
	COG 1	$0.3589								$485.05						$485.05	
	COG 2	$0.3589									$435.13					$435.13	
	COG 3	$0.3589										$360.59				$360.59	
	COG 4	$0.3589											$465.89			$465.89	
	COG 5	$0.3589												$401.95		$401.95	
	COG 6	$0.3589													$437.09	$437.09	
Summer Period 2015 Weighted Avg. COG		$0.3589															
	LDAC	$ 0.0296								$40.00	$35.89	$29.74	$38.42	$33.15	$36.05	$213.25	
		TOTAL	$1,290.46	$1,578.16	$1,697.23	$1,760.66	$1,561.02	$1,412.32	**$9,299.85**	$873.76	$806.39	$705.81	$854.72	$764.37	$814.03	$4,819.08	$14,118.93
			Nov	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**Winter**	**May**	**June**	**July**	**August**	**Sept**	**October**	**Summer**	**Annual**
	Typical Usage: therms		1,363	1,734	1,888	1,969	1,712	1,520	10,186	1,352	1,212	1,005	1,298	1,120	1,218	7,204	17,391
Winter 2016 - 2017																	
Customer Charge	units @	$ 196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$1,180.38								
First	1,300 units @	$0.1520	$197.60	$197.60	$197.60	$197.60	$197.60	$197.60	$1,185.60								
Over	1,300 units @	$0.1238	$7.81	$53.74	$72.75	$82.87	$51.00	$27.26	$295.43								
	COG 1	$0.6801	$927.03						$927.03								
	COG 2	$0.6558		$1,137.20					$1,137.20								
	COG 3	$0.6952			$1,312.27				$1,312.27								
	COG 4	$0.6952				$1,369.13			$1,369.13								
	COG 5	$0.5877					$1,006.12		$1,006.12								
	COG 6	$0.7529						$1,144.57	$1,144.57								
Winter Period 14-15 Weighted Avg. COG		$0.6770															
	LDAC	$ 0.0294	$40.07	$50.98	$55.50	$57.90	$50.33	$44.69	$299.48								
Summer 2016																	
Customer Charge	units @	$ 196.73								$196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$1,180.38	
First	1,000 units @	$0.1183								$118.30	$118.30	$118.30	$118.30	$118.30	$118.30	$709.80	
Over	1,000 units @	$0.0958								$33.67	$20.35	$0.45	$28.56	$11.49	$20.87	$115.39	
	COG 1	$0.2832								$382.75						$382.75	
	COG 2	$0.3066									$371.72					$371.72	
	COG 3	$0.3540										$355.67				$355.67	
	COG 4	$0.3540											$459.52			$459.52	
	COG 5	$0.3540												$396.46		$396.46	
	COG 6	$0.3540													$431.12	$431.12	
Summer Period 2014 Wighted Avg. COG		$0.3327															
	LDAC	$ 0.0223								$30.14	$27.04	$22.40	$28.95	$24.97	$27.16	$160.66	
		TOTAL	$1,369.25	$1,636.25	$1,834.84	$1,904.23	$1,501.79	$1,610.86	**$9,857.21**	$761.59	$734.13	$693.55	$832.06	$747.96	$794.18	$4,563.47	$14,420.68
		Change	($78.79)	($58.09)	($137.61)	($143.57)	$59.23	($198.54)	**($557.36)**	$112.17	$72.26	$12.26	$22.66	$16.41	$19.85	**$255.61**	($301.75)
		% Chg	-5.75%	-3.55%	-7.50%	-7.54%	3.94%	-12.33%	**-5.65%**	14.73%	9.84%	1.77%	2.72%	2.19%	2.50%	**5.60%**	-2.09%

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

(1) Temporary rate delivery charge of $0.0229 per therm shall be billed to all customers per Order No. 26,043 in Docket No. DG 17-070.

NORTHERN UTILITIES, INC. -- NEW HAMPSHIRE DIVISION

Impact of Rate Changes on Residential Heating Bills by Usage Level

Forecast Winter 2017-2018 vs. Actual Winter 2016-2017

Residential Heating	Winter 2016-2017	Winter 2017- 2018
Customer Charge	$21.36	$21.36
First 50 Therms	$0.6239	$0.6468
Over 50 therms	$0.5103	$0.5332
LDAC	$0.0483	$0.0560
CGA	$0.7511	$0.7103

	Usage (Therms)	Winter 2016-2017 Bill Amount	Winter 2017-2018 Bill Amount	Total Bill		Base Rate		CGA		LDAC	
	5	$28.48	$28.43	($0.05)	-0.2%	$0.11	0.4%	($0.20)	-0.7%	$0.04	0.1%
	10	$35.59	$35.49	($0.10)	-0.3%	$0.23	0.6%	($0.41)	-1.2%	$0.08	0.2%
	20	$49.83	$49.62	($0.20)	-0.4%	$0.46	0.9%	($0.82)	-1.6%	$0.15	0.3%
	25	$56.94	$56.69	($0.25)	-0.4%	$0.57	1.0%	($1.02)	-1.8%	$0.19	0.3%
	30	$64.06	$63.75	($0.31)	-0.5%	$0.69	1.1%	($1.22)	-1.9%	$0.23	0.4%
	45	$85.41	$84.95	($0.46)	-0.5%	$1.03	1.2%	($1.84)	-2.2%	$0.35	0.4%
	50	$92.52	$92.02	($0.51)	-0.6%	$1.15	1.2%	($2.04)	-2.2%	$0.39	0.4%
	75	$125.27	$124.50	($0.76)	-0.6%	$1.72	1.4%	($3.06)	-2.4%	$0.58	0.5%
Average Monthly	125	$190.75	$189.48	($1.27)	-0.7%	$2.87	1.5%	($5.10)	-2.7%	$0.96	0.5%
	150	$223.49	$221.97	($1.53)	-0.7%	$3.44	1.5%	($6.12)	-2.7%	$1.16	0.5%
	200	$288.98	$286.94	($2.04)	-0.7%	$4.59	1.6%	($8.16)	-2.8%	$1.54	0.5%

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical Residential Heating Bill - 129 therms/Summer

Comparison of Summer 2018 vs. Summer 2017

Line				May	June	July	August	Sept	October	Summer
1				May	June	July	August	Sept	October	Summer
2		Typical Usage: therms(*)		44	20	14	14	14	23	129
3	**Summer 2018**									
4	Customer Charge	units @	$21.36	$21.36	$21.36	$21.36	$21.36	$21.36	$21.36	$128.16
5	First	50 units @	$0.5678	$24.98	$11.36	$7.95	$7.95	$7.95	$13.06	$73.25
6	Over	50 units @	$0.5678	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
7		COG 1	$0.3975	$17.49						$17.49
8		COG 2	$0.3975		$7.95					$7.95
9		COG 3	$0.3975			$5.57				$5.57
10		COG 4	$0.3975				$5.57			$5.57
11		COG 5	$0.3975					$5.57		$5.57
12		COG 6	$0.3975						$9.14	$9.14
13		Summer Period 2018 Avg. COG	$0.3975 *							
14		LDAC	$0.0560	$2.46	$1.12	$0.78	$0.78	$0.78	$1.29	$7.22
15		**TOTAL**		$66.30	$41.79	$35.66	$35.66	$35.66	$44.85	**$259.91**
16				May	June	July	August	Sept	October	Summer
17		Typical Usage: therms		44	20	14	14	14	23	129
18	**Summer 2017**									
19	Customer Charge	units @	$21.36	$21.36	$21.36	$21.36	$21.36	$21.36	$21.36	$128.16
20	First	50 units @	$0.5449	$23.98	$10.90	$7.63				$42.50
21	Over	50 units @	$0.5449	$0.00	$0.00	$0.00				$0.00
22	First (1)	50 units @	$0.5678				$7.95	$7.95	$13.06	$28.96
23	Over (1)	50 units @	$0.5678				$0.00	$0.00	$0.00	$0.00
24		COG 1	$0.4055	$17.84						$17.84
25		COG 2	$0.4055		$8.11					$8.11
26		COG 3	$0.4055			$5.68				$5.68
27		COG 4	$0.4055				$5.68			$5.68
28		COG 5	$0.4055					$5.68		$5.68
29		COG 6	$0.4055						$9.33	$9.33
30		Summer Period 2017 Avg. COG	$0.4055 *							
31		LDAC	$0.0489	$2.15	$0.98	$0.68	$0.68	$0.68	$1.12	$6.31
32		**TOTAL**		$65.33	$41.35	$35.35	$35.67	$35.67	$44.87	**$258.24**
33		**Change**		$0.97	$0.44	$0.31	-$0.01	-$0.01	-$0.02	**$1.67**
34		**% Chg**		1.48%	1.06%	0.87%	-0.04%	-0.04%	-0.05%	**0.65%**

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

(1) Temporary rate delivery charge of $0.0229 per therm shall be billed to all customers per Order No. 26,043 in Docket No. DG 17-070

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical G-40 Commercial & Industrial Bill - 255 therms/Summer

Comparison of Summer 2018 vs. Summer 2017

#				May	June	July	August	Sept	October	Summer
1				May	June	July	August	Sept	October	Summer
2	Typical Usage: therms(*)			98	38	22	24	24	49	255
3	**Summer 2018**									
4	Customer Charge	units @	$67.45	$67.45	$67.45	$67.45	$67.45	$67.45	$67.45	$404.70
5	First	75 units @	$0.1844	$13.83	$7.01	$4.06	$4.43	$4.43	$9.04	$42.78
6	Over	75 units @	$0.1844	$4.24	$0.00	$0.00	$0.00	$0.00	$0.00	$4.24
7		COG 1	$0.4254	$41.69						$41.69
8		COG 2	$0.4254		$16.17					$16.17
9		COG 3	$0.4254			$9.36				$9.36
10		COG 4	$0.4254				$10.21			$10.21
11		COG 5	$0.4254					$10.21		$10.21
12		COG 6	$0.4254						$20.84	$20.84
13	Summer Period 2018 Avg. COG		$0.4254 *							
14		LDAC	$0.0293	$2.87	$1.11	$0.64	$0.70	$0.70	$1.44	$7.47
15		**TOTAL**		$130.08	$91.74	$81.51	$82.79	$82.79	$98.77	$567.67
16				May	June	July	August	Sept	October	Summer
17	Typical Usage: therms			98	38	22	24	24	49	255
18	**Summer 2017**									
19	Customer Charge	units @	$67.45	$67.45	$67.45	$67.45	$67.45	$67.45	$67.45	$404.70
20	First	75 units @	$0.1615	$12.11	$6.14	$3.55				$21.80
21	Over	75 units @	$0.1615	$3.71	$0.00	$0.00				$3.71
22	First(1)	75 units @	$0.1844				$4.43	$4.43	$9.04	$17.89
23	Over (1)	75 units @	$0.1844				$0.00	$0.00	$0.00	$0.00
24		COG 1	$0.4465	$43.76						$43.76
25		COG 2	$0.4465		$16.97					$16.97
26		COG 3	$0.4465			$9.82				$9.82
27		COG 4	$0.4465				$10.72			$10.72
28		COG 5	$0.4465					$10.72		$10.72
29		COG 6	$0.4465						$21.88	$21.88
30	Summer Period 2017 Avg. COG		$0.4465 *							
31		LDAC	$0.0223	$2.19	$0.85	$0.49	$0.54	$0.54	$1.09	$5.69
32		**TOTAL**		$129.22	$91.40	$81.32	$83.13	$83.13	$99.46	$567.65
33		**Change**		$0.86	$0.33	$0.19	-$0.34	-$0.34	-$0.69	$0.02
34		**% Chg**		0.67%	0.37%	0.24%	-0.41%	-0.41%	-0.69%	0.00%

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

(1) Temporary rate delivery charge of $0.0229 per therm shall be billed to all customers per Order No. 26,043 in Docket No. DG 17-0

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical G-41 Commercial & Industrial Bill - 3,147 therms/Summer

Comparison of Summer 2018 vs. Summer 2017

				May	June	July	August	Sept	October	Summer
1				**May**	**June**	**July**	**August**	**Sept**	**October**	**Summer**
2	Typical Usage: therms(1)			1,063	505	29	377	404	769	3,147
3	**Summer 2018**									
4	Customer Charge	units @	$196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$1,180.38
5	All	units @	$0.1851	$196.76	$93.48	$5.37	$69.78	$74.78	$142.34	$582.51
6		COG 1	$0.4254	$452.20						$452.20
7		COG 2	$0.4254		$214.83					$214.83
8		COG 3	$0.4254			$12.34				$12.34
9		COG 4	$0.4254				$160.38			$160.38
10		COG 5	$0.4254					$171.86		$171.86
11		COG 6	$0.4254						$327.13	$327.13
12	Summer Period 2018 Avg. COG		$0.4254 *							
13		LDAC	$0.0293	$31.15	$14.80	$0.85	$11.05	$11.84	$22.53	$92.21
14		**TOTAL**		$876.84	$519.83	$215.28	$437.93	$455.21	$688.74	**$3,193.83**
15				**May**	**June**	**July**	**August**	**Sept**	**October**	**Summer**
16	Typical Usage: therms			1,063	505	29	377	404	769	3,147
17	**Summer 2017**									
18	Customer Charge	units @	$196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$1,180.38
19	All	units @	$0.1622	$172.42	$81.91	$4.70				$259.03
20	All (1)	units @	$0.1851				$69.78	$74.78	$142.34	$286.91
21		COG 1	$0.4465	$474.63						$474.63
22		COG 2	$0.4465		$225.48					$225.48
23		COG 3	$0.4465			$12.95				$12.95
24		COG 4	$0.4465				$168.33			$168.33
25		COG 5	$0.4465					$180.39		$180.39
26		COG 6	$0.4465						$343.36	$343.36
27	Summer Period 2017 Avg. COG		$0.4465 *							
28		LDAC	$0.0296	$31.46	$14.95	$0.86	$11.16	$11.96	$22.76	$93.15
29		**TOTAL**		$875.24	$519.07	$215.24	$446.00	$463.85	$705.19	**$3,224.61**
30		**Change**		$1.59	$0.76	$0.04	-$8.07	-$8.65	-$16.46	**-$30.77**
31		**% Chg**		0.18%	0.15%	0.02%	-1.81%	-1.86%	-2.33%	**-0.95%**

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

(1) Temporary rate delivery charge of $0.0229 per therm shall be billed to all customers per Order No. 26,043 in Docket No. DG 17·

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical G-51 Commercial & Industrial Bill - 7,205 therms/Summer

Comparison of Summer 2018 vs. Summer 2017

1				May	June	July	August	Sept	October	Summer
2		Typical Usage: therms(1)		1,352	1,212	1,005	1,298	1,120	1,218	7,205
3	**Summer 2018**									
4	Customer Charge	units @	$196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$1,180.38
5	First 1,000	units @	$0.1412	$141.20	$141.20	$141.20	$141.20	$141.20	$141.20	$847.20
6	Over 1,000	units @	$0.1187	$41.78	$25.16	$0.59	$35.37	$14.24	$25.88	$143.03
7		COG 1	$0.3543	$479.01						$479.01
8		COG 2	$0.3543		$429.41					$429.41
9		COG 3	$0.3543			$356.07				$356.07
10		COG 4	$0.3543				$459.88			$459.88
11		COG 5	$0.3543					$396.82		$396.82
12		COG 6	$0.3543						$431.54	$431.54
13		Summer Period 2018 Avg. COG	$0.3543 *							
14		LDAC	$0.0293	$39.61	$35.51	$29.45	$38.03	$32.82	$35.69	$211.11
15		**TOTAL**		$898.34	$828.02	$724.04	$871.22	$781.81	$831.03	$4,934.45
16				May	June	July	August	Sept	October	Summer
17		Typical Usage: therms		1,352	1,212	1,005	1,298	1,120	1,218	7,205
18	**Summer 2017**									
19	Customer Charge	units @	$196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$196.73	$1,180.38
20	First 1,000	units @	$0.1183	$118.30	$118.30	$118.30		$118.30	$118.30	$591.50
21	Over 1,000	units @	$0.0958	$33.72	$20.31	$0.48				$54.51
22	First(1) 1,000	units @	$0.1412				$141.20	$141.20	$141.20	$423.60
23	Over(1) 1,000	units @	$0.1187				$35.37	$14.24	$25.88	$75.49
24		COG 1	$0.3589	$485.23						$485.23
25		COG 2	$0.3589		$434.99					$434.99
26		COG 3	$0.3589			$360.69				$360.69
27		COG 4	$0.3589				$465.85			$465.85
28		COG 5	$0.3589					$401.97		$401.97
29		COG 6	$0.3589						$437.14	$437.14
30		Summer Period 2017 Avg. COG	$0.3589 *							
31		LDAC	$0.0296	$40.02	$35.88	$29.75	$38.42	$33.15	$36.05	$213.27
32		**TOTAL**		$874.00	$806.20	$705.95	$877.58	$905.59	$955.30	**$5,124.63**
33		**Change**		$24.34	$21.82	$18.09	-$6.36	-$123.79	-$124.27	**-$190.17**
34		**% Chg**		2.78%	2.71%	2.56%	-0.72%	-13.67%	-13.01%	**-3.71%**

*-Note- Wei *-Note- Weighted by usage.

(1) Temporary rate delivery charge of $0.0229 per therm shall be billed to all customers per Order No. 26,043 in Docket No. DG 17-070

NORTHERN UTILITIES, INC. -- NEW HAMPSHIRE DIVISION

Impact of Rate Changes on Residential Heating Bills by Usage Level

Forecast Summer 2018 vs. Actual Summer 2017

Residential Heating	Summer 2017	Summer 2018
Customer Charge	$21.36	$21.36
First 50 Therms	$0.5564	$0.5678
Over 50 therms	$0.5449	$0.5678
LDAC	$0.0489	$0.0560
CGA	$0.4055	$0.3975

	Usage (Therms)	Summer 2016 Bill Amount	Summer 2017 Bill Amount	Total Bill		Base Rate		COG		LDAC	
	5	$26.41	$26.47	$0.05	0.2%	$0.06	0.2%	($0.04)	-0.2%	$0.04	0.2%
	10	$31.47	$31.57	$0.11	0.3%	$0.11	0.3%	($0.08)	-0.3%	$0.07	0.2%
	20	$41.58	$41.79	$0.21	0.5%	$0.23	0.6%	($0.16)	-0.4%	$0.14	0.3%
Average Monthly	25	$46.63	$46.89	$0.26	0.6%	$0.29	0.6%	($0.20)	-0.4%	$0.18	0.4%
	30	$51.68	$52.00	$0.32	0.6%	$0.34	0.7%	($0.24)	-0.5%	$0.21	0.4%
	45	$66.84	$67.32	$0.47	0.7%	$0.52	0.8%	($0.36)	-0.5%	$0.32	0.5%
	50	$71.90	$72.43	$0.53	0.7%	$0.57	0.8%	($0.40)	-0.6%	$0.36	0.5%
	75	$96.88	$97.96	$1.08	1.1%	$1.14	1.2%	($0.60)	-0.6%	$0.53	0.5%
	125	$146.85	$149.02	$2.18	1.5%	$2.29	1.6%	($1.00)	-0.7%	$0.89	0.6%
	150	$171.83	$174.56	$2.73	1.6%	$2.86	1.7%	($1.20)	-0.7%	$1.07	0.6%
	200	$221.79	$225.62	$3.83	1.7%	$4.00	1.8%	($1.60)	-0.7%	$1.42	0.6%

Northern Utilities New Hampshire Division
Cost of Gas Rate Comparison

Proposed Rates	2016-2017 Cost of Gas Rates						Average	Variance
November 2017 - April 2018	Nov-16	Dec-16	Jan-18	Feb-17	Mar-17	Apr-17	Winter 17-18	
$0.7103	$0.7558	$0.7315	$0.7709	$0.6634	$0.8286	$0.8286	$0.7631	($0.0528)
May 2018 through October 2018	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Summer 2018	
$0.3975	$0.4055	$0.4055	$0.4055	$0.4055	$0.4055	$0.4055	$0.4055	($0.0080)

Northern Utilities - NEW HAMPSHIRE DIVISION
Allocation of Demand Costs to Customer Classes

Base Capacity Costs

BASE SENDOUT BY CLASS	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	SUMMER
Total Therms															
Res Heat	402,879	416,308	416,308	376,020	416,308	402,879	416,308	402,879	415,194	416,308	402,879	416,308	4,900,577	2,430,701	2,469,875
Res General	9,756	10,081	10,081	9,106	10,081	9,756	10,081	9,756	10,054	10,081	9,756	10,081	118,674	58,863	59,811
G50 Low Annual-Low Winter	78,040	80,642	80,642	72,838	80,642	75,870	80,642	78,040	80,426	80,642	78,040	80,642	947,104	468,673	478,431
G40 Low Annual-High Winter	134,974	139,474	139,474	125,976	139,474	134,974	139,474	134,974	139,100	139,474	134,974	139,474	1,641,816	814,346	827,470
G51 Med Annual-Low Winter	106,137	109,675	109,675	99,061	109,675	106,137	109,675	106,137	109,381	109,675	106,137	109,675	1,291,037	640,359	650,679
G41 Med Annual-High Winter	151,134	156,171	156,171	141,058	156,171	151,134	156,171	151,134	155,753	156,171	151,134	156,171	1,838,374	911,839	926,535
G52 High Annual-Low Winter	29,269	30,244	30,244	27,317	30,244	24,290	30,244	29,269	30,163	30,244	29,269	30,244	351,042	171,608	179,434
G42 High Annual-High Winter	43,327	44,772	44,772	40,439	44,772	43,327	44,772	43,327	44,652	44,772	43,327	44,772	527,031	261,409	265,622
Total Firm Sales	955,516	987,367	987,367	891,815	987,367	948,367	987,367	955,516	984,725	987,367	955,516	987,367	11,615,656	5,757,798	5,857,857
% of Total															
Res Heat	42.16%	42.16%	42.16%	42.16%	42.16%	42.48%	42.16%	42.16%	42.16%	42.16%	42.16%	42.16%			
Res General	1.02%	1.02%	1.02%	1.02%	1.02%	1.03%	1.02%	1.02%	1.02%	1.02%	1.02%	1.02%			
G50 Low Annual-Low Winter	8.17%	8.17%	8.17%	8.17%	8.17%	8.00%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%			
G40 Low Annual-High Winter	14.13%	14.13%	14.13%	14.13%	14.13%	14.23%	14.13%	14.13%	14.13%	14.13%	14.13%	14.13%			
G51 Med Annual-Low Winter	11.11%	11.11%	11.11%	11.11%	11.11%	11.19%	11.11%	11.11%	11.11%	11.11%	11.11%	11.11%			
G41 Med Annual-High Winter	15.82%	15.82%	15.82%	15.82%	15.82%	15.94%	15.82%	15.82%	15.82%	15.82%	15.82%	15.82%			
G52 High Annual-Low Winter	3.06%	3.06%	3.06%	3.06%	3.06%	2.56%	3.06%	3.06%	3.06%	3.06%	3.06%	3.06%			
G42 High Annual-High Winter	4.53%	4.53%	4.53%	4.53%	4.53%	4.57%	4.53%	4.53%	4.53%	4.53%	4.53%	4.53%			
Total Firm Sales	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%			

PIPELINE BASE DEMAND COSTS	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	SUMMER
TOTAL PIPELINE BASE DEMAND COST	$ 83,146	$ 81,792	$ 78,995	$ 81,040	$ 82,135	$ 83,628	$ 84,500	$ 84,500	$ 84,500	$ 84,500	$ 84,500	$ 84,500	$ 997,735	$ 490,736	$ 507,000
Res Heat	$ 35,057	$ 34,487	$ 33,307	$ 34,169	$ 34,631	$ 35,526	$ 35,628	$ 35,628	$ 35,628	$ 35,628	$ 35,628	$ 35,628	$ 420,946	$ 207,177	$ 213,769
Res General	$ 849	$ 835	$ 807	$ 827	$ 839	$ 860	$ 863	$ 863	$ 863	$ 863	$ 863	$ 863	$ 10,194	$ 5,017	$ 5,177
G50 Low Annual-Low Winter	$ 6,791	$ 6,680	$ 6,452	$ 6,619	$ 6,708	$ 6,690	$ 6,901	$ 6,901	$ 6,901	$ 6,901	$ 6,901	$ 6,901	$ 81,349	$ 39,940	$ 41,408
G40 Low Annual-High Winter	$ 11,745	$ 11,554	$ 11,159	$ 11,448	$ 11,602	$ 11,902	$ 11,936	$ 11,936	$ 11,936	$ 11,936	$ 11,936	$ 11,936	$ 141,027	$ 69,409	$ 71,618
G51 Med Annual-Low Winter	$ 9,236	$ 9,085	$ 8,775	$ 9,002	$ 9,123	$ 9,359	$ 9,386	$ 9,386	$ 9,386	$ 9,386	$ 9,386	$ 9,386	$ 110,896	$ 54,580	$ 56,316
G41 Med Annual-High Winter	$ 13,151	$ 12,937	$ 12,495	$ 12,818	$ 12,991	$ 13,327	$ 13,365	$ 13,365	$ 13,365	$ 13,365	$ 13,365	$ 13,365	$ 157,911	$ 77,719	$ 80,192
G52 High Annual-Low Winter	$ 2,547	$ 2,505	$ 2,420	$ 2,482	$ 2,516	$ 2,142	$ 2,588	$ 2,588	$ 2,588	$ 2,588	$ 2,588	$ 2,588	$ 30,142	$ 14,612	$ 15,530
G42 High Annual-High Winter	$ 3,770	$ 3,709	$ 3,582	$ 3,675	$ 3,724	$ 3,821	$ 3,832	$ 3,832	$ 3,832	$ 3,832	$ 3,832	$ 3,832	$ 45,270	$ 22,281	$ 22,990
Residential	$ 35,906	$ 35,322	$ 34,113	$ 34,997	$ 35,469	$ 36,386	$ 36,491	$ 36,491	$ 36,491	$ 36,491	$ 36,491	$ 36,491	$ 431,139	$ 212,194	$ 218,945
SALES HLF CLASSES	$ 18,573	$ 18,271	$ 17,646	$ 18,103	$ 18,347	$ 18,191	$ 18,876	$ 18,876	$ 18,876	$ 18,876	$ 18,876	$ 18,876	$ 222,387	$ 109,132	$ 113,255
SALES LLF CLASSES	$ 28,667	$ 28,200	$ 27,235	$ 27,940	$ 28,318	$ 29,050	$ 29,133	$ 29,133	$ 29,133	$ 29,133	$ 29,133	$ 29,133	$ 344,209	$ 169,409	$ 174,799

Northern Utilities - NEW HAMPSHIRE
Allocation of Demand Costs to Custo

Base Capacity Costs

1	**BASE SENDOUT BY CLASS**	
2	**Total Therms**	
3	Res Heat	Schedule 10B, LN 52
4	Res General	Schedule 10B, LN 53
5	G50 Low Annual-Low Winter	Schedule 10B, LN 54
6	G40 Low Annual-High Winter	Schedule 10B, LN 55
7	G51 Med Annual-Low Winter	Schedule 10B, LN 56
8	G41 Med Annual-High Winter	Schedule 10B, LN 57
9	G52 High Annual-Low Winter	Schedule 10B, LN 58
10	G42 High Annual-High Winter	Schedule 10B, LN 59
11	Total Firm Sales	Sum LN 3 : LN 10
12		
13	**% of Total**	
14	Res Heat	LN 3 / LN 11
15	Res General	LN 4 / LN 11
16	G50 Low Annual-Low Winter	LN 5 / LN 11
17	G40 Low Annual-High Winter	LN 6 / LN 11
18	G51 Med Annual-Low Winter	LN 7 / LN 11
19	G41 Med Annual-High Winter	LN 8 / LN 11
20	G52 High Annual-Low Winter	LN 9 / LN 11
21	G42 High Annual-High Winter	LN 10 / LN 11
22	Total Firm Sales	LN 11 / LN 11
23		
24	**PIPELINE BASE DEMAND COSTS**	
25	TOTAL PIPELINE BASE DEMAND COST	Schedule 1A, LN 69 - Schedule 1A, LN 80
26	Res Heat	LN 25 * LN 14
27	Res General	LN 25 * LN 15
28	G50 Low Annual-Low Winter	LN 25 * LN 16
29	G40 Low Annual-High Winter	LN 25 * LN 17
30	G51 Med Annual-Low Winter	LN 25 * LN 18
31	G41 Med Annual-High Winter	LN 25 * LN 19
32	G52 High Annual-Low Winter	LN 25 * LN 20
33	G42 High Annual-High Winter	LN 25 * LN 21
34		
35	Residential	LN 26 + LN 27
36	SALES HLF CLASSES	LN 28 + LN 30 + LN 32
37	SALES LLF CLASSES	LN 29 + LN 31 + LN 33
38		

Remaining Capacity Costs

	Column A	Column B	Column C	Column D
	Design Day Demand (MMBtu)	Avg Daily Base Use Load (MMBtu)	Remaining Design Day Demand (MMBtu)	% of Total Remaining Design Day Demand
Res Heat	23,009	1,343	21,666	54.26%
Res General	208	33	176	0.44%
G50 Low Annual-Low Winter	634	260	373	0.94%
G40 Low Annual-High Winter	9,095	450	8,645	21.65%
G51 Med Annual-Low Winter	972	354	618	1.55%
G41 Med Annual-High Winter	7,413	504	6,910	17.30%
G52 High Annual-Low Winter	218	98	120	0.30%
G42 High Annual-High Winter	1,568	144	1,424	3.57%
TOTAL	43,117	3,185	39,932	100.00%

REMAINING PIPELINE DEMAND

	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	SUMMER
NH DIVISION TOTAL - REMAINING PIPELINE	$ 179,765	$ 373,866	$ 774,976	$ 481,747	$ 324,809	$ 110,761	$ 26,049	$ 6,104	$ -	$ 79	$ 2,744	$ 50,789	$ 2,331,689	$ 2,245,924	$ 85,766
Res Heat	$ 97,538	$ 202,854	$ 420,490	$ 261,389	$ 176,236	$ 60,097	$ 14,134	$ 3,312	$ -	$ 43	$ 1,489	$ 27,557	$ 1,265,139	$ 1,218,604	$ 46,535
Res General	$ 790	$ 1,643	$ 3,406	$ 2,117	$ 1,428	$ 487	$ 114	$ 27	$ -	$ 0	$ 12	$ 223	$ 10,248	$ 9,871	$ 377
G50 Low Annual-Low Winter	$ 1,681	$ 3,496	$ 7,247	$ 4,505	$ 3,037	$ 1,036	$ 244	$ 57	$ -	$ 1	$ 26	$ 475	$ 21,804	$ 21,002	$ 802
G40 Low Annual-High Winter	$ 38,918	$ 80,939	$ 167,776	$ 104,294	$ 70,318	$ 23,979	$ 5,639	$ 1,321	$ -	$ 17	$ 594	$ 10,995	$ 504,791	$ 486,224	$ 18,568
G51 Med Annual-Low Winter	$ 2,782	$ 5,786	$ 11,994	$ 7,456	$ 5,027	$ 1,714	$ 403	$ 94	$ -	$ 1	$ 42	$ 786	$ 36,085	$ 34,758	$ 1,327
G41 Med Annual-High Winter	$ 31,105	$ 64,691	$ 134,097	$ 83,358	$ 56,203	$ 19,165	$ 4,507	$ 1,056	$ -	$ 14	$ 475	$ 8,788	$ 403,460	$ 388,620	$ 14,840
G52 High Annual-Low Winter	$ 541	$ 1,125	$ 2,331	$ 1,449	$ 977	$ 333	$ 78	$ 18	$ -	$ 0	$ 8	$ 153	$ 7,014	$ 6,756	$ 258
G42 High Annual-High Winter	$ 6,410	$ 13,332	$ 27,635	$ 17,179	$ 11,583	$ 3,950	$ 929	$ 218	$ -	$ 3	$ 98	$ 1,811	$ 83,147	$ 80,089	$ 3,058
TOTAL	$ 179,765	$ 373,866	$ 774,976	$ 481,747	$ 324,809	$ 110,761	$ 26,049	$ 6,104	$ -	$ 79	$ 2,744	$ 50,789	$ 2,331,689	$ 2,245,924	$ 85,766
Residential	$ 98,328	$ 204,497	$ 423,896	$ 263,506	$ 177,664	$ 60,584	$ 14,249	$ 3,339	$ -	$ 43	$ 1,501	$ 27,781	$ 1,275,388	$ 1,228,475	$ 46,912
SALES HLF CLASSES	$ 5,004	$ 10,407	$ 21,572	$ 13,410	$ 9,041	$ 3,083	$ 725	$ 170	$ -	$ 2	$ 76	$ 1,414	$ 64,903	$ 62,516	$ 2,387
SALES LLF CLASSES	$ 76,433	$ 158,962	$ 329,508	$ 204,831	$ 138,104	$ 47,094	$ 11,076	$ 2,595	$ -	$ 34	$ 1,167	$ 21,595	$ 991,399	$ 954,932	$ 36,466

PEAKING AND STORAGE DEMAND BY CLASS

	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	SUMMER
NH DIVISION TOTAL - PEAKING & STORAGE	$ 662,390	$ 1,386,684	$ 2,883,436	$ 1,789,244	$ 1,203,625	$ 404,900	$ 112,529	$ 26,369	$ -	$ 341	$ 11,854	$ 219,400	$ 8,700,771	$ 8,330,279	$ 370,493
Res Heat	$ 359,403	$ 752,394	$ 1,564,509	$ 970,817	$ 653,069	$ 219,693	$ 61,056	$ 14,307	$ -	$ 185	$ 6,432	$ 119,043	$ 4,720,907	$ 4,519,883	$ 201,024
Res General	$ 2,911	$ 6,095	$ 12,673	$ 7,864	$ 5,290	$ 1,780	$ 495	$ 116	$ -	$ 1	$ 52	$ 964	$ 38,242	$ 36,613	$ 1,628
G50 Low Annual-Low Winter	$ 6,194	$ 12,967	$ 26,963	$ 16,731	$ 11,255	$ 3,786	$ 1,052	$ 247	$ -	$ 3	$ 111	$ 2,052	$ 81,362	$ 77,897	$ 3,465
G40 Low Annual-High Winter	$ 143,402	$ 300,205	$ 624,240	$ 387,356	$ 260,575	$ 87,657	$ 24,362	$ 5,709	$ -	$ 74	$ 2,566	$ 47,498	$ 1,883,645	$ 1,803,436	$ 80,209
G51 Med Annual-Low Winter	$ 10,251	$ 21,460	$ 44,624	$ 27,690	$ 18,627	$ 6,266	$ 1,741	$ 408	$ -	$ 5	$ 183	$ 3,395	$ 134,653	$ 128,919	$ 5,734
G41 Med Annual-High Winter	$ 114,616	$ 239,943	$ 498,931	$ 309,599	$ 208,267	$ 70,061	$ 19,471	$ 4,563	$ -	$ 59	$ 2,051	$ 37,964	$ 1,505,525	$ 1,441,418	$ 64,108
G52 High Annual-Low Winter	$ 1,993	$ 4,171	$ 8,674	$ 5,382	$ 3,621	$ 1,218	$ 339	$ 79	$ -	$ 1	$ 36	$ 660	$ 26,173	$ 25,059	$ 1,114
G42 High Annual-High Winter	$ 23,620	$ 49,448	$ 102,822	$ 63,804	$ 42,921	$ 14,439	$ 4,013	$ 940	$ -	$ 12	$ 423	$ 7,824	$ 310,265	$ 297,054	$ 13,212
TOTAL	$ 662,390	$ 1,386,684	$ 2,883,436	$ 1,789,244	$ 1,203,625	$ 404,900	$ 112,529	$ 26,369	$ -	$ 341	$ 11,854	$ 219,400	$ 8,700,771	$ 8,330,279	$ 370,493
Residential	$ 362,314	$ 758,488	$ 1,577,182	$ 978,681	$ 658,359	$ 221,472	$ 61,551	$ 14,423	$ -	$ 187	$ 6,484	$ 120,007	$ 4,759,149	$ 4,556,496	$ 202,652
SALES HLF CLASSES	$ 18,438	$ 38,599	$ 80,261	$ 49,804	$ 33,503	$ 11,270	$ 3,132	$ 734	$ -	$ 9	$ 330	$ 6,107	$ 242,188	$ 231,875	$ 10,313
SALES LLF CLASSES	$ 281,638	$ 589,597	$ 1,225,993	$ 760,759	$ 511,763	$ 172,157	$ 47,846	$ 11,212	$ -	$ 145	$ 5,040	$ 93,286	$ 3,699,435	$ 3,541,907	$ 157,528

Remaining Capacity Costs

39		
40	Res Heat	Company Analysis
41	Res General	Company Analysis
42	G50 Low Annual-Low Winter	Company Analysis
43	G40 Low Annual-High Winter	Company Analysis
44	G51 Med Annual-Low Winter	Company Analysis
45	G41 Med Annual-High Winter	Company Analysis
46	G52 High Annual-Low Winter	Company Analysis
47	G42 High Annual-High Winter	Company Analysis
48	TOTAL	Sum LN 40 : LN 47
49		
50	**REMAINING PIPELINE DEMAND**	
51		
52	NH DIVISION TOTAL - REMAINING PIPELINE	Schedule 1A, LN 70
53		
54	Res Heat	LN 40 Col D * LN 52
55	Res General	LN 41 Col D * LN 52
56	G50 Low Annual-Low Winter	LN 42 Col D * LN 52
57	G40 Low Annual-High Winter	LN 43 Col D * LN 52
58	G51 Med Annual-Low Winter	LN 44 Col D * LN 52
59	G41 Med Annual-High Winter	LN 45 Col D * LN 52
60	G52 High Annual-Low Winter	LN 46 Col D * LN 52
61	G42 High Annual-High Winter	LN 47 Col D * LN 52
62	TOTAL	Sum LN 54 : LN 61
63		
64	Residential	LN 54 + LN 55
65	SALES HLF CLASSES	LN 56 + LN 58 + LN 60
66	SALES LLF CLASSES	LN 57 + LN 59 + LN 61
67		
68	**PEAKING AND STORAGE DEMAND BY CLAS!**	
69		
70	NH DIVISION TOTAL - PEAKING & STORAGE	Schedule 1A, LN 73 - Schedule 1A, LN 79
71		
72	Res Heat	LN 40 Col D * LN 70
73	Res General	LN 41 Col D * LN 70
74	G50 Low Annual-Low Winter	LN 42 Col D * LN 70
75	G40 Low Annual-High Winter	LN 43 Col D * LN 70
76	G51 Med Annual-Low Winter	LN 44 Col D * LN 70
77	G41 Med Annual-High Winter	LN 45 Col D * LN 70
78	G52 High Annual-Low Winter	LN 46 Col D * LN 70
79	G42 High Annual-High Winter	LN 47 Col D * LN 70
80	TOTAL	Sum LN 72 : LN 79
81		
82	Residential	LN 72 + LN 73
83	SALES HLF CLASSES	LN 74 + LN 76 + LN 78
84	SALES LLF CLASSES	LN 75 + LN 77 + LN 79
85		

86 **CAPACITY RELEASE MARGINS. ASSET MANAGEMENT CREDIT & OFF-SYSTEM PEAKING ADJUSTMENTS BY CLASS**

#		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	SUMMER
87																
88	NH DIVISION - MONTHLY CAP. RELEASE	$ (161,357)	$ (322,749)	$ (656,264)	$ (412,450)	$ (281,958)	$ (103,982)	$ -	$ -	$ -	$ -	$ -	$ -	$ (1,938,760)	$ (1,938,760)	$ -
89																
90	Res Heat	$ (87,550)	$ (175,119)	$ (356,079)	$ (223,789)	$ (152,986)	$ (56,419)	$ -	$ -	$ -	$ -	$ -	$ -	$ (1,051,942)	$ (1,051,942)	$ -
91	Res General	$ (709)	$ (1,419)	$ (2,884)	$ (1,813)	$ (1,239)	$ (457)	$ -	$ -	$ -	$ -	$ -	$ -	$ (8,521)	$ (8,521)	$ -
92	G50 Low Annual-Low Winter	$ (1,509)	$ (3,018)	$ (6,137)	$ (3,857)	$ (2,637)	$ (972)	$ -	$ -	$ -	$ -	$ -	$ -	$ (18,129)	$ (18,129)	$ -
93	G40 Low Annual-High Winter	$ (34,932)	$ (69,872)	$ (142,076)	$ (89,292)	$ (61,042)	$ (22,511)	$ -	$ -	$ -	$ -	$ -	$ -	$ (419,725)	$ (419,725)	$ -
94	G51 Med Annual-Low Winter	$ (2,497)	$ (4,995)	$ (10,156)	$ (6,383)	$ (4,364)	$ (1,609)	$ -	$ -	$ -	$ -	$ -	$ -	$ (30,004)	$ (30,004)	$ -
95	G41 Med Annual-High Winter	$ (27,920)	$ (55,846)	$ (113,556)	$ (71,368)	$ (48,788)	$ (17,992)	$ -	$ -	$ -	$ -	$ -	$ -	$ (335,470)	$ (335,470)	$ -
96	G52 High Annual-Low Winter	$ (485)	$ (971)	$ (1,974)	$ (1,241)	$ (848)	$ (313)	$ -	$ -	$ -	$ -	$ -	$ -	$ (5,832)	$ (5,832)	$ -
97	G42 High Annual-High Winter	$ (5,754)	$ (11,509)	$ (23,402)	$ (14,708)	$ (10,054)	$ (3,708)	$ -	$ -	$ -	$ -	$ -	$ -	$ (69,135)	$ (69,135)	$ -
98	TOTAL	$ (161,357)	$ (322,749)	$ (656,264)	$ (412,450)	$ (281,958)	$ (103,982)	$ -	$ -	$ -	$ -	$ -	$ -	$ (1,938,760)	$ (1,938,760)	$ -
99																
100	Residential	$ (88,259)	$ (176,537)	$ (358,964)	$ (225,602)	$ (154,226)	$ (56,876)	$ -	$ -	$ -	$ -	$ -	$ -	$ (1,060,463)	$ (1,060,463)	$ -
101	SALES HLF CLASSES	$ (4,491)	$ (8,984)	$ (18,267)	$ (11,481)	$ (7,848)	$ (2,894)	$ -	$ -	$ -	$ -	$ -	$ -	$ (53,966)	$ (53,966)	$ -
102	SALES LLF CLASSES	$ (68,607)	$ (137,228)	$ (279,034)	$ (175,367)	$ (119,884)	$ (44,211)	$ -	$ -	$ -	$ -	$ -	$ -	$ (824,331)	$ (824,331)	$ -

103

104 **INTERRUPTIBLE MARGINS BY CLASS**

#		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	SUMMER
105																
106	NH DIVISION - MONTHLY INTERR MARGINS	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
107																
108	Res Heat	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
109	Res General	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
110	G50 Low Annual-Low Winter	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
111	G40 Low Annual-High Winter	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
112	G51 Med Annual-Low Winter	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
113	G41 Med Annual-High Winter	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
114	G52 High Annual-Low Winter	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
115	G42 High Annual-High Winter	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
116	TOTAL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
117																
118	Residential	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
119	SALES HLF CLASSES	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
120	SALES LLF CLASSES	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

121

86	**CAPACITY RELEASE MARGINS. ASSET MAN**	
87		
88	NH DIVISION - MONTHLY CAP. RELEASE	Schedule 1A, LN 76 + Schedule 1A, LN 81
89		
90	Res Heat	LN 40 Col D * LN 88
91	Res General	LN 41 Col D * LN 88
92	G50 Low Annual-Low Winter	LN 42 Col D * LN 88
93	G40 Low Annual-High Winter	LN 43 Col D * LN 88
94	G51 Med Annual-Low Winter	LN 44 Col D * LN 88
95	G41 Med Annual-High Winter	LN 45 Col D * LN 88
96	G52 High Annual-Low Winter	LN 46 Col D * LN 88
97	G42 High Annual-High Winter	LN 47 Col D * LN 88
98	TOTAL	Sum LN 90 : LN 97
99		
100	Residential	LN 90 + LN 91
101	SALES HLF CLASSES	LN 92 + LN 94 + LN 96
102	SALES LLF CLASSES	LN 93 + LN 95 + LN 97
103		
104	**INTERRUPTIBLE MARGINS BY CLASS**	
105		
106	NH DIVISION - MONTHLY INTERR MARGINS	Schedule 1A, LN 77
107		
108	Res Heat	LN 40 Col D * LN 106
109	Res General	LN 41 Col D * LN 106
110	G50 Low Annual-Low Winter	LN 42 Col D * LN 106
111	G40 Low Annual-High Winter	LN 43 Col D * LN 106
112	G51 Med Annual-Low Winter	LN 44 Col D * LN 106
113	G41 Med Annual-High Winter	LN 45 Col D * LN 106
114	G52 High Annual-Low Winter	LN 46 Col D * LN 106
115	G42 High Annual-High Winter	LN 47 Col D * LN 106
116	TOTAL	Sum LN 108 : LN 115
117		
118	Residential	LN 108 + LN 109
119	SALES HLF CLASSES	LN 110 + LN 112 + LN 114
120	SALES LLF CLASSES	LN 111 + LN 113 + LN 115
121		

122 **REMAINING RE-ENTRY FEE CREDIT**

123		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	SUMMER
124	NH DIVISION - RE-ENTRY FEE CREDITS	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
125																
126	Res Heat	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
127	Res General	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
128	G50 Low Annual-Low Winter	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
129	G40 Low Annual-High Winter	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
130	G51 Med Annual-Low Winter	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
131	G41 Med Annual-High Winter	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
132	G52 High Annual-Low Winter	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
133	G42 High Annual-High Winter	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
134	TOTAL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
135																
136	Residential	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
137	SALES HLF CLASSES	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
138	SALES LLF CLASSES	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

139

140 **TOTAL NON-BASE CAPACITY COSTS**

141		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	SUMMER
142	Res Heat	$ 369,391	$ 780,129	$ 1,628,920	$ 1,008,416	$ 676,319	$ 223,371	$ 75,191	$ 17,619	$ -	$ 228	$ 7,921	$ 146,601	$ 4,934,105	$ 4,686,546	$ 247,559
143	Res General	$ 2,992	$ 6,319	$ 13,195	$ 8,169	$ 5,478	$ 1,809	$ 609	$ 143	$ -	$ 2	$ 64	$ 1,188	$ 39,969	$ 37,963	$ 2,005
144	G50 Low Annual-Low Winter	$ 6,366	$ 13,445	$ 28,073	$ 17,379	$ 11,656	$ 3,850	$ 1,296	$ 304	$ -	$ 4	$ 137	$ 2,527	$ 85,036	$ 80,769	$ 4,267
145	G40 Low Annual-High Winter	$ 147,387	$ 311,272	$ 649,940	$ 402,359	$ 269,851	$ 89,125	$ 30,001	$ 7,030	$ -	$ 91	$ 3,160	$ 58,494	$ 1,968,711	$ 1,869,934	$ 98,776
146	G51 Med Annual-Low Winter	$ 10,536	$ 22,251	$ 46,461	$ 28,763	$ 19,290	$ 6,371	$ 2,145	$ 503	$ -	$ 7	$ 226	$ 4,181	$ 140,734	$ 133,673	$ 7,061
147	G41 Med Annual-High Winter	$ 117,801	$ 248,788	$ 519,472	$ 321,590	$ 215,682	$ 71,234	$ 23,979	$ 5,619	$ -	$ 73	$ 2,526	$ 46,752	$ 1,573,515	$ 1,494,567	$ 78,948
148	G52 High Annual-Low Winter	$ 2,048	$ 4,325	$ 9,031	$ 5,591	$ 3,750	$ 1,238	$ 417	$ 98	$ -	$ 1	$ 44	$ 813	$ 27,355	$ 25,983	$ 1,372
149	G42 High Annual-High Winter	$ 24,277	$ 51,271	$ 107,055	$ 66,275	$ 44,449	$ 14,680	$ 4,942	$ 1,158	$ -	$ 15	$ 521	$ 9,635	$ 324,277	$ 308,007	$ 16,270
150	TOTAL	$ 680,798	$ 1,437,801	$ 3,002,147	$ 1,858,541	$ 1,246,475	$ 411,680	$ 138,578	$ 32,473	$ -	$ 420	$ 14,598	$ 270,189	$ 9,093,701	$ 8,637,442	$ 456,258
151																
152	Residential	$ 372,383	$ 786,448	$ 1,642,115	$ 1,016,585	$ 681,797	$ 225,181	$ 75,800	$ 17,762	$ -	$ 230	$ 7,985	$ 147,788	$ 4,974,073	$ 4,724,509	$ 249,564
153	SALES HLF CLASSES	$ 18,950	$ 40,021	$ 83,565	$ 51,733	$ 34,696	$ 11,459	$ 3,857	$ 904	$ -	$ 12	$ 406	$ 7,521	$ 253,125	$ 240,425	$ 12,700
154	SALES LLF CLASSES	$ 289,465	$ 611,331	$ 1,276,467	$ 790,223	$ 529,982	$ 175,040	$ 58,921	$ 13,807	$ -	$ 179	$ 6,207	$ 114,880	$ 3,866,503	$ 3,672,508	$ 193,994

155

156 **TOTAL CAPACITY COSTS**

157		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	SUMMER
158	Res Heat	$ 404,448	$ 814,616	$ 1,662,227	$ 1,042,586	$ 710,949	$ 258,897	$ 110,819	$ 53,247	$ 35,628	$ 35,856	$ 43,549	$ 182,229	$ 5,355,050	$ 4,893,723	$ 461,328
159	Res General	$ 3,841	$ 7,155	$ 14,002	$ 8,996	$ 6,317	$ 2,670	$ 1,472	$ 1,006	$ 863	$ 865	$ 927	$ 2,050	$ 50,162	$ 42,980	$ 7,182
160	G50 Low Annual-Low Winter	$ 13,157	$ 20,125	$ 34,525	$ 23,998	$ 18,364	$ 10,540	$ 8,197	$ 7,205	$ 6,901	$ 6,905	$ 7,038	$ 9,428	$ 166,384	$ 120,710	$ 45,675
161	G40 Low Annual-High Winter	$ 159,132	$ 322,826	$ 661,099	$ 413,806	$ 281,454	$ 101,027	$ 41,937	$ 18,966	$ 11,936	$ 12,027	$ 15,097	$ 70,430	$ 2,109,738	$ 1,939,344	$ 170,394
162	G51 Med Annual-Low Winter	$ 19,772	$ 31,337	$ 55,236	$ 37,764	$ 28,414	$ 15,730	$ 11,531	$ 9,889	$ 9,386	$ 9,393	$ 9,612	$ 13,568	$ 251,630	$ 188,253	$ 63,378
163	G41 Med Annual-High Winter	$ 130,952	$ 261,725	$ 531,967	$ 334,408	$ 228,673	$ 84,561	$ 37,344	$ 18,984	$ 13,365	$ 13,438	$ 15,891	$ 60,117	$ 1,731,426	$ 1,572,286	$ 159,140
164	G52 High Annual-Low Winter	$ 4,595	$ 6,831	$ 11,451	$ 8,073	$ 6,265	$ 3,380	$ 3,005	$ 2,686	$ 2,588	$ 2,590	$ 2,632	$ 3,401	$ 57,497	$ 40,595	$ 16,903
165	G42 High Annual-High Winter	$ 28,047	$ 54,980	$ 110,637	$ 69,949	$ 48,173	$ 18,501	$ 8,773	$ 4,990	$ 3,832	$ 3,847	$ 4,352	$ 13,466	$ 369,547	$ 330,288	$ 39,260
166	TOTAL	$ 763,945	$ 1,519,593	$ 3,081,142	$ 1,939,581	$ 1,328,610	$ 495,307	$ 223,078	$ 116,973	$ 84,500	$ 84,920	$ 99,098	$ 354,689	$ 10,091,436	$ 9,128,178	$ 963,258
167																
168	Residential	$ 408,289	$ 821,770	$ 1,676,228	$ 1,051,582	$ 717,266	$ 261,567	$ 112,290	$ 54,253	$ 36,491	$ 36,721	$ 44,476	$ 184,279	$ 5,405,212	$ 4,936,703	$ 468,510
169	SALES HLF CLASSES	$ 37,524	$ 58,292	$ 101,211	$ 69,836	$ 53,043	$ 29,651	$ 22,733	$ 19,780	$ 18,876	$ 18,888	$ 19,282	$ 26,397	$ 475,512	$ 349,557	$ 125,955
170	SALES LLF CLASSES	$ 318,132	$ 639,531	$ 1,303,702	$ 818,164	$ 558,300	$ 204,090	$ 88,055	$ 42,940	$ 29,133	$ 29,312	$ 35,340	$ 144,014	$ 4,210,711	$ 3,841,918	$ 368,794
171																
172	% ALLOCATION BETWEEN SALES HLF AND LLF															
173	SALES HLF CLASSES														8.34%	25%
174	SALES LLF CLASSES														91.66%	75%

122	**REMAINING RE-ENTRY FEE CREDIT**	
123		
124	NH DIVISION - RE-ENTRY FEE CREDITS	Schedule 1A, LN 78
125		
126	Res Heat	LN 40 Col D * LN 124
127	Res General	LN 41 Col D * LN 124
128	G50 Low Annual-Low Winter	LN 42 Col D * LN 124
129	G40 Low Annual-High Winter	LN 43 Col D * LN 124
130	G51 Med Annual-Low Winter	LN 44 Col D * LN 124
131	G41 Med Annual-High Winter	LN 45 Col D * LN 124
132	G52 High Annual-Low Winter	LN 46 Col D * LN 124
133	G42 High Annual-High Winter	LN 47 Col D * LN 124
134	TOTAL	Sum LN 126 : LN 133
135		
136	Residential	LN 126 + LN 127
137	SALES HLF CLASSES	LN 128 + LN 130 + LN 132
138	SALES LLF CLASSES	LN 129 + LN 131 + LN 133
139		
140	**TOTAL NON-BASE CAPACITY COSTS**	
141		
142	Res Heat	Sum of Ln 54, 72, 90, 108, 126
143	Res General	Sum of Ln 55, 73, 91, 109, 127
144	G50 Low Annual-Low Winter	Sum of Ln 56, 74, 92, 110, 128
145	G40 Low Annual-High Winter	Sum of Ln 57, 75, 93, 111, 129
146	G51 Med Annual-Low Winter	Sum of Ln 58, 76, 94, 112, 130
147	G41 Med Annual-High Winter	Sum of Ln 59, 77, 95, 113, 131
148	G52 High Annual-Low Winter	Sum of Ln 60, 78, 96, 114, 132
149	G42 High Annual-High Winter	Sum of Ln 61, 79, 97, 115, 133
150	TOTAL	Sum LN 142 : LN 149
151		
152	Residential	LN 142 + LN 143
153	SALES HLF CLASSES	LN 144 + LN 146 + LN 148
154	SALES LLF CLASSES	LN 145 + LN 147 + LN 149
155		
156	**TOTAL CAPACITY COSTS**	
157		
158	Res Heat	LN 142 + LN 26
159	Res General	LN 143 + LN 27
160	G50 Low Annual-Low Winter	LN 144 + LN 28
161	G40 Low Annual-High Winter	LN 145 + LN 29
162	G51 Med Annual-Low Winter	LN 146 + LN 30
163	G41 Med Annual-High Winter	LN 147 + LN 31
164	G52 High Annual-Low Winter	LN 148 + LN 32
165	G42 High Annual-High Winter	LN 149 + LN 33
166	TOTAL	Sum LN 158 : LN 165
167		
168	Residential	LN 158 + LN 159
169	SALES HLF CLASSES	LN 160 + LN 162 + LN 164
170	SALES LLF CLASSES	LN 161 + LN 163 + LN 165
171		
172	% ALLOCATION BETWEEN SALES HLF AND L	
173	SALES HLF CLASSES	LN 169 / (LN169 + LN 170)
174	SALES LLF CLASSES	LN 170 / (LN 169 + LN 170)

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Line No.		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	Summer
	Forecasted Normal Sales By Class- Therms															
	Calendar Month Firm Sales Volumes															
	Normal Winter	**Nov-17**	**Dec-17**	**Jan-18**	**Feb-18**	**Mar-18**	**Apr-18**	**May-18**	**Jun-18**	**Jul-18**	**Aug-18**	**Sep-18**	**Oct-18**	**Annual**	**Winter**	**Summer**
1	Res Heat	1,953,773	2,976,504	3,682,045	3,232,039	2,772,501	1,472,264	686,375	471,021	410,028	412,228	432,720	905,712	19,407,209	16,089,126	3,318,083
2	Res General	17,664	26,911	33,290	29,221	25,066	13,311	16,622	11,406	9,929	9,983	10,479	21,933	225,815	145,463	80,352
3	**Total Residential**	**1,971,438**	**3,003,415**	**3,715,334**	**3,261,260**	**2,797,567**	**1,485,575**	**702,997**	**482,427**	**419,957**	**422,211**	**443,199**	**927,645**	**19,633,024**	**16,234,589**	**3,398,435**
4	G50 Low Annual-Low Winter	99,431	151,479	187,385	164,484	141,097	74,926	132,955	91,240	79,425	79,851	83,821	175,442	1,461,537	818,802	642,735
5	G40 Low Annual-High Winter	1,019,499	1,553,171	1,921,329	1,686,512	1,446,720	768,243	229,953	157,804	137,370	138,107	144,972	303,436	9,507,116	8,395,475	1,111,641
6	G51 Med Annual-Low Winter	166,084	253,023	312,999	274,745	235,681	125,152	180,823	124,089	108,020	108,600	113,998	238,606	2,241,821	1,367,685	874,136
7	G41 Med Annual-High Winter	789,890	1,203,369	1,488,611	1,306,679	1,120,892	595,221	257,483	176,696	153,815	154,641	162,328	339,763	7,749,389	6,504,662	1,244,727
8	G52 High Annual-Low Winter	31,832	48,496	59,991	52,659	45,172	23,987	49,864	34,219	29,788	29,948	31,437	65,799	503,191	262,137	241,055
9	G42 High Annual-High Winter	155,755	237,288	293,534	257,659	221,025	117,369	73,816	50,656	44,096	44,333	46,537	97,404	1,639,472	1,282,630	356,842
10	**Total C&I**	**2,262,492**	**3,446,825**	**4,263,849**	**3,742,738**	**3,210,587**	**1,704,899**	**924,894**	**634,703**	**552,514**	**555,479**	**583,093**	**1,220,452**	**23,102,526**	**18,631,390**	**4,471,135**
11	**Total Sales**	**4,233,929**	**6,450,240**	**7,979,184**	**7,003,998**	**6,008,154**	**3,190,474**	**1,627,891**	**1,117,130**	**972,471**	**977,690**	**1,026,291**	**2,148,096**	**42,735,550**	**34,865,979**	**7,869,571**
12																
13	Residential Heat & Non Heat	1,971,438	3,003,415	3,715,334	3,261,260	2,797,567	1,485,575	702,997	482,427	419,957	422,211	443,199	927,645	19,633,024	16,234,589	3,398,435
14	SALES HLF CLASSES	297,347	452,998	560,375	491,888	421,950	224,066	363,643	249,548	217,233	218,399	229,256	479,847	4,206,549	2,448,624	1,757,926
15	SALES LLF CLASSES	1,965,145	2,993,828	3,703,475	3,250,850	2,788,637	1,480,833	561,252	385,156	335,281	337,080	353,837	740,604	18,895,976	16,182,767	2,713,210
16	**Total Firm Sales**	**4,233,929**	**6,450,240**	**7,979,184**	**7,003,998**	**6,008,154**	**3,190,474**	**1,627,891**	**1,117,130**	**972,471**	**977,690**	**1,026,291**	**2,148,096**	**42,735,550**	**34,865,979**	**7,869,571**
17																
18	**ESTIMATED SENDOUT BY CLASS - Therms**															
19	Calendar Month Sendout Volumes (Includes Loss & Unaccounted For)															
20	Normal Winter	**Nov-17**	**Dec-17**	**Jan-18**	**Feb-18**	**Mar-18**	**Apr-18**	**May-18**	**Jun-18**	**Jul-18**	**Aug-18**	**Sep-18**	**Oct-18**	**Annual**	**Winter**	**SUMMER**
21	Res Heat	1,978,391	3,014,008	3,728,438	3,272,763	2,807,434	1,490,815	695,023	476,956	415,194	417,422	438,172	917,124	19,651,740	16,291,849	3,359,891
22	Res General	17,887	27,250	33,709	29,589	25,382	13,479	16,831	11,550	10,054	10,108	10,611	22,209	228,660	147,296	81,364
23	G50 Low Annual-Low Winter	100,684	153,388	189,746	166,556	142,875	75,870	134,631	92,390	80,426	80,857	84,877	177,653	1,479,952	829,119	650,833
24	G40 Low Annual-High Winter	1,032,345	1,572,741	1,945,538	1,707,762	1,464,949	777,923	232,850	159,792	139,100	139,847	146,799	307,259	9,626,906	8,501,258	1,125,648
25	G51 Med Annual-Low Winter	168,177	256,211	316,943	278,207	238,651	126,729	183,101	125,652	109,381	109,968	115,435	241,613	2,270,068	1,384,918	885,150
26	G41 Med Annual-High Winter	799,842	1,218,531	1,507,368	1,323,143	1,135,016	602,720	260,727	178,922	155,753	156,589	164,373	344,044	7,847,031	6,586,621	1,260,410
27	G52 High Annual-Low Winter	32,233	49,107	60,747	53,322	45,741	24,290	50,493	34,650	30,163	30,325	31,833	66,628	509,532	265,439	244,092
28	G42 High Annual-High Winter	157,718	240,278	297,232	260,906	223,809	118,848	74,746	51,294	44,652	44,892	47,123	98,632	1,660,129	1,298,791	361,338
29	**Subtotal**															
30	Residential	1,996,278	3,041,258	3,762,147	3,302,352	2,832,816	1,504,293	711,854	488,506	425,248	427,530	448,783	939,333	19,880,400	16,439,145	3,441,255
31	SALES HLF CLASSES	301,094	458,706	567,436	498,086	427,267	226,889	368,225	252,692	219,970	221,151	232,144	485,894	4,259,552	2,479,476	1,780,076
32	SALES LLF CLASSES	1,989,905	3,031,550	3,750,138	3,291,811	2,823,774	1,499,491	568,323	390,009	339,506	341,328	358,295	749,936	19,134,066	16,386,670	2,747,396
33	**Total Firm Sales**	4,287,277	6,531,513	8,079,721	7,092,249	6,083,857	3,230,674	1,648,402	1,131,206	984,725	990,009	1,039,223	2,175,162	43,274,018	35,305,291	7,968,727

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Line No.	Forecasted Normal Sales By Class- Therms Calendar Month Firm Sales Volumes	
	Firm Sales	
1	Res Heat	Company Analysis
2	Res General	Company Analysis
3	**Total Residential**	Sum LN 1 : LN 2
4	G50 Low Annual-Low Winter	Company Analysis
5	G40 Low Annual-High Winter	Company Analysis
6	G51 Med Annual-Low Winter	Company Analysis
7	G41 Med Annual-High Winter	Company Analysis
8	G52 High Annual-Low Winter	Company Analysis
9	G42 High Annual-High Winter	Company Analysis
10	**Total C&I**	Sum LN 4 : LN 9
11	**Total Sales**	LN 3 + LN 10
12		
13	Residential Heat & Non Heat	LN 3
14	SALES HLF CLASSES	LN 4 + LN 6 + LN 8
15	SALES LLF CLASSES	LN 5 + LN 7 + LN 9
16	**Total Firm Sales**	Sum LN 13 : LN 15
17		
18	**ESTIMATED SENDOUT BY CLASS - Therms**	
19	Calendar Month Sendout Volumes (Includes Loss & Unaccounted For)	
20	Normal Winter	
21	Res Heat	LN 1 x Adj factor (Company Use, LAUF, BTU) x 10
22	Res General	LN 2 x Adj factor (Company Use, LAUF, BTU) x 10
23	G50 Low Annual-Low Winter	LN 4 x Adj factor (Company Use, LAUF, BTU) x 10
24	G40 Low Annual-High Winter	LN 5 x Adj factor (Company Use, LAUF, BTU) x 10
25	G51 Med Annual-Low Winter	LN 6 x Adj factor (Company Use, LAUF, BTU) x 10
26	G41 Med Annual-High Winter	LN 7 x Adj factor (Company Use, LAUF, BTU) x 10
27	G52 High Annual-Low Winter	LN 8 x Adj factor (Company Use, LAUF, BTU) x 10
28	G42 High Annual-High Winter	LN 9 x Adj factor (Company Use, LAUF, BTU) x 10
29	**Subtotal**	
30	Residential	LN 21 + LN 22
31	SALES HLF CLASSES	LN 23 + LN 25 + LN 27
32	SALES LLF CLASSES	LN 24 + LN 26 + LN 28
33	**Total Firm Sales**	Sum LN 30 : LN 32

Northern Utilities - NEW HAMPSHIRE DIVISION
Sendout by Class - Allocation between Base & Remaining Sendout

34		
35	**DAILY BASE GAS ENTITLEMENT - Therms/day**	
36	Res Heat	13,429
37	Res General	325
38	G50 Low Annual-Low Winter	2,601
39	G40 Low Annual-High Winter	4,499
40	G51 Med Annual-Low Winter	3,538
41	G41 Med Annual-High Winter	5,038
42	G52 High Annual-Low Winter	976
43	G42 High Annual-High Winter	1,444
44	**Subtotal**	
45	Residential	13,754
46	SALES HLF CLASSES	7,115
47	SALES LLF CLASSES	10,981
48	**Total Firm Sales**	**31,851**

49	**BASE SENDOUT BY CLASS - Therms**															
50	Days per Month	30	31	31	28	31	30	31	30	31	31	30	31			
51		**Nov-17**	**Dec-17**	**Jan-18**	**Feb-18**	**Mar-18**	**Apr-18**	**May-18**	**Jun-18**	**Jul-18**	**Aug-18**	**Sep-18**	**Oct-18**	**Annual**	**Winter**	**SUMMER**
52	Res Heat	402,879	416,308	416,308	376,020	416,308	402,879	416,308	402,879	415,194	416,308	402,879	416,308	4,900,577	2,430,701	2,469,875
53	Res General	9,756	10,081	10,081	9,106	10,081	9,756	10,081	9,756	10,054	10,081	9,756	10,081	118,674	58,863	59,811
54	G50 Low Annual-Low Winter	78,040	80,642	80,642	72,838	80,642	75,870	80,642	78,040	80,426	80,642	78,040	80,642	947,104	468,673	478,431
55	G40 Low Annual-High Winter	134,974	139,474	139,474	125,976	139,474	134,974	139,474	134,974	139,100	139,474	134,974	139,474	1,641,816	814,346	827,470
56	G51 Med Annual-Low Winter	106,137	109,675	109,675	99,061	109,675	106,137	109,675	106,137	109,381	109,675	106,137	109,675	1,291,037	640,359	650,679
57	G41 Med Annual-High Winter	151,134	156,171	156,171	141,058	156,171	151,134	156,171	151,134	155,753	156,171	151,134	156,171	1,838,374	911,839	926,535
58	G52 High Annual-Low Winter	29,269	30,244	30,244	27,317	30,244	24,290	30,244	29,269	30,163	30,244	29,269	30,244	351,042	171,608	179,434
59	G42 High Annual-High Winter	43,327	44,772	44,772	40,439	44,772	43,327	44,772	43,327	44,652	44,772	43,327	44,772	527,031	261,409	265,622
60	**Subtotal**															
61	Residential	412,635	426,389	426,389	385,126	426,389	412,635	426,389	412,635	425,248	426,389	412,635	426,389	5,019,251	2,489,564	2,529,687
62	SALES HLF CLASSES	213,446	220,561	220,561	199,216	220,561	206,296	220,561	213,446	219,970	220,561	213,446	220,561	2,589,184	1,280,640	1,308,544
63	SALES LLF CLASSES	329,436	340,417	340,417	307,473	340,417	329,436	340,417	329,436	339,506	340,417	329,436	340,417	4,007,221	1,987,594	2,019,627
64	**Total Firm Sales**	955,516	987,367	987,367	891,815	987,367	948,367	987,367	955,516	984,725	987,367	955,516	987,367	11,615,656	5,757,798	5,857,857
65																
66	**REMAINING SENDOUT BY CLASS - Therms**															
67		**Nov-17**	**Dec-17**	**Jan-18**	**Feb-18**	**Mar-18**	**Apr-18**	**May-18**	**Jun-18**	**Jul-18**	**Aug-18**	**Sep-18**	**Oct-18**	**Annual**	**Winter**	**SUMMER**
68	Res Heat	1,575,512	2,597,700	3,312,130	2,896,743	2,391,126	1,087,936	278,715	74,077	-	1,114	35,294	500,816	14,751,164	13,861,148	890,016
69	Res General	8,130	17,168	23,628	20,483	15,301	3,722	6,749	1,794	-	27	855	12,128	109,986	88,433	21,553
70	G50 Low Annual-Low Winter	22,643	72,746	109,105	93,719	62,233	-	53,989	14,349	-	216	6,837	97,011	532,848	360,446	172,402
71	G40 Low Annual-High Winter	897,371	1,433,267	1,806,065	1,581,786	1,325,475	642,948	93,377	24,818	-	373	11,824	167,786	7,985,089	7,686,912	298,178
72	G51 Med Annual-Low Winter	62,040	146,537	207,268	179,146	128,976	20,593	73,426	19,515	-	293	9,298	131,938	979,031	744,559	234,471
73	G41 Med Annual-High Winter	648,709	1,062,360	1,351,197	1,182,085	978,844	451,587	104,556	27,789	-	418	13,240	187,873	6,008,657	5,674,782	333,875
74	G52 High Annual-Low Winter	2,965	18,862	30,502	26,005	15,497	-	20,248	5,382	-	81	2,564	36,384	158,490	93,831	64,659
75	G42 High Annual-High Winter	114,390	195,506	252,460	220,467	179,038	75,521	29,974	7,967	-	120	3,796	53,860	1,133,098	1,037,382	95,716
76	**Subtotal**															
77	Residential	1,583,643	2,614,868	3,335,758	2,917,226	2,406,427	1,091,658	285,465	75,871	-	1,141	36,148	512,944	14,861,150	13,949,581	911,569
78	SALES HLF CLASSES	87,648	238,145	346,875	298,870	206,706	20,593	147,664	39,246	-	590	18,699	265,333	1,670,368	1,198,836	471,532
79	SALES LLF CLASSES	1,660,470	2,691,133	3,409,722	2,984,338	2,483,357	1,170,056	227,907	60,573	-	911	28,860	409,519	15,126,845	14,399,075	727,769
80	**Total Firm Sales**	3,331,761	5,544,147	7,092,355	6,200,434	5,096,490	2,282,307	661,036	175,690	-	2,642	83,706	1,187,796	31,658,363	29,547,493	2,110,870

Northern Utilities - NEW HAMPSHIRE DIVISION
Sendout by Class - Allocation between Base & Remaining Sendout

34		
35	DAILY BASE GAS ENTITLEMENT - Therms/day	
36	Res Heat	Avg (LN 21 Jul : LN 21 Aug) / 31 days
37	Res General	Avg (LN 22 Jul : LN 22 Aug) / 31 days
38	G50 Low Annual-Low Winter	Avg (LN 23 Jul : LN 23 Aug) / 31 days
39	G40 Low Annual-High Winter	Avg (LN 24 Jul : LN 24 Aug) / 31 days
40	G51 Med Annual-Low Winter	Avg (LN 25 Jul : LN 25 Aug) / 31 days
41	G41 Med Annual-High Winter	Avg (LN 26 Jul : LN 26 Aug) / 31 days
42	G52 High Annual-Low Winter	Avg (LN 27 Jul : LN 27 Aug) / 31 days
43	G42 High Annual-High Winter	Avg (LN 28 Jul : LN 28 Aug) / 31 days
44	**Subtotal**	
45	Residential	LN 36 + LN 37
46	SALES HLF CLASSES	LN 38 + LN 40 + LN 42
47	SALES LLF CLASSES	LN 39 + LN 41 + LN 43
48	**Total Firm Sales**	Sum LN 45 : LN 47
49	**BASE SENDOUT BY CLASS - Therms**	
50	Days per Month	
51		
52	Res Heat	MIN(LN 36 * LN 50, LN 21)
53	Res General	MIN(LN 37 * LN 50, LN 22)
54	G50 Low Annual-Low Winter	MIN(LN 38 * LN 50, LN 23)
55	G40 Low Annual-High Winter	MIN(LN 39 * LN 50, LN 24)
56	G51 Med Annual-Low Winter	MIN(LN 40 * LN 50, LN 25)
57	G41 Med Annual-High Winter	MIN(LN 41 * LN 50, LN 26)
58	G52 High Annual-Low Winter	MIN(LN 42 * LN 50, LN 27)
59	G42 High Annual-High Winter	MIN(LN 43 * LN 50, LN 28)
60	**Subtotal**	
61	Residential	LN 52 + LN 53
62	SALES HLF CLASSES	LN 54 + LN 56 + LN 58
63	SALES LLF CLASSES	LN 55 + LN 57 + LN 59
64	**Total Firm Sales**	Sum LN 61 : LN 63
65		
66	REMAINING SENDOUT BY CLASS - Therms	
67		
68	Res Heat	LN 21 - LN 52
69	Res General	LN 22 - LN 53
70	G50 Low Annual-Low Winter	LN 23 - LN 54
71	G40 Low Annual-High Winter	LN 24 - LN 55
72	G51 Med Annual-Low Winter	LN 25 - LN 56
73	G41 Med Annual-High Winter	LN 26 - LN 57
74	G52 High Annual-Low Winter	LN 27 - LN 58
75	G42 High Annual-High Winter	LN 28 - LN 59
76	**Subtotal**	
77	Residential	LN 68 + LN 69
78	SALES HLF CLASSES	LN 70 + LN 72 + LN 74
79	SALES LLF CLASSES	LN 71 + LN 73 + LN 75
80	**Total Firm Sales**	Sum LN 77 : LN 79

Northern Utilities, Inc.
New Hampshire Division
Billed Distribution Service Volumes and Meter Counts

Total Division Metered Deliveries (Dth)											
	2017-2018	2017-2018 Compared to 2016-2017					2017-2018 Compared to 2015-2016				
	Forecast	2016-2017 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern	2015-2016 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern
Column	1	2	3	4	5	6	7	8	9	10	11
Reference	Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(3-5)	Note 4.	(1-5)	(6/5)	Note 5.	(8-10)
Nov	700,579	666,138	34,440	5.2%	13,571	20,869	650,669	49,910	7.7%	24,708	25,202
Dec	942,253	908,053	34,200	3.8%	18,424	15,776	930,157	12,095	1.3%	36,918	-24,822
Jan	1,247,556	1,167,440	80,116	6.9%	23,690	56,426	1,171,750	75,806	6.5%	45,171	30,635
Feb	1,253,684	1,168,051	85,633	7.3%	23,638	61,996	1,182,558	71,126	6.0%	44,761	26,365
Mar	1,100,889	1,039,001	61,887	6.0%	21,023	40,864	1,016,381	84,508	8.3%	36,810	47,698
Apr	853,662	801,958	51,704	6.4%	16,264	35,439	781,131	72,531	9.3%	28,210	44,322
May	591,835	568,537	23,298	4.1%	11,593	11,705	546,425	45,410	8.3%	18,968	26,442
Jun	384,303	385,479	-1,176	-0.3%	11,700	-12,876	388,602	-4,299	-1.1%	15,899	-20,199
Jul	339,973	387,504	-47,531	-12.3%	8,593	-56,124	330,291	9,682	2.9%	13,628	-3,945
Aug	358,456	349,605	8,851	2.5%	7,152	1,699	362,108	-3,652	-1.0%	15,029	-18,682
Sep	359,118	363,128	-4,010	-1.1%	7,375	-11,385	362,479	-3,361	-0.9%	14,969	-18,330
Oct	478,708	461,400	17,308	3.8%	9,289	8,019	450,914	27,794	6.2%	18,484	9,310
Winter	6,098,622	5,750,642	347,980	6.1%	116,610	231,370	5,732,646	365,977	6.4%	216,291	149,686
Summer	2,512,392	2,515,653	-3,260	-0.1%	55,703	-58,963	2,440,819	71,574	2.9%	97,899	-26,325
Annual	8,611,015	8,266,294	344,720	4.2%	172,313	172,407	8,173,464	437,550	5.4%	318,086	119,465

Note 1 Company Forecast
Note 2 Pages 2 - 4; Sum of Column 2 of Billed Deliveries table. Actual Data through July 2017 is weather normalized.
Note 3 Column 3 of Meter Counts table times Column 2 of Use Per Meter table.
Note 4 Pages 2 - 4; Sum of Column 7 of Billed Deliveries Table. Actual Data provided is weather normalized.
Note 5 Column 6 of Meter Counts table times Column 5 of Use Per Meter table.

Total Division Meter Counts							
	2017-2018	Compared to 2016-2017			Compared to 2015-2016		
	Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change
Column	1	2	3	4	5	6	7
Reference	Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)
Nov	32,737	32,083	654	2.0%	31,539	1,198	3.8%
Dec	32,918	32,263	655	2.0%	31,661	1,257	4.0%
Jan	32,965	32,309	656	2.0%	31,741	1,224	3.9%
Feb	33,003	32,348	655	2.0%	31,799	1,204	3.8%
Mar	33,007	32,352	655	2.0%	31,853	1,154	3.6%
Apr	32,983	32,327	656	2.0%	31,833	1,150	3.6%
May	32,807	32,151	656	2.0%	31,706	1,101	3.5%
Jun	33,003	32,031	972	3.0%	31,706	1,297	4.1%
Jul	32,738	32,028	710	2.2%	31,441	1,297	4.1%
Aug	32,652	31,998	655	2.0%	31,351	1,301	4.2%
Sep	32,887	32,233	655	2.0%	31,583	1,304	4.1%
Oct	33,172	32,518	655	2.0%	31,866	1,306	4.1%
Winter	32,935	32,280	655	2.0%	31,738	1,197	3.8%
Summer	32,877	32,160	717	2.2%	31,609	1,268	4.0%
Annual	32,906	32,220	686	2.1%	31,673	1,233	3.9%

Note 1 Company Forecast
Note 2 Actual data through July 2017. Forecast data beginning August 2017. Page 2 - 4; Sum of Column 2 of Meter Counts table.
Note 3 Actual Data. Page 2 - 4; Sum of Column 5 of Meter Counts table.

Total Division Use Per Meter							
	2017-2018	Compared to 2016-2017			Compared to 2015-2016		
	Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change
Column	1	2	3	4	5	6	7
Reference	Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)
Nov	21.40	20.76	0.64	3.1%	20.63	0.77	3.7%
Dec	28.62	28.15	0.48	1.7%	29.38	-0.75	-2.6%
Jan	37.85	36.13	1.71	4.7%	36.92	0.93	2.5%
Feb	37.99	36.11	1.88	5.2%	37.19	0.80	2.1%
Mar	33.35	32.12	1.24	3.9%	31.91	1.45	4.5%
Apr	25.88	24.81	1.07	4.3%	24.54	1.34	5.5%
May	18.04	17.68	0.36	2.0%	17.23	0.81	4.7%
Jun	11.64	12.03	-0.39	-3.2%	12.26	-0.61	-5.0%
Jul	10.38	12.10	-1.71	-14.2%	10.51	-0.12	-1.1%
Aug	10.98	10.93	0.05	0.5%	11.55	-0.57	-5.0%
Sep	10.92	11.27	-0.35	-3.1%	11.48	-0.56	-4.9%
Oct	14.43	14.19	0.24	1.7%	14.15	0.28	2.0%
Winter	185.17	178.15	7.02	3.9%	180.63	4.53	2.5%
Summer	76.42	78.22	-1.81	-2.3%	77.22	-0.78	-1.0%
Annual	261.69	256.56	5.13	2.0%	258.06	3.76	1.5%

Note 1 Column 1 of Billed Deliveries table divided by Column 1 of Meter Counts table.
Note 2 Column 2 of Billed Deliveries table divided by Column 2 of Meter Counts table.
Note 3 Column 7 of Billed Deliveries table divided by Column 5 of Meter Counts table.

Northern Utilities, Inc.
New Hampshire Division
Billed Distribution Service Volumes and Meter Counts

	Residential Non-Heat Metered Deliveries (Dth)										
	2017-2018	2017-2018 Compared to 2016-2017					2017-2018 Compared to 2015-2016				
	Forecast	2016-2017 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern	2015-2016 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern
Column	1	2	3	4	5	6	7	8	9	10	11
Reference	Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(3-5)	Note 4.	(1-5)	(6/5)	Note 5.	(8-10)
Nov	1,736	1,699	37	2.2%	-110	147	1,908	-172	-9.0%	-186	14
Dec	2,185	2,260	-76	-3.3%	-146	71	2,610	-425	-16.3%	-264	-161
Jan	2,888	2,931	-44	-1.5%	-189	145	3,118	-230	-7.4%	-290	60
Feb	3,025	3,053	-28	-0.9%	-197	169	3,146	-121	-3.8%	-285	164
Mar	2,485	2,545	-60	-2.4%	-164	104	2,736	-251	-9.2%	-264	13
Apr	2,228	2,261	-33	-1.5%	-143	110	2,283	-55	-2.4%	-226	171
May	1,751	1,814	-62	-3.4%	-112	50	1,858	-107	-5.7%	-169	62
Jun	1,332	1,637	-305	-18.6%	-168	-137	1,582	-250	-15.8%	-195	-54
Jul	1,414	1,481	-66	-4.5%	-148	82	1,458	-43	-3.0%	-179	136
Aug	1,179	1,242	-63	-5.1%	-81	17	1,367	-188	-13.7%	-170	-18
Sep	1,058	1,253	-195	-15.6%	-83	-112	1,304	-246	-18.9%	-166	-80
Oct	1,301	1,349	-49	-3.6%	-93	44	1,360	-59	-4.4%	-177	118
Winter	14,546	14,750	-204	-1.4%	-949	745	15,800	-1,254	-7.9%	-1,522	268
Summer	8,035	8,776	-741	-8.4%	-686	-55	8,928	-893	-10.0%	-1,069	176
Annual	22,581	23,526	-945	-4.0%	-1,635	690	24,729	-2,147	-8.7%	-2,674	526

Note 1 Company Forecast
Note 2 Actual, weather normalized data through July 2017. Forecast data beginning August 2017.
Note 3 Column 3 of Meter Counts table times Column 2 of Use Per Meter table.
Note 4 Actual, weather normalized data through July 2017. Forecast data beginning August 2017.
Note 5 Column 6 of Meter Counts table times Column 5 of Use Per Meter table.

	Total Division Meter Counts						
	2017-2018	Compared to 2016-2017			Compared to 2015-2016		
	Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change
Column	1	2	3	4	5	6	7
Reference	Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)
Nov	1,241	1,327	-86	-6.5%	1,375	-134	-9.7%
Dec	1,239	1,325	-86	-6.5%	1,379	-140	-10.1%
Jan	1,244	1,330	-86	-6.4%	1,372	-128	-9.3%
Feb	1,244	1,330	-86	-6.4%	1,368	-124	-9.0%
Mar	1,241	1,327	-86	-6.5%	1,374	-133	-9.7%
Apr	1,272	1,358	-86	-6.3%	1,412	-140	-9.9%
May	1,298	1,384	-86	-6.2%	1,428	-130	-9.1%
Jun	1,252	1,395	-143	-10.3%	1,428	-176	-12.4%
Jul	1,261	1,401	-140	-10.0%	1,437	-176	-12.3%
Aug	1,235	1,320	-86	-6.5%	1,410	-175	-12.4%
Sep	1,204	1,289	-86	-6.7%	1,379	-175	-12.7%
Oct	1,165	1,250	-86	-6.9%	1,339	-174	-13.0%
Winter	1,247	1,333	-86	-6.4%	1,380	-133	-9.6%
Summer	1,235	1,340	-104	-7.8%	1,404	-168	-12.0%
Annual	1,241	1,336	-95	-7.1%	1,392	-150	-10.8%

Note 1 Company Forecast
Note 2 Actual data through July 2017. Forecast data beginning August 2017.
Note 3 Actual Data.

	Total Division Use Per Meter						
	2017-2018	Compared to 2016-2017			Compared to 2015-2016		
	Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change
Column	1	2	3	4	5	6	7
Reference	Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)
Nov	1.40	1.28	0.12	9.2%	1.39	0.01	0.8%
Dec	1.76	1.71	0.06	3.3%	1.89	-0.13	-6.8%
Jan	2.32	2.20	0.12	5.3%	2.27	0.05	2.1%
Feb	2.43	2.30	0.14	5.9%	2.30	0.13	5.7%
Mar	2.00	1.92	0.08	4.4%	1.99	0.01	0.5%
Apr	1.75	1.67	0.09	5.2%	1.62	0.13	8.3%
May	1.35	1.31	0.04	2.9%	1.30	0.05	3.7%
Jun	1.06	1.17	-0.11	-9.3%	1.11	-0.04	-3.9%
Jul	1.12	1.06	0.07	6.2%	1.01	0.11	10.6%
Aug	0.95	0.94	0.01	1.5%	0.97	-0.01	-1.5%
Sep	0.88	0.97	-0.09	-9.6%	0.95	-0.07	-7.1%
Oct	1.12	1.08	0.04	3.5%	1.02	0.10	10.0%
Winter	11.66	11.07	0.60	5.4%	11.45	0.21	1.8%
Summer	6.50	6.55	-0.05	-0.7%	6.36	0.13	2.1%
Annual	18.19	17.60	0.59	3.3%	17.77	0.34	1.9%

Note 1 Column 1 of Billed Deliveries table divided by Column 1 of Meter Counts table.
Note 2 Column 2 of Billed Deliveries table divided by Column 2 of Meter Counts table.
Note 3 Column 7 of Billed Deliveries table divided by Column 5 of Meter Counts table.

Northern Utilities, Inc.
New Hampshire Division
Billed Distribution Service Volumes and Meter Counts

	Residential Heat Metered Deliveries (Dth)										
	2017-2018	2017-2018 Compared to 2016-2017					2017-2018 Compared to 2015-2016				
	Forecast	2016-2017 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern	2015-2016 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern
Column	1	2	3	4	5	6	7	8	9	10	11
Reference	Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(3-5)	Note 4.	(1-5)	(6/5)	Note 5.	(8-10)
Nov	151,019	134,507	16,511	12.3%	3,727	12,784	130,650	20,369	15.6%	6,782	13,586
Dec	241,260	227,083	14,177	6.2%	6,264	7,914	229,948	11,312	4.9%	12,056	-744
Jan	349,154	322,652	26,503	8.2%	8,882	17,621	306,445	42,710	13.9%	15,787	26,923
Feb	362,889	333,394	29,495	8.8%	9,164	20,332	323,919	38,970	12.0%	16,459	22,512
Mar	288,445	269,032	19,414	7.2%	7,391	12,023	260,066	28,379	10.9%	12,653	15,726
Apr	216,145	200,126	16,020	8.0%	5,491	10,528	183,218	32,928	18.0%	9,131	23,797
May	115,248	109,098	6,149	5.6%	3,006	3,143	103,203	12,045	11.7%	4,931	7,114
Jun	47,932	67,241	-19,309	-28.7%	2,541	-21,851	47,048	884	1.9%	2,644	-1,760
Jul	37,220	38,740	-1,520	-3.9%	1,188	-2,708	31,787	5,433	17.1%	1,799	3,634
Aug	34,996	33,542	1,454	4.3%	925	529	33,521	1,476	4.4%	1,901	-425
Sep	31,812	34,235	-2,423	-7.1%	937	-3,360	32,367	-555	-1.7%	1,821	-2,376
Oct	64,601	60,767	3,834	6.3%	1,649	2,184	55,464	9,137	16.5%	3,094	6,042
Winter	1,608,913	1,486,793	122,120	8.2%	40,919	81,201	1,434,246	174,667	12.2%	72,938	101,729
Summer	331,808	343,624	-11,816	-3.4%	10,246	-22,062	303,389	28,420	9.4%	16,652	11,768
Annual	1,940,721	1,830,417	110,304	6.0%	51,166	59,139	1,737,634	203,087	11.7%	91,870	111,217

Note 1 Company Forecast
Note 2 Actual, weather normalized data through July 2017. Forecast data beginning August 2017.
Note 3 Column 3 of Meter Counts table times Column 2 of Use Per Meter table.
Note 4 Actual, weather normalized data through July 2017. Forecast data beginning August 2017.
Note 5 Column 6 of Meter Counts table times Column 5 of Use Per Meter table.

	Total Division Meter Counts						
	2017-2018	Compared to 2016-2017			Compared to 2015-2016		
	Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change
Column	1	2	3	4	5	6	7
Reference	Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)
Nov	24,568	23,906	662	2.8%	23,356	1,212	5.2%
Dec	24,679	24,017	662	2.8%	23,450	1,229	5.2%
Jan	24,727	24,065	662	2.8%	23,516	1,211	5.2%
Feb	24,764	24,102	662	2.7%	23,567	1,197	5.1%
Mar	24,775	24,113	662	2.7%	23,626	1,149	4.9%
Apr	24,804	24,142	662	2.7%	23,627	1,177	5.0%
May	24,703	24,041	662	2.8%	23,577	1,126	4.8%
Jun	24,902	23,995	907	3.8%	23,577	1,325	5.6%
Jul	24,734	23,998	736	3.1%	23,409	1,325	5.7%
Aug	24,689	24,026	662	2.8%	23,364	1,325	5.7%
Sep	24,874	24,211	662	2.7%	23,549	1,325	5.6%
Oct	25,072	24,409	662	2.7%	23,747	1,325	5.6%
Winter	24,720	24,058	662	2.8%	23,524	1,196	5.1%
Summer	24,829	24,114	715	3.0%	23,537	1,292	5.5%
Annual	24,774	24,086	689	2.9%	23,530	1,244	5.3%

Note 1 Company Forecast
Note 2 Actual data through July 2017. Forecast data beginning August 2017.
Note 3 Actual Data.

	Total Division Use Per Meter						
	2017-2018	Compared to 2016-2017			Compared to 2015-2016		
	Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change
Column	1	2	3	4	5	6	7
Reference	Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)
Nov	6.15	5.63	0.52	9.2%	5.59	0.55	9.9%
Dec	9.78	9.46	0.32	3.4%	9.81	-0.03	-0.3%
Jan	14.12	13.41	0.71	5.3%	13.03	1.09	8.4%
Feb	14.65	13.83	0.82	5.9%	13.74	0.91	6.6%
Mar	11.64	11.16	0.49	4.3%	11.01	0.63	5.8%
Apr	8.71	8.29	0.42	5.1%	7.75	0.96	12.4%
May	4.67	4.54	0.13	2.8%	4.38	0.29	6.6%
Jun	1.92	2.80	-0.88	-31.3%	2.00	-0.07	-3.5%
Jul	1.50	1.61	-0.11	-6.8%	1.36	0.15	10.8%
Aug	1.42	1.40	0.02	1.5%	1.43	-0.02	-1.2%
Sep	1.28	1.41	-0.14	-9.6%	1.37	-0.10	-7.0%
Oct	2.58	2.49	0.09	3.5%	2.34	0.24	10.3%
Winter	65.09	61.80	3.28	5.3%	60.97	4.11	6.7%
Summer	13.36	14.25	-0.89	-6.2%	12.89	0.49	3.8%
Annual	78.34	76.00	2.34	3.1%	73.85	4.61	6.2%

Note 1 Column 1 of Billed Deliveries table divided by Column 1 of Meter Counts table.
Note 2 Column 2 of Billed Deliveries table divided by Column 2 of Meter Counts table.
Note 3 Column 7 of Billed Deliveries table divided by Column 5 of Meter Counts table.

Northern Utilities, Inc.
New Hampshire Division
Billed Distribution Service Volumes and Meter Counts

1		Total Division C&I Metered Deliveries (Dth)										
2		2017-2018	2017-2018 Compared to 2016-2017					2017-2018 Compared to 2015-2016				
3		Forecast	2016-2017 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern	2015-2016 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern
4	Column	1	2	3	4	5	6	7	8	9	10	11
5	Reference	Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(3-5)	Note 4.	(1-5)	(6/5)	Note 5.	(8-10)
6	Nov	547,824	529,932	17,892	3.4%	5,949	11,943	518,111	29,713	5.7%	9,049	20,665
7	Dec	698,808	678,710	20,098	3.0%	7,639	12,459	697,600	1,209	0.2%	17,042	-15,833
8	Jan	895,514	841,857	53,657	6.4%	9,607	44,051	862,188	33,326	3.9%	17,601	15,725
9	Feb	887,770	831,604	56,166	6.8%	9,367	46,799	855,493	32,277	3.8%	16,190	16,087
10	Mar	809,959	767,425	42,534	5.5%	8,649	33,885	753,579	56,380	7.5%	15,054	41,326
11	Apr	635,289	599,572	35,717	6.0%	6,929	28,788	595,630	39,659	6.7%	9,810	29,848
12	May	474,836	457,625	17,211	3.8%	5,368	11,843	441,364	33,472	7.6%	6,843	26,629
13	Jun	335,039	316,601	18,438	5.8%	9,954	8,484	339,973	-4,934	-1.5%	7,549	-12,483
14	Jul	301,339	347,284	-45,945	-13.2%	6,014	-51,959	297,046	4,293	1.4%	6,702	-2,409
15	Aug	322,281	314,820	7,461	2.4%	3,687	3,773	327,221	-4,940	-1.5%	7,552	-12,492
16	Sep	326,248	327,640	-1,392	-0.4%	3,791	-5,183	328,808	-2,560	-0.8%	7,648	-10,208
17	Oct	412,806	399,283	13,523	3.4%	4,535	8,987	394,090	18,716	4.7%	9,056	9,660
18	Winter	4,475,164	4,249,099	226,065	5.3%	48,140	177,925	4,282,600	192,564	4.5%	84,014	108,550
19	Summer	2,172,549	2,163,253	9,296	0.4%	33,350	-24,055	2,128,501	44,047	2.1%	45,959	-1,912
20	Annual	6,647,712	6,412,352	235,361	3.7%	81,490	153,870	6,411,101	236,611	3.7%	132,022	104,589

22 Note 1 Company Forecast
23 Note 2 Actual, weather normalized data through July 2017. Forecast data beginning August 2017.
24 Note 3 Column 3 of Meter Counts table times Column 2 of Use Per Meter table.
25 Note 4 Actual, weather normalized data through July 2017. Forecast data beginning August 2017.
26 Note 5 Column 6 of Meter Counts table times Column 5 of Use Per Meter table.

28		Total Division Meter Counts						
29		2017-2018	Compared to 2016-2017			Compared to 2015-2016		
30		Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change
31	Column	1	2	3	4	5	6	7
32	Reference	Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)
33	Nov	6,927	6,850	77	1.1%	6,808	119	1.7%
34	Dec	6,999	6,921	78	1.1%	6,832	167	2.4%
35	Jan	6,993	6,914	79	1.1%	6,853	140	2.0%
36	Feb	6,994	6,916	78	1.1%	6,864	130	1.9%
37	Mar	6,990	6,912	78	1.1%	6,853	137	2.0%
38	Apr	6,906	6,827	79	1.2%	6,794	112	1.6%
39	May	6,805	6,726	79	1.2%	6,701	104	1.6%
40	Jun	6,850	6,641	209	3.1%	6,701	149	2.2%
41	Jul	6,744	6,629	115	1.7%	6,595	149	2.3%
42	Aug	6,729	6,651	78	1.2%	6,577	152	2.3%
43	Sep	6,810	6,732	78	1.2%	6,655	155	2.3%
44	Oct	6,936	6,858	78	1.1%	6,780	156	2.3%
45	Winter	6,968	6,890	78	1.1%	6,834	134	2.0%
46	Summer	6,812	6,706	106	1.6%	6,668	144	2.2%
47	Annual	6,890	6,798	92	1.4%	6,751	139	2.1%

49 Note 1 Company Forecast
50 Note 2 Actual data through July 2017. Forecast data beginning August 2017.
51 Note 3 Actual Data.

53		Total Division Use Per Meter						
54		2017-2018	Compared to 2016-2017			Compared to 2015-2016		
55		Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change
56	Column	1	2	3	4	5	6	7
57	Reference	Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)
58	Nov	79.09	77.36	1.72	2.2%	76.10	2.98	3.9%
59	Dec	99.85	98.07	1.78	1.8%	102.11	-2.26	-2.2%
60	Jan	128.06	121.76	6.30	5.2%	125.81	2.25	1.8%
61	Feb	126.93	120.24	6.69	5.6%	124.63	2.30	1.8%
62	Mar	115.88	111.03	4.85	4.4%	109.96	5.91	5.4%
63	Apr	91.99	87.82	4.17	4.7%	87.67	4.32	4.9%
64	May	69.78	68.04	1.74	2.6%	65.87	3.91	5.9%
65	Jun	48.91	47.67	1.24	2.6%	50.73	-1.82	-3.6%
66	Jul	44.68	52.39	-7.70	-14.7%	45.04	-0.36	-0.8%
67	Aug	47.90	47.34	0.56	1.2%	49.75	-1.86	-3.7%
68	Sep	47.91	48.67	-0.76	-1.6%	49.41	-1.50	-3.0%
69	Oct	59.52	58.22	1.30	2.2%	58.13	1.39	2.4%
70	Winter	642.24	616.71	25.53	4.1%	626.66	15.50	2.5%
71	Summer	318.92	322.58	-3.66	-1.1%	319.20	-0.23	-0.1%
72	Annual	964.82	943.26	21.56	2.3%	949.64	15.28	1.6%

74 Note 1 Column 1 of Billed Deliveries table divided by Column 1 of Meter Counts table.
75 Note 2 Column 2 of Billed Deliveries table divided by Column 2 of Meter Counts table.
76 Note 3 Column 7 of Billed Deliveries table divided by Column 5 of Meter Counts table.

Northern Utilities, Inc.
New Hampshire Division
Sales Service Deliveries Forecast by Rate Class

Forecast Calendar Month Sales Service Deliveries (Dth)

	Res Non-Heat	Res Heat	G40	G50	G41	G51	G42	G52	Special Contracts	Total Division
Nov-17	1,766	195,377	101,950	9,943	78,989	16,608	15,576	3,183	0	423,393
Dec-17	2,691	297,650	155,317	15,148	120,337	25,302	23,729	4,850	0	645,024
Jan-18	3,329	368,204	192,133	18,739	148,861	31,300	29,353	5,999	0	797,918
Feb-18	2,922	323,204	168,651	16,448	130,668	27,475	25,766	5,266	0	700,400
Mar-18	2,507	277,250	144,672	14,110	112,089	23,568	22,102	4,517	0	600,815
Apr-18	1,331	147,226	76,824	7,493	59,522	12,515	11,737	2,399	0	319,047
May-18	1,662	68,638	22,995	13,296	25,748	18,082	7,382	4,986	0	162,789
Jun-18	1,141	47,102	15,780	9,124	17,670	12,409	5,066	3,422	0	111,713
Jul-18	993	41,003	13,737	7,943	15,382	10,802	4,410	2,979	0	97,247
Aug-18	998	41,223	13,811	7,985	15,464	10,860	4,433	2,995	0	97,769
Sep-18	1,048	43,272	14,497	8,382	16,233	11,400	4,654	3,144	0	102,629
Oct-18	2,193	90,571	30,344	17,544	33,976	23,861	9,740	6,580	0	214,810
Winter	14,546	1,608,913	839,547	81,880	650,466	136,769	128,263	26,214	0	3,486,598
Summer	8,035	331,808	111,164	64,273	124,473	87,414	35,684	24,105	0	786,957
Total	22,581	1,940,721	950,712	146,154	774,939	224,182	163,947	50,319	0	4,273,555

Forecast Calendar Month Distribution Service Deliveries (Dth)

	Res Non-Heat	Res Heat	G/T40	G/T50	G/T41	G/T51	G/T42	G/T52	Special Contracts	Total Division
Nov-17	1,766	195,377	118,043	12,553	151,318	37,890	62,293	135,683	96,272	811,196
Dec-17	2,691	297,650	179,161	18,078	224,896	50,339	91,790	132,179	99,403	1,096,188
Jan-18	3,329	368,204	219,661	21,790	268,651	57,893	107,912	150,171	98,999	1,296,612
Feb-18	2,922	323,204	192,730	19,177	235,620	51,162	93,616	132,271	95,391	1,146,094
Mar-18	2,507	277,250	165,476	16,941	204,082	47,321	81,925	157,608	107,352	1,060,463
Apr-18	1,331	147,226	89,731	10,000	118,679	32,451	56,998	124,260	107,394	688,069
May-18	1,662	68,638	29,776	15,674	59,778	35,914	36,844	131,390	112,793	492,469
Jun-18	1,141	47,102	18,261	11,289	33,011	27,774	21,587	114,308	97,604	372,077
Jul-18	993	41,003	15,404	10,141	26,757	25,988	18,526	111,344	90,959	341,114
Aug-18	998	41,223	15,550	10,187	27,194	26,113	19,538	120,424	101,031	362,257
Sep-18	1,048	43,272	17,825	10,578	35,577	27,241	24,898	123,857	101,253	385,548
Oct-18	2,193	90,571	40,211	20,023	80,762	42,995	42,256	133,266	106,650	558,927
Winter	14,546	1,608,913	964,803	98,539	1,203,246	277,056	494,535	832,173	604,812	6,098,622
Summer	8,035	331,808	137,026	77,892	263,078	186,025	163,649	734,588	610,292	2,512,392
Total	22,581	1,940,721	1,101,828	176,431	1,466,323	463,081	658,185	1,566,760	1,215,103	8,611,015

Forecast Sales Service Percentage

	Res Non-Heat	Res Heat	G40	G50	G41	G51	G42	G52	Special Contracts	Total Division
Nov-17	100%	100%	86%	79%	52%	44%	25%	2%	0%	52%
Dec-17	100%	100%	87%	84%	54%	50%	26%	4%	0%	59%
Jan-18	100%	100%	87%	86%	55%	54%	27%	4%	0%	62%
Feb-18	100%	100%	88%	86%	55%	54%	28%	4%	0%	61%
Mar-18	100%	100%	87%	83%	55%	50%	27%	3%	0%	57%
Apr-18	100%	100%	86%	75%	50%	39%	21%	2%	0%	46%
May-18	100%	100%	77%	85%	43%	50%	20%	4%	0%	33%
Jun-18	100%	100%	86%	81%	54%	45%	23%	3%	0%	30%
Jul-18	100%	100%	89%	78%	57%	42%	24%	3%	0%	29%
Aug-18	100%	100%	89%	78%	57%	42%	23%	2%	0%	27%
Sep-18	100%	100%	81%	79%	46%	42%	19%	3%	0%	27%
Oct-18	100%	100%	75%	88%	42%	55%	23%	5%	0%	38%
Winter	100%	100%	87%	83%	54%	49%	26%	3%	0%	57%
Summer	100%	100%	81%	83%	47%	47%	22%	3%	0%	31%
Total	100%	100%	86%	83%	53%	48%	25%	3%	0%	50%

Northern Utilities, Inc.
New Hampshire Division
Sales Service Deliveries Forecast by Rate Class

Forecast Bill Month Sales Service Deliveries (Dth)

	Res Non-Heat	Res Heat	G40	G50	G41	G51	G42	G52	Special Contracts	Total Division
Nov-17	1,736	151,019	65,685	11,171	50,083	17,476	12,148	3,459	0	312,776
Dec-17	2,185	241,260	118,024	12,569	75,909	17,678	18,969	4,496	0	491,089
Jan-18	2,888	349,154	184,989	15,060	137,950	25,728	28,277	4,815	0	748,862
Feb-18	3,025	362,889	200,647	15,775	165,832	28,736	26,013	5,072	0	807,990
Mar-18	2,485	288,445	156,744	14,364	126,314	25,433	22,933	4,521	0	641,241
Apr-18	2,228	216,145	113,458	12,941	94,378	21,717	19,922	3,851	0	484,640
May-18	1,751	115,248	50,466	11,514	51,190	19,113	10,165	2,709	0	262,155
Jun-18	1,332	47,932	15,602	10,547	23,249	14,653	4,472	6,152	0	123,939
Jul-18	1,414	37,220	9,895	10,748	14,925	13,302	3,634	4,968	0	96,106
Aug-18	1,179	34,996	9,740	11,272	14,629	13,849	3,571	4,731	0	93,968
Sep-18	1,058	31,812	7,644	9,902	7,204	10,952	4,616	3,012	0	76,199
Oct-18	1,301	64,601	17,818	10,290	13,275	15,545	9,227	2,534	0	134,590
Winter	14,546	1,608,913	839,547	81,880	650,466	136,769	128,263	26,214	0	3,486,598
Summer	8,035	331,808	111,164	64,273	124,473	87,414	35,684	24,105	0	786,957
Total	22,581	1,940,721	950,712	146,154	774,939	224,182	163,947	50,319	0	4,273,555

Forecast Bill Month Distribution Service Deliveries (Dth)

	Res Non-Heat	Res Heat	G/T40	G/T50	G/T41	G/T51	G/T42	G/T52	Special Contracts	Total Division
Nov-17	1,736	151,019	81,778	13,781	122,412	38,757	58,866	135,958	96,272	700,579
Dec-17	2,185	241,260	141,867	15,499	180,468	42,715	87,030	131,826	99,403	942,253
Jan-18	2,888	349,154	212,518	18,112	257,740	52,321	106,836	148,987	98,999	1,247,556
Feb-18	3,025	362,889	224,727	18,504	270,783	52,424	93,863	132,076	95,391	1,253,684
Mar-18	2,485	288,445	177,548	17,196	218,307	49,186	82,756	157,612	107,352	1,100,889
Apr-18	2,228	216,145	126,365	15,447	153,535	41,653	65,183	125,712	107,394	853,662
May-18	1,751	115,248	57,247	13,893	85,219	36,944	39,628	129,113	112,793	591,835
Jun-18	1,332	47,932	18,082	12,712	38,591	30,018	20,994	117,038	97,604	384,303
Jul-18	1,414	37,220	11,562	12,947	26,300	28,488	17,750	113,333	90,959	339,973
Aug-18	1,179	34,996	11,479	13,474	26,359	29,102	18,676	122,160	101,031	358,456
Sep-18	1,058	31,812	10,972	12,098	26,548	26,794	24,859	123,725	101,253	359,118
Oct-18	1,301	64,601	27,685	12,768	60,061	34,680	41,743	129,220	106,650	478,708
Winter	14,546	1,608,913	964,803	98,539	1,203,246	277,056	494,535	832,173	604,812	6,098,622
Summer	8,035	331,808	137,026	77,892	263,078	186,025	163,649	734,588	610,292	2,512,392
Total	22,581	1,940,721	1,101,828	176,431	1,466,323	463,081	658,185	1,566,760	1,215,103	8,611,015

Forecast Sales Service Percentage

	Res Non-Heat	Res Heat	G40	G50	G41	G51	G42	G52	Special Contracts	Total Division
Nov-17	100%	100%	80%	81%	41%	45%	21%	3%	0%	45%
Dec-17	100%	100%	83%	81%	42%	41%	22%	3%	0%	52%
Jan-18	100%	100%	87%	83%	54%	49%	26%	3%	0%	60%
Feb-18	100%	100%	89%	85%	61%	55%	28%	4%	0%	64%
Mar-18	100%	100%	88%	84%	58%	52%	28%	3%	0%	58%
Apr-18	100%	100%	90%	84%	61%	52%	31%	3%	0%	57%
May-18	100%	100%	88%	83%	60%	52%	26%	2%	0%	44%
Jun-18	100%	100%	86%	83%	60%	49%	21%	5%	0%	32%
Jul-18	100%	100%	86%	83%	57%	47%	20%	4%	0%	28%
Aug-18	100%	100%	85%	84%	56%	48%	19%	4%	0%	26%
Sep-18	100%	100%	70%	82%	27%	41%	19%	2%	0%	21%
Oct-18	100%	100%	64%	81%	22%	45%	22%	2%	0%	28%
Winter	100%	100%	87%	83%	54%	49%	26%	3%	0%	57%
Summer	100%	100%	81%	83%	47%	47%	22%	3%	0%	31%
Total	100%	100%	86%	83%	53%	48%	25%	3%	0%	50%

Northern Utilities, Inc.
New Hampshire Division
Estimation of Northern - New Hampshire City-Gate Sendout Requirement

Month	Sales Service Deliveries (Dth)	Estimated Company Use Factor	Estimated Company Use (Dth)	Sales Service plus Company Use (Dth)	Lost and Unaccounted For (Percent)	Lost and Unaccounted For (Dth)	Estimated Division Sales Service Sendout (Dth)	Estimated Company-Managed Sales	Total Estimated City-Gate Sendout Requirement
Nov-17	423,393	0.02%	85	423,478	1.24%	5,250	428,728	24,802	453,530
Dec-17	645,024	0.02%	129	645,153	1.24%	7,998	653,151	93,243	746,394
Jan-18	797,918	0.02%	160	798,078	1.24%	9,894	807,972	101,573	909,545
Feb-18	700,400	0.02%	140	700,540	1.24%	8,685	709,225	109,035	818,260
Mar-18	600,815	0.02%	120	600,935	1.24%	7,450	608,385	83,489	691,874
Apr-18	319,047	0.02%	64	319,111	1.24%	3,956	323,067	0	323,067
May-18	162,789	0.02%	33	162,822	1.24%	2,019	164,841	0	164,841
Jun-18	111,713	0.02%	22	111,735	1.24%	1,385	113,120	0	113,120
Jul-18	97,247	0.02%	19	97,266	1.24%	1,206	98,472	0	98,472
Aug-18	97,769	0.02%	20	97,789	1.24%	1,212	99,001	0	99,001
Sep-18	102,629	0.02%	21	102,650	1.24%	1,273	103,923	0	103,923
Oct-18	214,810	0.02%	43	214,853	1.24%	2,664	217,517	0	217,517
Winter	3,486,598	0.02%	698	3,487,296	1.24%	43,233	3,530,529	412,142	3,942,671
Summer	786,957	0.02%	158	787,115	1.24%	9,759	796,874	0	796,874
Annual	4,273,555	0.02%	856	4,274,411	1.24%	52,992	4,327,403	412,142	4,739,545

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)
Jun-13	329,789	1.0282	339,078	377,016	108	(38,046)	(37,938)
Jul-13	307,298	1.0254	315,115	310,556	103	4,457	4,560
Aug-13	324,300	1.0224	331,578	320,392	171	11,015	11,186
Sep-13	341,607	1.0283	351,264	328,259	121	22,884	23,005
Oct-13	463,115	1.0341	478,926	396,543	83	82,300	82,383
Nov-13	764,232	1.0279	785,516	645,185	118	140,213	140,331
Dec-13	1,077,950	1.0298	1,110,116	927,753	225	182,138	182,363
Jan-14	1,180,078	1.0366	1,223,292	1,194,071	318	28,902	29,221
Feb-14	1,011,674	1.0333	1,045,362	1,163,532	338	(118,508)	(118,170)
Mar-14	1,023,937	1.0297	1,054,317	1,102,360	304	(48,347)	(48,043)
Apr-14	616,062	1.0311	635,247	806,704	236	(171,692)	(171,457)
May-14	416,810	1.0334	430,715	529,156	117	(98,558)	(98,441)
Jun-14	362,967	1.0373	376,517	414,423	54	(37,960)	(37,906)
Jul-14	319,306	1.0337	330,057	333,540	110	(3,593)	(3,483)
Aug-14	325,691	1.0307	335,703	327,519	150	8,034	8,184
Sep-14	349,196	1.0256	358,136	339,140	108	18,888	18,996
Oct-14	460,496	1.0259	472,423	415,928	78	56,417	56,495
Nov-14	776,035	1.0279	797,664	611,351	112	186,201	186,313
Dec-14	961,855	1.0321	992,769	919,428	233	73,109	73,341
Jan-15	1,280,811	1.0380	1,329,443	1,177,406	349	151,689	152,037
Feb-15	1,266,593	1.0395	1,316,623	1,330,991	415	(14,783)	(14,368)
Mar-15	1,068,073	1.0330	1,103,331	1,193,833	373	(90,875)	(90,502)
Apr-15	647,595	1.0286	666,083	837,472	237	(171,626)	(171,389)
May-15	390,988	1.0285	402,147	463,370	98	(61,321)	(61,223)
Jun-15	374,117	1.0277	384,462	406,358	72	(21,967)	(21,895)
Jul-15	347,251	1.0271	356,669	377,555	58	(20,944)	(20,886)
Aug-15	344,262	1.0276	353,760	328,341	117	25,302	25,419
Sep-15	362,937	1.0268	372,653	363,264	136	9,254	9,390
Oct-15	554,889	1.0302	571,663	464,142	89	107,432	107,521
Nov-15	681,771	1.0292	701,706	594,707	117	106,882	106,999
Dec-15	812,026	1.0296	836,038	793,202	217	42,619	42,836
Jan-16	1,139,171	1.0367	1,181,001	1,044,531	305	136,165	136,470
Feb-16	1,009,991	1.0399	1,050,280	1,112,904	332	(62,956)	(62,624)
Mar-16	846,669	1.0307	872,654	966,540	226	(94,112)	(93,886)
Apr-16	679,627	1.0291	699,384	746,400	236	(47,252)	(47,016)
May-16	475,600	1.0254	487,675	546,425	83	(58,833)	(58,750)
Jun-16	357,643	1.0279	367,636	388,602	46	(21,012)	(20,966)
Jul-16	333,740	1.0234	341,546	330,291	48	11,207	11,255
Aug-16	351,745	1.0268	361,183	362,108	77	(1,002)	(925)
Sep-16	344,260	1.0275	353,710	362,479	85	(8,854)	(8,769)
Oct-16	534,187	1.0277	548,995	450,914	76	98,005	98,081
Nov-16	727,721	1.0255	746,307	632,412	109	113,786	113,895
Dec-16	1,070,154	1.0296	1,101,863	914,019	180	187,664	187,844
Jan-17	1,072,453	1.0310	1,105,656	1,096,068	219	9,369	9,588
Feb-17	933,805	1.0393	970,504	1,031,216	218	(60,930)	(60,712)
Mar-17	1,096,739	1.0314	1,131,198	1,031,817	211	99,170	99,381
Apr-17	608,829	1.0277	625,669	834,527	162	(209,020)	(208,858)
May-17	505,254	1.0276	519,184	568,537	74	(49,427)	(49,353)
Total	31,631,302	1.0313	32,622,818	32,213,283	8,052	401,484	409,535
48-Month Average					0.02%	1.24%	1.26%

Northern Utilities - NEW HAMPSHIRE DIVISION
Allocation of Commodity Costs to Customer Classes

Base Commodity Costs

1	**BASE SENDOUT BY CLASS**	**Nov-17**	**Dec-17**	**Jan-18**	**Feb-18**	**Mar-18**	**Apr-18**	**May-18**	**Jun-18**	**Jul-18**	**Aug-18**	**Sep-18**	**Oct-18**	**Annual**	**Winter**	**Summer**
2	**Total Therms**															
3	Res Heat	402,879	416,308	416,308	376,020	416,308	402,879	416,308	402,879	415,194	416,308	402,879	416,308	4,900,577	2,430,701	2,469,875
4	Res General	9,756	10,081	10,081	9,106	10,081	9,756	10,081	9,756	10,054	10,081	9,756	10,081	118,674	58,863	59,811
5	G50 Low Annual-Low Winter	78,040	80,642	80,642	72,838	80,642	75,870	80,642	78,040	80,426	80,642	78,040	80,642	947,104	468,673	478,431
6	G40 Low Annual-High Winter	134,974	139,474	139,474	125,976	139,474	134,974	139,474	134,974	139,100	139,474	134,974	139,474	1,641,816	814,346	827,470
7	G51 Med Annual-Low Winter	106,137	109,675	109,675	99,061	109,675	106,137	109,675	106,137	109,381	109,675	106,137	109,675	1,291,037	640,359	650,679
8	G41 Med Annual-High Winter	151,134	156,171	156,171	141,058	156,171	151,134	156,171	151,134	155,753	156,171	151,134	156,171	1,838,374	911,839	926,535
9	G52 High Annual-Low Winter	29,269	30,244	30,244	27,317	30,244	24,290	30,244	29,269	30,163	30,244	29,269	30,244	351,042	171,608	179,434
10	G42 High Annual-High Winter	43,327	44,772	44,772	40,439	44,772	43,327	44,772	43,327	44,652	44,772	43,327	44,772	527,031	261,409	265,622
11	Total Firm Sales	955,516	987,367	987,367	891,815	987,367	948,367	987,367	955,516	984,725	987,367	955,516	987,367	11,615,656	5,757,798	5,857,857
12	**% of Total**															
13	Res Heat	42.16%	42.16%	42.16%	42.16%	42.16%	42.48%	42.16%	42.16%	42.16%	42.16%	42.16%	42.16%			
14	Res General	1.02%	1.02%	1.02%	1.02%	1.02%	1.03%	1.02%	1.02%	1.02%	1.02%	1.02%	1.02%			
15	G50 Low Annual-Low Winter	8.17%	8.17%	8.17%	8.17%	8.17%	8.00%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%			
16	G40 Low Annual-High Winter	14.13%	14.13%	14.13%	14.13%	14.13%	14.23%	14.13%	14.13%	14.13%	14.13%	14.13%	14.13%			
17	G51 Med Annual-Low Winter	11.11%	11.11%	11.11%	11.11%	11.11%	11.19%	11.11%	11.11%	11.11%	11.11%	11.11%	11.11%			
18	G41 Med Annual-High Winter	15.82%	15.82%	15.82%	15.82%	15.82%	15.94%	15.82%	15.82%	15.82%	15.82%	15.82%	15.82%			
19	G52 High Annual-Low Winter	3.06%	3.06%	3.06%	3.06%	3.06%	2.56%	3.06%	3.06%	3.06%	3.06%	3.06%	3.06%			
20	G42 High Annual-High Winter	4.53%	4.53%	4.53%	4.53%	4.53%	4.57%	4.53%	4.53%	4.53%	4.53%	4.53%	4.53%			
21	Total Firm Sales	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%			

22	**BASE COMMODITY COSTS Excld Hedging**	**Nov-17**	**Dec-17**	**Jan-18**	**Feb-18**	**Mar-18**	**Apr-18**	**May-18**	**Jun-18**	**Jul-18**	**Aug-18**	**Sep-18**	**Oct-18**	**Annual**	**Winter**	**Summer**
23	TOTAL BASE COMMODITY Excld Hedging	$ 290,645	$ 471,774	$ 539,176	$ 458,997	$ 338,637	$ 272,362	$ 264,854	$ 256,033	$ 265,213	$ 265,157	$ 249,594	$ 264,803	$ 3,937,244	$ 2,371,591	$ 1,565,653
24	Res Heat	$ 122,546	$ 198,916	$ 227,335	$ 193,529	$ 142,781	$ 115,703	$ 111,671	$ 107,952	$ 111,823	$ 111,799	$ 105,237	$ 111,650	$ 1,660,944	$ 1,000,810	$ 660,133
25	Res General	$ 2,968	$ 4,817	$ 5,505	$ 4,687	$ 3,458	$ 2,802	$ 2,704	$ 2,614	$ 2,708	$ 2,707	$ 2,548	$ 2,704	$ 40,222	$ 24,236	$ 15,986
26	G50 Low Annual-Low Winter	$ 23,738	$ 38,531	$ 44,036	$ 37,488	$ 27,658	$ 21,789	$ 21,632	$ 20,911	$ 21,661	$ 21,656	$ 20,385	$ 21,627	$ 321,113	$ 193,240	$ 127,872
27	G40 Low Annual-High Winter	$ 41,056	$ 66,642	$ 76,163	$ 64,837	$ 47,835	$ 38,763	$ 37,413	$ 36,167	$ 37,463	$ 37,456	$ 35,257	$ 37,406	$ 556,458	$ 335,297	$ 221,161
28	G51 Med Annual-Low Winter	$ 32,284	$ 52,404	$ 59,891	$ 50,984	$ 37,615	$ 30,481	$ 29,419	$ 28,440	$ 29,459	$ 29,453	$ 27,724	$ 29,414	$ 437,569	$ 263,660	$ 173,910
29	G41 Med Annual-High Winter	$ 45,971	$ 74,620	$ 85,281	$ 72,599	$ 53,562	$ 43,404	$ 41,892	$ 40,497	$ 41,949	$ 41,940	$ 39,478	$ 41,884	$ 623,077	$ 375,438	$ 247,639
30	G52 High Annual-Low Winter	$ 8,903	$ 14,451	$ 16,516	$ 14,060	$ 10,373	$ 6,976	$ 8,113	$ 7,843	$ 8,124	$ 8,122	$ 7,645	$ 8,111	$ 119,236	$ 71,278	$ 47,958
31	G42 High Annual-High Winter	$ 13,179	$ 21,392	$ 24,449	$ 20,813	$ 15,355	$ 12,443	$ 12,010	$ 11,610	$ 12,026	$ 12,023	$ 11,318	$ 12,007	$ 178,626	$ 107,632	$ 70,994
32																
33	Residential	$ 125,514	$ 203,733	$ 232,840	$ 198,216	$ 146,239	$ 118,505	$ 114,376	$ 110,566	$ 114,531	$ 114,507	$ 107,786	$ 114,354	$ 1,701,166	$ 1,025,046	$ 676,119
34	SALES HLF CLASSES	$ 64,925	$ 105,386	$ 120,443	$ 102,532	$ 75,646	$ 59,246	$ 59,164	$ 57,193	$ 59,244	$ 59,231	$ 55,755	$ 59,152	$ 877,917	$ 528,178	$ 349,740
35	SALES LLF CLASSES	$ 100,206	$ 162,655	$ 185,893	$ 158,249	$ 116,753	$ 94,611	$ 91,314	$ 88,273	$ 91,438	$ 91,419	$ 86,053	$ 91,297	$ 1,358,160	$ 818,367	$ 539,794

36	**NEW HAMPSHIRE BASE HEDGING COMMODITY COSTS**	**Nov-17**	**Dec-17**	**Jan-18**	**Feb-18**	**Mar-18**	**Apr-18**	**May-18**	**Jun-18**	**Jul-18**	**Aug-18**	**Sep-18**	**Oct-18**	**Annual**	**Winter**	**Summer**
37	TOTAL BASE HEDGING COMMODITY	$ 4,068	$ 5,104	$ 7,891	$ 7,003	$ 5,536	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 29,603	$ 29,603	$ -
38	Res Heat	$ 1,715	$ 2,152	$ 3,327	$ 2,953	$ 2,334	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,482	$ 12,482	$ -
39	Res General	$ 42	$ 52	$ 81	$ 72	$ 57	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 302	$ 302	$ -
40	G50 Low Annual-Low Winter	$ 332	$ 417	$ 645	$ 572	$ 452	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,418	$ 2,418	$ -
41	G40 Low Annual-High Winter	$ 575	$ 721	$ 1,115	$ 989	$ 782	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,182	$ 4,182	$ -
42	G51 Med Annual-Low Winter	$ 452	$ 567	$ 877	$ 778	$ 615	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,288	$ 3,288	$ -
43	G41 Med Annual-High Winter	$ 643	$ 807	$ 1,248	$ 1,108	$ 876	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,682	$ 4,682	$ -
44	G52 High Annual-Low Winter	$ 125	$ 156	$ 242	$ 215	$ 170	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 907	$ 907	$ -
45	G42 High Annual-High Winter	$ 184	$ 231	$ 358	$ 318	$ 251	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,342	$ 1,342	$ -
46																
47	Residential	$ 1,757	$ 2,204	$ 3,408	$ 3,024	$ 2,391	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,784	$ 12,784	$ -
48	SALES HLF CLASSES	$ 909	$ 1,140	$ 1,763	$ 1,564	$ 1,237	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,613	$ 6,613	$ -
49	SALES LLF CLASSES	$ 1,403	$ 1,760	$ 2,721	$ 2,415	$ 1,909	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,206	$ 10,206	$ -

Northern Utilities - NEW HAMPSHIRE DIVISION
Allocation of Commodity Costs to Customer Classes

Base Commodity Costs

1	**BASE SENDOUT BY CLASS**	
2	**Total Therms**	
3	Res Heat	Schedule 10B, LN 52
4	Res General	Schedule 10B, LN 53
5	G50 Low Annual-Low Winter	Schedule 10B, LN 54
6	G40 Low Annual-High Winter	Schedule 10B, LN 55
7	G51 Med Annual-Low Winter	Schedule 10B, LN 56
8	G41 Med Annual-High Winter	Schedule 10B, LN 57
9	G52 High Annual-Low Winter	Schedule 10B, LN 58
10	G42 High Annual-High Winter	Schedule 10B, LN 59
11	Total Firm Sales	Sum LN 3 : LN 10
12	**% of Total**	
13	Res Heat	LN 3 / LN 11
14	Res General	LN 4 / LN 11
15	G50 Low Annual-Low Winter	LN 5 / LN 11
16	G40 Low Annual-High Winter	LN 6 / LN 11
17	G51 Med Annual-Low Winter	LN 7 / LN 11
18	G41 Med Annual-High Winter	LN 8 / LN 11
19	G52 High Annual-Low Winter	LN 9 / LN 11
20	G42 High Annual-High Winter	LN 10 / LN 11
21	Total Firm Sales	Sum LN 13 : LN 20
22	**BASE COMMODITY COSTS Excld Hedging**	
23	TOTAL BASE COMMODITY Excld Hedging	Schedule 1B, LN 37
24	Res Heat	LN 23 * LN 13
25	Res General	LN 23 * LN 14
26	G50 Low Annual-Low Winter	LN 23 * LN 15
27	G40 Low Annual-High Winter	LN 23 * LN 16
28	G51 Med Annual-Low Winter	LN 23 * LN 17
29	G41 Med Annual-High Winter	LN 23 * LN 18
30	G52 High Annual-Low Winter	LN 23 * LN 19
31	G42 High Annual-High Winter	LN 23 * LN 20
32		
33	Residential	LN 24 + LN 25
34	SALES HLF CLASSES	LN 26 + LN 28 + LN 30
35	SALES LLF CLASSES	LN 27 + LN 29 + LN 31
36	**NEW HAMPSHIRE BASE HEDGING COMMODITY COSTS**	
37	TOTAL BASE HEDGING COMMODITY	Schedule 1B, LN 38
38	Res Heat	LN 37 * LN 13
39	Res General	LN 37 * LN 14
40	G50 Low Annual-Low Winter	LN 37 * LN 15
41	G40 Low Annual-High Winter	LN 37 * LN 16
42	G51 Med Annual-Low Winter	LN 37 * LN 17
43	G41 Med Annual-High Winter	LN 37 * LN 18
44	G52 High Annual-Low Winter	LN 37 * LN 19
45	G42 High Annual-High Winter	LN 37 * LN 20
46		
47	Residential	LN 38 + LN 39
48	SALES HLF CLASSES	LN 40 + LN 42 + LN 44
49	SALES LLF CLASSES	LN 41 + LN 43 + LN 45

Northern Utilities - NEW HAMPSHIRE DIVISION
Allocation of Commodity Costs to Customer Classes

Remaining Commodity Costs

#	REMAINING SENDOUT BY CLASS	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	Summer
51	**Total Therms**															
52	Res Heat	1,575,512	2,597,700	3,312,130	2,896,743	2,391,126	1,087,936	278,715	74,077	-	1,114	35,294	500,816	14,751,164	13,861,148	890,016
53	Res General	8,130	17,168	23,628	20,483	15,301	3,722	6,749	1,794	-	27	855	12,128	109,986	88,433	21,553
54	G50 Low Annual-Low Winter	22,643	72,746	109,105	93,719	62,233	-	53,989	14,349	-	216	6,837	97,011	532,848	360,446	172,402
55	G40 Low Annual-High Winter	897,371	1,433,267	1,806,065	1,581,786	1,325,475	642,948	93,377	24,818	-	373	11,824	167,786	7,985,089	7,686,912	298,178
56	G51 Med Annual-Low Winter	62,040	146,537	207,268	179,146	128,976	20,593	73,426	19,515	-	293	9,298	131,938	979,031	744,559	234,471
57	G41 Med Annual-High Winter	648,709	1,062,360	1,351,197	1,182,085	978,844	451,587	104,556	27,789	-	418	13,240	187,873	6,008,657	5,674,782	333,875
58	G52 High Annual-Low Winter	2,965	18,862	30,502	26,005	15,497	-	20,248	5,382	-	81	2,564	36,384	158,490	93,831	64,659
59	G42 High Annual-High Winter	114,390	195,506	252,460	220,467	179,038	75,521	29,974	7,967	-	120	3,796	53,860	1,133,098	1,037,382	95,716
60	Total Firm Sales	3,331,761	5,544,147	7,092,355	6,200,434	5,096,490	2,282,307	661,036	175,690	-	2,642	83,706	1,187,796	31,658,363	29,547,493	2,110,870
61	**% of Total**															
62	Res Heat	47.29%	46.85%	46.70%	46.72%	46.92%	47.67%	42.16%	42.16%	42.16%	42.16%	42.16%	42.16%			
63	Res General	0.24%	0.31%	0.33%	0.33%	0.30%	0.16%	1.02%	1.02%	1.02%	1.02%	1.02%	1.02%			
64	G50 Low Annual-Low Winter	0.68%	1.31%	1.54%	1.51%	1.22%	0.00%	8.17%	8.17%	8.17%	8.17%	8.17%	8.17%			
65	G40 Low Annual-High Winter	26.93%	25.85%	25.46%	25.51%	26.01%	28.17%	14.13%	14.13%	14.13%	14.13%	14.13%	14.13%			
66	G51 Med Annual-Low Winter	1.86%	2.64%	2.92%	2.89%	2.53%	0.90%	11.11%	11.11%	11.11%	11.11%	11.11%	11.11%			
67	G41 Med Annual-High Winter	19.47%	19.16%	19.05%	19.06%	19.21%	19.79%	15.82%	15.82%	15.82%	15.82%	15.82%	15.82%			
68	G52 High Annual-Low Winter	0.09%	0.34%	0.43%	0.42%	0.30%	0.00%	3.06%	3.06%	3.06%	3.06%	3.06%	3.06%			
69	G42 High Annual-High Winter	3.43%	3.53%	3.56%	3.56%	3.51%	3.31%	4.53%	4.53%	4.53%	4.53%	4.53%	4.53%			
70	Total Firm Sales	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%			

#	REMAINING COMMODITY COSTS EXCLD HEDGING	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	Summer
72	REMAINING COMMODITY Excld Hedging	$ 1,017,904	$ 2,256,815	$ 3,929,392	$ 2,798,508	$ 1,759,142	$ 658,805	$ 180,304	$ 49,986	$ 2,963	$ 3,683	$ 24,698	$ 321,566	$ 13,003,767	$ 12,420,566	$ 583,201
73	Res Heat	$ 481,343	$ 1,057,427	$ 1,835,026	$ 1,307,418	$ 825,339	$ 314,041	$ 76,022	$ 21,076	$ 1,249	$ 1,553	$ 10,414	$ 135,583	$ 6,066,492	$ 5,820,594	$ 245,898
74	Res General	$ 2,484	$ 6,989	$ 13,090	$ 9,245	$ 5,281	$ 1,074	$ 1,841	$ 510	$ 30	$ 38	$ 252	$ 3,283	$ 44,119	$ 38,164	$ 5,955
75	G50 Low Annual-Low Winter	$ 6,918	$ 29,612	$ 60,447	$ 42,299	$ 21,481	$ -	$ 14,726	$ 4,083	$ 242	$ 301	$ 2,017	$ 26,263	$ 208,390	$ 160,758	$ 47,632
76	G40 Low Annual-High Winter	$ 274,161	$ 583,430	$ 1,000,618	$ 713,924	$ 457,511	$ 185,592	$ 25,469	$ 7,061	$ 419	$ 520	$ 3,489	$ 45,424	$ 3,297,617	$ 3,215,235	$ 82,382
77	G51 Med Annual-Low Winter	$ 18,954	$ 59,650	$ 114,833	$ 80,856	$ 44,518	$ 5,944	$ 20,028	$ 5,552	$ 329	$ 409	$ 2,743	$ 35,719	$ 389,536	$ 324,755	$ 64,781
78	G41 Med Annual-High Winter	$ 198,191	$ 432,447	$ 748,606	$ 533,523	$ 337,865	$ 130,354	$ 28,519	$ 7,906	$ 469	$ 583	$ 3,906	$ 50,862	$ 2,473,231	$ 2,380,986	$ 92,245
79	G52 High Annual-Low Winter	$ 906	$ 7,678	$ 16,899	$ 11,737	$ 5,349	$ -	$ 5,523	$ 1,531	$ 91	$ 113	$ 757	$ 9,850	$ 60,433	$ 42,569	$ 17,864
80	G42 High Annual-High Winter	$ 34,948	$ 79,583	$ 139,871	$ 99,506	$ 61,798	$ 21,800	$ 8,176	$ 2,267	$ 134	$ 167	$ 1,120	$ 14,581	$ 463,951	$ 437,506	$ 26,445
81																
82	Residential	$ 483,827	$ 1,064,415	$ 1,848,117	$ 1,316,663	$ 830,620	$ 315,116	$ 77,863	$ 21,586	$ 1,280	$ 1,591	$ 10,666	$ 138,867	$ 6,110,610	$ 5,858,758	$ 251,852
83	SALES HLF CLASSES	$ 26,778	$ 96,940	$ 192,180	$ 134,892	$ 71,348	$ 5,944	$ 40,277	$ 11,166	$ 662	$ 823	$ 5,517	$ 71,832	$ 658,359	$ 528,082	$ 130,277
84	SALES LLF CLASSES	$ 507,299	$ 1,095,460	$ 1,889,095	$ 1,346,953	$ 857,174	$ 337,746	$ 62,164	$ 17,234	$ 1,022	$ 1,270	$ 8,515	$ 110,867	$ 6,234,798	$ 6,033,726	$ 201,071

#	REMAINING COMMODITY HEDGING COSTS	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	Summer
86	TOTAL REMAINING COMMODITY HEDGING	$ 6,961	$ 13,898	$ 21,019	$ 22,546	$ 18,002	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 82,425	$ 82,425	$ -
87	Res Heat	$ 3,292	$ 6,512	$ 9,816	$ 10,533	$ 8,446	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 38,598	$ 38,598	$ -
88	Res General	$ 17	$ 43	$ 70	$ 74	$ 54	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 259	$ 259	$ -
89	G50 Low Annual-Low Winter	$ 47	$ 182	$ 323	$ 341	$ 220	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,114	$ 1,114	$ -
90	G40 Low Annual-High Winter	$ 1,875	$ 3,593	$ 5,352	$ 5,752	$ 4,682	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 21,254	$ 21,254	$ -
91	G51 Med Annual-Low Winter	$ 130	$ 367	$ 614	$ 651	$ 456	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,218	$ 2,218	$ -
92	G41 Med Annual-High Winter	$ 1,355	$ 2,663	$ 4,004	$ 4,298	$ 3,457	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 15,779	$ 15,779	$ -
93	G52 High Annual-Low Winter	$ 6	$ 47	$ 90	$ 95	$ 55	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 293	$ 293	$ -
94	G42 High Annual-High Winter	$ 239	$ 490	$ 748	$ 802	$ 632	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,911	$ 2,911	$ -
95														$ -	$ -	$ -
96	Residential	$ 3,309	$ 6,555	$ 9,886	$ 10,608	$ 8,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 38,857	$ 38,857	$ -
97	SALES HLF CLASSES	$ 183	$ 597	$ 1,028	$ 1,087	$ 730	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,625	$ 3,625	$ -
98	SALES LLF CLASSES	$ 3,469	$ 6,746	$ 10,105	$ 10,852	$ 8,772	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 39,944	$ 39,944	$ -

Northern Utilities - NEW HAMPSHIRE DIVISION
Allocation of Commodity Costs to Customer Classes

Remaining Commodity Costs

50	**REMAINING SENDOUT BY CLASS**	
51	**Total Therms**	
52	Res Heat	Schedule 10B, LN 68
53	Res General	Schedule 10B, LN 69
54	G50 Low Annual-Low Winter	Schedule 10B, LN 70
55	G40 Low Annual-High Winter	Schedule 10B, LN 71
56	G51 Med Annual-Low Winter	Schedule 10B, LN 72
57	G41 Med Annual-High Winter	Schedule 10B, LN 73
58	G52 High Annual-Low Winter	Schedule 10B, LN 74
59	G42 High Annual-High Winter	Schedule 10B, LN 75
60	Total Firm Sales	Sum LN 52 : LN 59
61	**% of Total**	
62	Res Heat	LN 52 / LN 60
63	Res General	LN 53 / LN 60
64	G50 Low Annual-Low Winter	LN 54 / LN 60
65	G40 Low Annual-High Winter	LN 55 / LN 60
66	G51 Med Annual-Low Winter	LN 56 / LN 60
67	G41 Med Annual-High Winter	LN 57 / LN 60
68	G52 High Annual-Low Winter	LN 58 / LN 60
69	G42 High Annual-High Winter	LN 59 / LN 60
70	Total Firm Sales	Sum LN 62 : LN 69

71	**REMAINING COMMODITY COSTS EXCLD HEDGING**	
72	REMAINING COMMODITY Excld Hedging	Schedule 1B, LN 39
73	Res Heat	LN 72 * LN 62
74	Res General	LN 72 * LN 63
75	G50 Low Annual-Low Winter	LN 72 * LN 64
76	G40 Low Annual-High Winter	LN 72 * LN 65
77	G51 Med Annual-Low Winter	LN 72 * LN 66
78	G41 Med Annual-High Winter	LN 72 * LN 67
79	G52 High Annual-Low Winter	LN 72 * LN 68
80	G42 High Annual-High Winter	LN 72 * LN 69
81		
82	Residential	LN 73 + LN 74
83	SALES HLF CLASSES	LN 75 + LN 77 + LN 79
84	SALES LLF CLASSES	LN 76 + LN 78 + LN 80

85	**REMAINING COMMODITY HEDGING COSTS**	
86	TOTAL REMAINING COMMODITY HEDGING	Schedule 1B, LN 40
87	Res Heat	LN 86 * LN 62
88	Res General	LN 86 * LN 63
89	G50 Low Annual-Low Winter	LN 86 * LN 64
90	G40 Low Annual-High Winter	LN 86 * LN 65
91	G51 Med Annual-Low Winter	LN 86 * LN 66
92	G41 Med Annual-High Winter	LN 86 * LN 67
93	G52 High Annual-Low Winter	LN 86 * LN 68
94	G42 High Annual-High Winter	LN 86 * LN 69
95		
96	Residential	LN 87 + LN 88
97	SALES HLF CLASSES	LN 89 + LN 91 + LN 93
98	SALES LLF CLASSES	LN 90 + LN 92 + LN 94

Northern Utilities - NEW HAMPSHIRE DIVISION
Allocation of Commodity Costs to Customer Classes

Total Commodity Costs

#	TOTAL COMMODITY COSTS Excluding Hedging	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	Summer
99	**TOTAL COMMODITY COSTS Excluding Hedging**	**Nov-17**	**Dec-17**	**Jan-18**	**Feb-18**	**Mar-18**	**Apr-18**	**May-18**	**Jun-18**	**Jul-18**	**Aug-18**	**Sep-18**	**Oct-18**	**Annual**	**Winter**	**Summer**
100	TOTAL COMMODITY Excld Hedging	$ 1,308,549	$ 2,728,589	$ 4,468,568	$ 3,257,505	$ 2,097,779	$ 931,167	$ 445,157	$ 306,019	$ 268,176	$ 268,840	$ 274,292	$ 586,370	$ 16,941,010	$ 14,792,157	$ 2,148,854
101	Res Heat	$ 603,889	$ 1,256,343	$ 2,062,362	$ 1,500,947	$ 968,120	$ 429,744	$ 187,694	$ 129,028	$ 113,072	$ 113,352	$ 115,651	$ 247,234	$ 7,727,435	$ 6,821,404	$ 906,031
102	Res General	$ 5,452	$ 11,806	$ 18,596	$ 13,932	$ 8,739	$ 3,876	$ 4,545	$ 3,125	$ 2,738	$ 2,745	$ 2,801	$ 5,987	$ 84,341	$ 62,400	$ 21,941
103	G50 Low Annual-Low Winter	$ 30,656	$ 68,144	$ 104,484	$ 79,787	$ 49,139	$ 21,789	$ 36,358	$ 24,994	$ 21,903	$ 21,957	$ 22,402	$ 47,891	$ 529,502	$ 353,998	$ 175,504
104	G40 Low Annual-High Winter	$ 315,217	$ 650,071	$ 1,076,781	$ 778,761	$ 505,346	$ 224,355	$ 62,882	$ 43,228	$ 37,882	$ 37,976	$ 38,746	$ 82,830	$ 3,854,074	$ 3,550,531	$ 303,543
105	G51 Med Annual-Low Winter	$ 51,238	$ 112,053	$ 174,724	$ 131,840	$ 82,134	$ 36,426	$ 49,447	$ 33,992	$ 29,788	$ 29,862	$ 30,468	$ 65,133	$ 827,105	$ 588,415	$ 238,690
106	G41 Med Annual-High Winter	$ 244,162	$ 507,067	$ 833,887	$ 606,123	$ 391,427	$ 173,758	$ 70,410	$ 48,403	$ 42,417	$ 42,522	$ 43,385	$ 92,746	$ 3,096,307	$ 2,756,424	$ 339,883
107	G52 High Annual-Low Winter	$ 9,809	$ 22,129	$ 33,415	$ 25,797	$ 15,722	$ 6,976	$ 13,636	$ 9,374	$ 8,215	$ 8,235	$ 8,402	$ 17,961	$ 179,669	$ 113,847	$ 65,822
108	G42 High Annual-High Winter	$ 48,127	$ 100,976	$ 164,320	$ 120,319	$ 77,153	$ 34,243	$ 20,185	$ 13,876	$ 12,160	$ 12,190	$ 12,438	$ 26,589	$ 642,576	$ 545,137	$ 97,439
109																
110	Residential	$ 609,341	$ 1,268,148	$ 2,080,957	$ 1,514,879	$ 976,859	$ 433,620	$ 192,239	$ 132,153	$ 115,810	$ 116,097	$ 118,452	$ 253,221	$ 7,811,776	$ 6,883,804	$ 927,972
111	SALES HLF CLASSES	$ 91,703	$ 202,326	$ 312,622	$ 237,424	$ 146,994	$ 65,191	$ 99,440	$ 68,359	$ 59,906	$ 60,054	$ 61,272	$ 130,985	$ 1,536,276	$ 1,056,260	$ 480,017
112	SALES LLF CLASSES	$ 607,506	$ 1,258,114	$ 2,074,988	$ 1,505,202	$ 973,926	$ 432,356	$ 153,478	$ 105,507	$ 92,460	$ 92,689	$ 94,568	$ 202,164	$ 7,592,958	$ 6,852,093	$ 740,865
113	**TOTAL HEDGING COMMODITY COSTS**	**Nov-17**	**Dec-17**	**Jan-18**	**Feb-18**	**Mar-18**	**Apr-18**	**May-18**	**Jun-18**	**Jul-18**	**Aug-18**	**Sep-18**	**Oct-18**	**Annual**	**Winter**	**Summer**
114	TOTAL HEDGING COMMODITY	$ 11,029	$ 19,001	$ 28,910	$ 29,550	$ 23,538	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 112,028	$ 112,028	$ -
115	Res Heat	$ 5,007	$ 8,664	$ 13,143	$ 13,486	$ 10,780	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 51,080	$ 51,080	$ -
116	Res General	$ 59	$ 95	$ 151	$ 146	$ 111	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 561	$ 561	$ -
117	G50 Low Annual-Low Winter	$ 380	$ 599	$ 968	$ 913	$ 672	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,531	$ 3,531	$ -
118	G40 Low Annual-High Winter	$ 2,449	$ 4,314	$ 6,467	$ 6,741	$ 5,464	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 25,435	$ 25,435	$ -
119	G51 Med Annual-Low Winter	$ 581	$ 934	$ 1,491	$ 1,429	$ 1,071	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,506	$ 5,506	$ -
120	G41 Med Annual-High Winter	$ 1,999	$ 3,470	$ 5,253	$ 5,406	$ 4,333	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,461	$ 20,461	$ -
121	G52 High Annual-Low Winter	$ 131	$ 204	$ 332	$ 309	$ 224	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,200	$ 1,200	$ -
122	G42 High Annual-High Winter	$ 423	$ 722	$ 1,106	$ 1,119	$ 883	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,254	$ 4,254	$ -
123																
124	Residential	$ 5,065	$ 8,759	$ 13,294	$ 13,632	$ 10,891	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 51,641	$ 51,641	$ -
125	SALES HLF CLASSES	$ 1,092	$ 1,737	$ 2,791	$ 2,651	$ 1,967	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,238	$ 10,238	$ -
126	SALES LLF CLASSES	$ 4,872	$ 8,506	$ 12,826	$ 13,266	$ 10,680	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 50,150	$ 50,150	$ -
127	TOTAL COMMODITY	**Nov-17**	**Dec-17**	**Jan-18**	**Feb-18**	**Mar-18**	**Apr-18**	**May-18**	**Jun-18**	**Jul-18**	**Aug-18**	**Sep-18**	**Oct-18**	**Annual**	**Winter**	**Summer**
128	Res Heat	$ 608,896	$ 1,265,006	$ 2,075,505	$ 1,514,433	$ 978,900	$ 429,744	$ 187,694	$ 129,028	$ 113,072	$ 113,352	$ 115,651	$ 247,234	$ 7,778,515	$ 6,872,484	$ 906,031
129	Res General	$ 5,510	$ 11,901	$ 18,746	$ 14,078	$ 8,850	$ 3,876	$ 4,545	$ 3,125	$ 2,738	$ 2,745	$ 2,801	$ 5,987	$ 84,901	$ 62,961	$ 21,941
130	G50 Low Annual-Low Winter	$ 31,035	$ 68,743	$ 105,452	$ 80,700	$ 49,811	$ 21,789	$ 36,358	$ 24,994	$ 21,903	$ 21,957	$ 22,402	$ 47,891	$ 533,034	$ 357,529	$ 175,504
131	G40 Low Annual-High Winter	$ 317,666	$ 654,385	$ 1,083,248	$ 785,502	$ 510,810	$ 224,355	$ 62,882	$ 43,228	$ 37,882	$ 37,976	$ 38,746	$ 82,830	$ 3,879,510	$ 3,575,967	$ 303,543
132	G51 Med Annual-Low Winter	$ 51,820	$ 112,987	$ 176,214	$ 133,270	$ 83,204	$ 36,426	$ 49,447	$ 33,992	$ 29,788	$ 29,862	$ 30,468	$ 65,133	$ 832,612	$ 593,921	$ 238,690
133	G41 Med Annual-High Winter	$ 246,161	$ 510,538	$ 839,140	$ 611,529	$ 395,760	$ 173,758	$ 70,410	$ 48,403	$ 42,417	$ 42,522	$ 43,385	$ 92,746	$ 3,116,768	$ 2,776,885	$ 339,883
134	G52 High Annual-Low Winter	$ 9,939	$ 22,333	$ 33,747	$ 26,106	$ 15,946	$ 6,976	$ 13,636	$ 9,374	$ 8,215	$ 8,235	$ 8,402	$ 17,961	$ 180,869	$ 115,047	$ 65,822
135	G42 High Annual-High Winter	$ 48,551	$ 101,697	$ 165,426	$ 121,438	$ 78,037	$ 34,243	$ 20,185	$ 13,876	$ 12,160	$ 12,190	$ 12,438	$ 26,589	$ 646,830	$ 549,391	$ 97,439
136	Total Firm Sales	$ 1,319,578	$ 2,747,590	$ 4,497,478	$ 3,287,055	$ 2,121,317	$ 931,167	$ 445,157	$ 306,019	$ 268,176	$ 268,840	$ 274,292	$ 586,370	$ 17,053,039	$ 14,904,185	$ 2,148,854
137																
138	Residential	$ 614,406	$ 1,276,907	$ 2,094,251	$ 1,528,511	$ 987,749	$ 433,620	$ 192,239	$ 132,153	$ 115,810	$ 116,097	$ 118,452	$ 253,221	$ 7,863,417	$ 6,935,445	$ 927,972
139	SALES HLF CLASSES	$ 92,795	$ 204,063	$ 315,413	$ 240,075	$ 148,961	$ 65,191	$ 99,440	$ 68,359	$ 59,906	$ 60,054	$ 61,272	$ 130,985	$ 1,546,514	$ 1,066,497	$ 480,017
140	SALES LLF CLASSES	$ 612,377	$ 1,266,620	$ 2,087,814	$ 1,518,469	$ 984,607	$ 432,356	$ 153,478	$ 105,507	$ 92,460	$ 92,689	$ 94,568	$ 202,164	$ 7,643,108	$ 6,902,243	$ 740,865
141																
142	% ALLOCATION BETWEEN SALES HLF AND LLF															
143	SALES HLF CLASSES														13.38%	39.32%
144	SALES LLF CLASSES														86.62%	60.68%

Northern Utilities - NEW HAMPSHIRE DIVISION
Allocation of Commodity Costs to Customer Classes

Total Commodity Costs

99	**TOTAL COMMODITY COSTS Excluding Hedging**	
100	TOTAL COMMODITY Excld Hedging	Schedule 1B, LN 41
101	Res Heat	LN 24 + LN 73
102	Res General	LN 25 + LN 74
103	G50 Low Annual-Low Winter	LN 26 + LN 75
104	G40 Low Annual-High Winter	LN 27 + LN 76
105	G51 Med Annual-Low Winter	LN 28 + LN 77
106	G41 Med Annual-High Winter	LN 29 + LN 78
107	G52 High Annual-Low Winter	LN 30 + LN 79
108	G42 High Annual-High Winter	LN 31 + LN 80
109		
110	Residential	LN 101 + LN 102
111	SALES HLF CLASSES	LN 103 + LN 105 + LN 107
112	SALES LLF CLASSES	LN 104 + LN 106 + LN 108
113	**TOTAL HEDGING COMMODITY COSTS**	
114	TOTAL HEDGING COMMODITY	Schedule 1B, LN 42
115	Res Heat	LN 38 + LN 87
116	Res General	LN 39 + LN 88
117	G50 Low Annual-Low Winter	LN 40 + LN 89
118	G40 Low Annual-High Winter	LN 41 + LN 90
119	G51 Med Annual-Low Winter	LN 42 + LN 91
120	G41 Med Annual-High Winter	LN 43 + LN 92
121	G52 High Annual-Low Winter	LN 44 + LN 93
122	G42 High Annual-High Winter	LN 45 + LN 94
123		
124	Residential	LN 115 + LN 116
125	SALES HLF CLASSES	LN 117 + LN 119 + LN 121
126	SALES LLF CLASSES	LN 118 + LN 120 + LN 122
127	**TOTAL COMMODITY**	
128	Res Heat	LN 101 + LN 115
129	Res General	LN 102 + LN 116
130	G50 Low Annual-Low Winter	LN 103 + LN 117
131	G40 Low Annual-High Winter	LN 104 + LN 118
132	G51 Med Annual-Low Winter	LN 105 + LN 119
133	G41 Med Annual-High Winter	LN 106 + LN 120
134	G52 High Annual-Low Winter	LN 107 + LN 121
135	G42 High Annual-High Winter	LN 108 + LN 122
136	Total Firm Sales	Sum LN 128 : LN 135
137		
138	Residential	LN 128 + LN 129
139	SALES HLF CLASSES	LN 130 + LN 132 + LN 134
140	SALES LLF CLASSES	LN 131 + LN 133 + LN 135
141		
142	% ALLOCATION BETWEEN SALES HLF AND LLF	
143	SALES HLF CLASSES	LN 139 / (LN 139 + LN 140)
144	SALES LLF CLASSES	LN 140 / (LN 139 + LN 140)

Northern Utilities, Inc.
Normal Winter Weather - Sales Service & Company Managed Sendout
Commodity Volumes by Supply Source (Dth)
November 2017 through April 2018

Description	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	Season
Pipeline Supplies							
Tennessee Long-Haul Path	172,768	198,207	225,052	257,572	222,179	149,475	1,225,253
Algonquin Receipts Path	37,530	38,781	38,781	35,028	38,781	37,530	226,431
Iroquois Receipts Path	189,682	195,925	195,925	176,965	195,925	0	954,421
Tennessee Niagara Path	59,222	61,196	61,196	55,274	61,196	59,222	357,309
Dawn Supply Path	152,254	157,329	157,329	142,103	157,329	5,075	771,418
Subtotal Pipeline	611,455	651,438	678,284	666,942	675,411	251,303	3,534,832
Underground Storage							
FS-MA Path (TGP Zone 4 300 Leg)	67,978	65,204	0	0	388	67,978	201,548
Tennessee Storage Path	0	5,039	70,244	63,446	69,856	0	208,585
Tennesse Storage Path	67,978	70,244	70,244	63,446	70,244	67,978	410,133
W10 Path (Chicago)	0	0	7,190	89,817	379,272	0	476,279
W10 Path (Dawn)	0	0	3,224	5,910	47,164	564,576	620,873
Washington 10 Storage Path	432,148	782,933	825,760	809,285	462,818	0	3,312,944
W10 Storage Path	432,148	782,933	836,174	905,012	889,253	564,576	4,410,096
Subtotal Storage	500,126	853,177	906,418	968,458	959,497	632,554	4,820,229
Peaking Supplies							
Maritimes Delivered	0	232,500	232,500	210,000	0	0	675,000
Peaking Contract 1	0	4,983	18,802	12,456	1,128	0	37,369
Peaking Contract 2	0	15,626	290,635	72,193	11,665	0	390,119
Incremental Delivered Supplies	0	0	9,038	0	0	0	9,038
LNG	2,145	20,931	32,819	16,816	36,989	2,145	111,844
Subtotal Peaking	2,145	274,039	583,793	311,465	49,783	2,145	1,223,369
Total Delivered (Dth)	1,113,726	1,778,654	2,168,494	1,946,865	1,684,690	886,001	9,578,431

Northern Utilities, Inc.
Design Winter Weather - Sales Service & Capacity Assigned Delivery Service Sendout
Commodity Volumes by Supply Source (Dth)
November 2017 through April 2018

Description	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	Season
Pipeline Supplies							
Tennessee Long-Haul Path	387,253	274,809	299,336	311,199	265,503	149,475	1,687,576
Algonquin Receipts Path	37,530	38,781	38,781	35,028	38,781	37,530	226,431
Iroquois Receipts Path	193,507	199,878	199,878	180,535	199,878	0	973,674
Tennessee Niagara Path	69,805	72,132	72,132	65,151	72,132	69,805	421,156
Dawn Supply Path	179,460	185,442	185,442	167,496	185,442	179,460	1,082,740
Subtotal Pipeline	867,554	771,041	795,568	759,409	761,735	436,270	4,391,577
Underground Storage							
FS-MA Path (TGP Zone 4 300 Leg)	79,311	81,955	0	0	29,349	79,311	269,927
Tennessee Storage Path	0	0	81,955	74,024	52,606	0	208,585
Tennesse Storage Path	79,311	81,955	81,955	74,024	81,955	79,311	478,512
W10 Path (Chicago)	0	0	9,659	228,726	522,300	0	760,685
W10 Path (Dawn)	0	0	5,334	13,472	131,808	549,337	699,950
Washington 10 Storage Path	428,167	955,360	949,353	675,274	304,791	0	3,312,944
W10 Storage Path	428,167	955,360	964,345	917,472	958,898	549,337	4,773,579
Subtotal Storage	507,479	1,037,315	1,046,300	991,496	1,040,853	628,649	5,252,091
Peaking Supplies							
Maritimes Delivered	0	232,500	232,500	210,000	0	0	675,000
Peaking Contract 1	0	9,965	7,200	17,262	2,941	0	37,369
Peaking Contract 2	0	85,278	199,721	133,903	29,523	0	448,425
Incremental Delivered Supplies	0	0	166,200	0	0	0	166,200
LNG	3,735	50,724	7,200	2,002	46,038	2,145	111,844
Subtotal Peaking	3,735	378,466	612,822	363,167	78,502	2,145	1,438,838
Total Delivered (Dth)	1,378,768	2,186,823	2,454,691	2,114,072	1,881,090	1,067,063	11,082,507

Northern Utilities, Inc.
Normal Winter Weather - Sales Service & Company Managed Sendout
Capacity Utilization by Supply Source
November 2017 through April 2018

Description	Projected Volume (Dth)	Maximum Volume (Dth)	Capacity Utilization
Pipeline Supplies			
Tennessee Long-Haul Path	1,225,253	2,013,023	61%
Algonquin Receipts Path	226,431	226,431	100%
Iroquois Receipts Path	954,421	1,141,477	84%
Tennessee Niagara Path	357,309	421,187	85%
Dawn Supply Path	771,418	1,082,742	71%
Subtotal Pipeline	3,534,832	4,884,861	72%
Underground Storage			
FS-MA Path (TGP Zone 4 300 Leg)	201,548		
Tennessee Storage Path	208,585		
Tennesse Storage Path	410,133	410,177	100%
W10 Path (Chicago)	476,279		
W10 Path (Dawn)	620,873		
Washington 10 Storage Path	3,312,944		
W10 Storage Path Total	4,410,096	6,132,461	72%
Subtotal Storage	4,820,229	6,542,638	74%
Peaking Supplies			
Maritimes Delivered	675,000		
Peaking Contract 1	37,369		
Peaking Contract 2	390,119		
Incremental Delivered Supplies	9,038		
Granite - Not assigned as Storage or Pipeline Capacity	1,111,525	8,658,678	13%
LNG	111,844	125,000	89%
Subtotal Peaking	1,223,369	8,783,678	14%
Total Delivered (Dth)	9,578,431	20,211,177	47%

Northern Utilities, Inc.
Design Winter Weather - Sales Service & Capacity Assigned Delivery Service Sendout
Capacity Utilization by Supply Source
November 2017 through April 2018

Description	Projected Volume (Dth)	Maximum Volume (Dth)	Capacity Utilization
Pipeline Supplies			
Tennessee Long-Haul Path	1,687,576	2,372,729	71%
Algonquin Receipts Path	226,431	226,431	100%
Iroquois Receipts Path	973,674	1,164,554	84%
Tennessee Niagara Path	421,156	421,187	100%
Dawn Supply Path	1,082,740	1,082,742	100%
Subtotal Pipeline	4,391,577	5,267,643	83%
Underground Storage			
FS-MA Path (TGP Zone 4 300 Leg)	269,927		
Tennessee Storage Path	208,585		
Tennesse Storage Path	478,512	478,564	100%
W10 Path (Chicago)	760,685		
W10 Path (Dawn)	699,950		
Washington 10 Storage Path	3,312,944		
W10 Storage Path Total	4,773,579	6,132,461	78%
Subtotal Storage	5,252,091	6,611,025	79%
Peaking Supplies			
Maritimes Delivered	675,000		
Peaking Contract 1	37,369		
Peaking Contract 2	448,425		
Incremental Delivered Supplies	166,200		
Granite - Not assigned as Storage or Pipeline Capacity	1,326,994	10,175,096	13%
LNG	111,844	125,000	89%
Subtotal Peaking	1,438,838	10,300,096	14%
Total Delivered (Dth)	11,082,507	22,178,764	50%

Northern Utilities Inc.
Forecast of Upcoming Winter Period Design Day Report
2017 / 2018 Winter Period
(Therms)

Demand	
NH Firm Sales	431,175
NH Non-Capacity Exempt Transportation	123,269
NH Capacity Exempt Transportation	100,051
NH Interruptible Sales	0
NH Interruptible Transportation	0
NH Design Day Demand	654,495
ME Firm Sales	572,447
ME Non-Capacity Exempt Transportation	64,451
ME Capacity Exempt Transportation	186,176
ME Interruptible Sales	0
ME Interruptible Transportation	0
ME Design Day Demand	823,074
Total Firm Sales	1,003,622
Total Non-Capacity Exempt Transportation	187,720
Total Capacity Exempt Transportation	286,227
Total Interruptible Sales	0
Total Interruptible Transportation	0
Total Design Day Demand	1,477,570
Supplies	
Capacity Exempt Transportation	286,227
Pipeline	291,030
Storage	365,250
On-System LNG	65,000
Off-System Peaking Contracts & Delivered Baseload	398,600
Granite Only Assigned to Non-Exempt	81,980
Total	1,488,087

Effective Degree Day	
New Hampshire	79.0
Maine	79.0
Probability	1 in 33

Report Prepared By	Francis X. Wells
Title	Manager, Energy Planning
Signature	

Northern Utilities Inc.
New Hampshire 7 Day Cold Snap Analysis
Winter 2017-2018

Coldest 7 Consecutive Days
Based on historic Portsmouth weather data

Date	EDD
February 11, 1979	68
February 12, 1979	60
February 13, 1979	73
February 14, 1979	73
February 15, 1979	64
February 16, 1979	69
February 17, 1979	72
Total	479

Maximum Projected Design Week Demand (Dth)

Daily Baseload	5,767
Weekly Baseload	40,371
Heating Increment*	619
Effective Degree Days	479
Total Heat Load	296,406
Projected Cold Snap Demand	336,777

New Hampshire Allocation **44.82%**
Based on the latest demand cost allocator in the Winter COG filing.

Maximum Supply Capability (Dth)

Amount to be Supplied by Natural Gas Pipelines	
Tennessee Long-Haul	13,109
Tennessee Niagara	2,327
Iroquois Receipts	6,434
Dawn Supply (New TCPL, PNGTS C2C)	5,982
Leidy Supply (Texas Eastern, Algonquin)	965
Transco Zone 6, non-NY Supply (Algonquin)	286
Tennessee Firm Storage	2,644
Washington 10 Storage	33,881
Maritimes Delivered Baseload	7,474
Peaking Contract 1	2,491
Peaking Contract 2	29,895
Total Daily Pipeline	105,488
Pipeline for 7 days	738,416
New Hampshire Allocation	330,958

Available LNG Storage

Facility	Gallons	Dth
Lewiston LNG	145,134	12,140
Total	145,134	12,140
New Hampshire Allocation - 7 Days		5,441

LNG Delivery Contract

Northern Utilities plans to secure a contract for LNG Delivery for up to three loads of LNG per day.

The storage credit for LNG is calculated as follows:

Number of Days	7
Number of Loads	3
Delivery Reliability	70%
Assumed Number of LNG Deliveries	15
Dth Per Load	900
Total Storage Credit	13,230
NH Storage Credit - 7 Days	5,930

Summary	
Maximum projected design week demand	336,777
Amount to be furnished by natural gas pipeline	330,958
Remaining Balance	5,819
Storage available	5,441
Credit from LNG delivery supply contract	5,930
Total available storage and LNG deliveries	11,371
Net Surplus/(Deficiency)	**5,551**

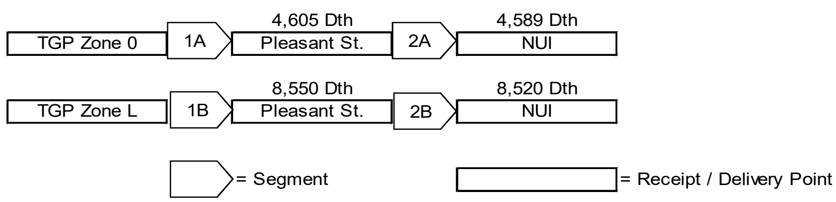
Report Prepared By	Francis X. Wells
Title	Manager, Energy Planning
Signature	Fran X. Wells

Northern Capacity & Supply Summary (Dth/Day)

Pipeline Capacity Paths	
Tennessee Long-Haul	13,109
Tennessee Niagara	2,327
Iroquois Receipts	6,434
Dawn Supply (New TCPL, PNGTS C2C)	5,982
Leidy Supply (Texas Eastern, Algonquin)	965
Transco Zone 6, non-NY Supply (Algonquin)	286
Total Pipeline Capacity	29,103
Storage Capacity Paths	
Tennessee Firm Storage	2,644
Washington 10 Storage	33,881
Total Storage Capacity	36,525
Peaking Capacity Paths	
LNG - On-System	6,500
Maritimes Delivered Baseload	7,474
Peaking Contract 1	2,491
Peaking Contract 2	29,895
Additional Granite Capacity	16,356
Total Peaking Capacity	62,716
Total Design Day Capacity	128,344
Total Design Day Capacity Required	119,134
Design Day Capacity Excess/(Deficiency)	9,210
Total Design Day Supply (Total Capacity Less Additional Granite)	111,988
Total Design Day Supply Required	110,936
Capacity Excess/(Deficiency)	1,052
Design Day Capacity and Supply Requirements	
ME Sales Service	57,245
ME Capacity Assigned Delivery Service	6,445
ME Total Capacity Required	63,690
ME - Projected Granite Only Assignment	2,966
ME Total Supply Required	60,724
NH Sales Service	43,117
NH Capacity Assigned Delivery Service	12,327
NH Total Capacity Required	55,444
NH - Projected Granite Only Assignment	5,232
NH Total Supply Required	50,212
NUI Sales Service	100,362
NUI Capacity Assigned Delivery Service	18,772
NUI Total Capacity Required	119,134
NUI - Projected Granite Only Assignment	8,198
NUI Total Supply Required	110,936

Northern Utilities, Inc.
Capacity Path Diagram and Detail
Source of Supply: Tennessee Production Area

Capacity Path Diagram



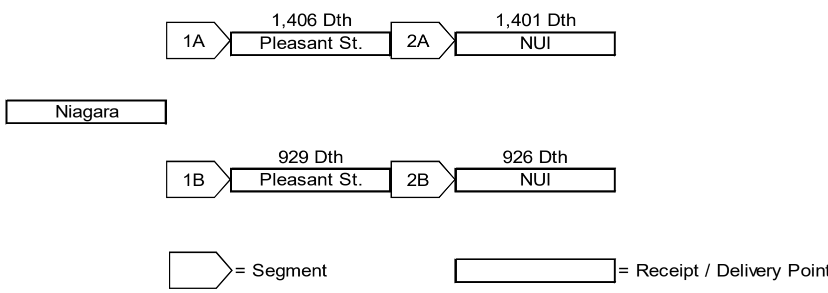
Capacity Path Detail

Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1A[1]	Transportation	Tennessee	5083	FT-A	10/31/2018	4,605	Dth	Year-Round	Zone 0, 100 Leg	Pleasant St.	Granite
2A	Transportation	Granite	16-100-FT-NN	FT-NN	10/31/2018	4,589	Dth	Year-Round	Granite	Northern City Gates	
1B[1]	Transportation	Tennessee	5083	FT-A	10/31/2018	8,550	Dth	Year-Round	Zone L, 500 & 800 Legs	Pleasant St.	Granite
2B	Transportation	Granite	16-100-FT-NN	FT-NN	10/31/2018	8,520	Dth	Year-Round	Granite	Northern City Gates	
Total Path Deliverable						13,109	Dth				

Note 1: Tennessee Contract No. 5083 also allows for firm delivery rights to Bay State Gas city gates. As such, Tennessee Production could also be delivered to Northern City Gates via the Bay State Exchange.

Northern Utilities, Inc.
Capacity Path Diagram and Detail
Source of Supply: Niagara (Interconnection of TransCanada and Tennessee Pipelines)

Capacity Path Diagram

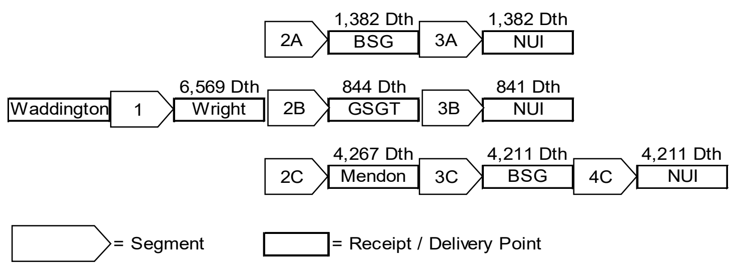


Capacity Path Detail

Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1A	Transportation	Tennessee	5292	FT-A	3/31/2020	1,406	Dth	Year-Round	Niagara	Pleasant St.	Granite
2A	Transportation	Granite	16-100-FT-NN	FT-NN	10/31/2018	1,401	Dth	Year-Round	Granite	Northern City Gates	
1B	Transportation	Tennessee	39735	FT-A	3/31/2020	929	Dth	Year-Round	Niagara	Pleasant St.	Granite
2B	Transportation	Granite	16-100-FT-NN	FT-NN	10/31/2018	926	Dth	Year-Round	Granite	Northern City Gates	
Total Path Deliverable						2,327	Dth				

Northern Utilities, Inc.
Capacity Path Diagram and Detail
Source of Supply: Iroquois Receipts

Capacity Path Diagram

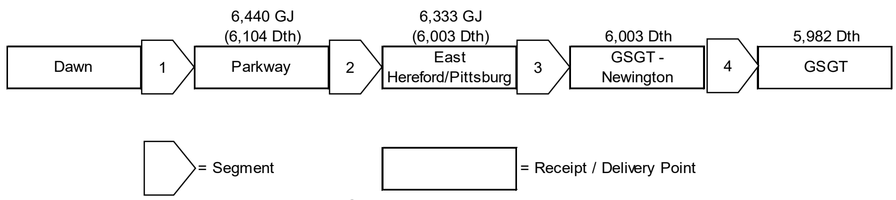


Capacity Path Detail

Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1	Transportation	Iroquois	R181001	RTS-1	10/31/2018	6,569	Dth	Year-Round	Waddington	Wright	Tennessee
2A	Transportation	Tennessee	95196	FT-A	10/31/2022	1,382	Dth	Year-Round	Wright	Bay State City Gate	
3A	Exchange	Bay State Gas	NA	NA	Renewal Clause	1,382	Dth	Year-Round	Bay State City Gate	Northern City Gates	
2B	Transportation	Tennessee	95196	FT-A	10/31/2022	844	Dth	Year-Round	Wright	Pleasant St.	Granite
3B	Transportation	Granite	16-100-FT-NN	FT-NN	10/31/2018	841	Dth	Year-Round	Granite	Northern City Gates	
2C	Transportation	Tennessee	41099	FT-A	10/31/2022	4,267	Dth	Year-Round	Wright	Mendon	Algonquin
3C	Transportation	Algonquin	93200F	AFT-1	10/31/2018	4,211	Dth	Year-Round	Mendon	Bay State City Gate	
4C	Exchange	Bay State Gas	NA	NA	Renewal Clause	4,211	Dth	Year-Round	Bay State City Gate	Northern City Gates	
Total Path Deliverable						6,434	Dth				

Northern Utilities, Inc.
Capacity Path Diagram and Detail
Source of Supply: Dawn Pipeline Supply

Capacity Path Diagram

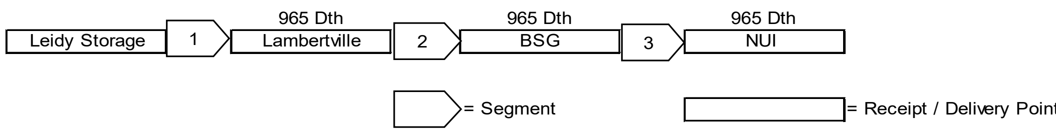


Capacity Path Detail

Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1	Transportation	Union	M12256	FT	10/31/2032	6,440	GJ	Year-Round	Dawn	Parkway	TCPL
2	Transportation	TCPL	TBD	FT	10/31/2032	6,333	GJ	Year-Round	Parkway	East Hereford	PNGTS
3	Transportation	PNGTS	TBD	FT	10/31/2032	6,003	Dth	Year-Round	Pittsburgh, NH	Newington, NH	Granite
4	Transportation	Granite	16-100-FT-NN	FT-NN	10/31/2018	5,982	Dth	Year-Round	Granite	Northern City Gates	
Total Path Deliverable						5,982	Dth				

Northern Utilities, Inc.
Capacity Path Diagram and Detail
Source of Supply: Algonquin Receipt Points

Capacity Path Diagram

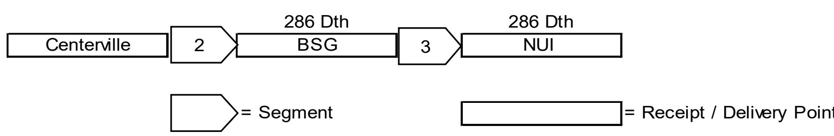


Capacity Path Detail

Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1	Transportation	Texas Eastern	800384	FT-1	10/31/2018	965	Dth	Year-Round	Leidy Storage	Lambertville, NJ	Algonquin
2	Transportation	Algonquin	93201A1C	AFT-1 (F-2/F-3)	10/31/2018	965	Dth	Year-Round	Lambertville, NJ	Bay State City Gate	
3	Exchange	Bay State Gas	NA	NA	Renewal Clause	965	Dth	Year-Round	Bay State City Gate	Northern City Gates	
Total Path Deliverable						965	Dth				

Northern Utilities, Inc.
Capacity Path Diagram and Detail
Source of Supply: Algonquin Receipt Points

Capacity Path Diagram

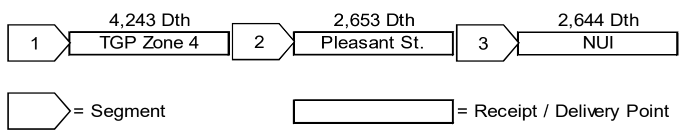


Capacity Path Detail

Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1	Transportation	Algonquin	93201A1C	AFT-1 (F-2/F-3)	10/31/2018	286	Dth	Year-Round	Centerville, NJ	Bay State City Gate	
2	Exchange	Bay State Gas	NA	NA	Renewal Clause	286	Dth	Year-Round	Bay State City Gate	Northern City Gates	
Total Path Deliverable						286	Dth				

Northern Utilities, Inc.
Capacity Path Diagram and Detail
Source of Supply: Tennessee Firm Storage - Market Area

Capacity Path Diagram



Capacity Path Detail

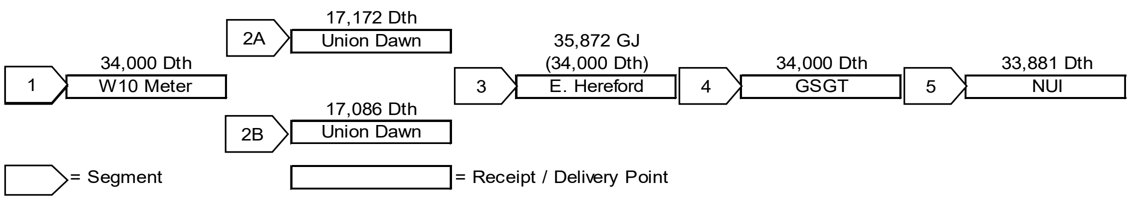
Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1[1]	Storage	Tennessee	5195	FS-MA	3/31/2020	4,243	Dth	Year-Round	NA	TGP Zone 4	Tennessee
2[2]	Transportation	Tennessee	5265	FT-A	3/31/2020	2,653	Dth	Year-Round	TGP Zone 4	Pleasant St.	Granite
3	Transportation	Granite	16-100-FT-NN	FT-NN	10/31/2018	2,644	Dth	Year-Round	Pleasant St.	Northern City Gates	
Total Path Deliverable						2,644	Dth				

Note 1: Tennessee Contract No. 5195 has a maximum storage quantity of 259,337 Dth.

Note 2: Tennessee Contract No. 5265 also allows for firm delivery rights to Bay State Gas city gates. As such, Tennessee Firm Storage could also be delivered to Northern City Gates via the Bay State Exchange.

Northern Utilities, Inc.
Capacity Path Diagram and Detail
Source of Supply: Washington 10 Storage

Capacity Path Diagram



Capacity Path Detail

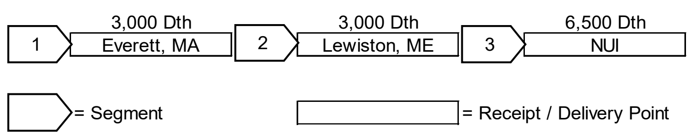
Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1[1]	Storage	Washington 10	01052	Firm Storage	3/31/2018	34,000	Dth	Year-Round	NA	W10 Withdrawal Meter	Vector
2A[2]	Transportation	Vector	CRL-NUI-0725	FT	3/31/2018	17,172	Dth	Year-Round	W10 Withdrawal Meter	Union Dawn	TransCanada
2B	Transportation	Vector	CRL-NUI-0727	FT	3/31/2018	17,086	Dth	Winter Only (Nov - Mar)	W10 Withdrawal Meter	Union Dawn	TransCanada
3	Transportation	TransCanada	33322	FT	3/31/2018	35,872	GJ	Year-Round	Union Dawn	East Hereford	PNGTS
4	Transportation	PNGTS	TBD	FT	10/31/2032	34,000	Dth	Year-Round	Pittsburgh, NH	Granite	Granite
5	Transportation	Granite	16-100-FT-NN	FT-NN	10/31/2018	33,881	Dth	Year-Round	Granite	Northern City Gates	
Total Path Deliverable						33,881	Dth				

Note 1: Washington 10 Contract 01052 has a maximum storage quantity of 3,400,000 Dth.

Note 2: Vector Contract No. CRL-NUI-0725 allows for receipt from the Alliance Interconnect (Chicago). Gas is received on this contract at the W10 Withdrawal meter on a secondary, firm basis. This capacity is used for summer refill of the Washington 10 storage contract.

Northern Utilities, Inc.
Capacity Path Diagram and Detail
Source of Supply: Lewiston LNG Plant

Capacity Path Diagram



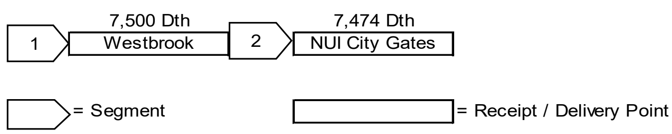
Capacity Path Detail

Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1[1]	LNG Contract	Confidential	NA	NA	10/31/2018	3,000	Dth	Year-Round	NA		NA
2	LNG Trucking Contract	Confidential			10/31/2018	3,000	Dth	Year-Round		Lewiston, ME	NA
3	Lewiston LNG Plant	N/A	NA	NA	N/A	6,500	Dth	Year-Round	Lewiston, ME	Northern Distribution System	
Total Path Deliverable						6,500	Dth				

Note 1: The LNG Contract allows Northern to nominate up to 3,000 Dth per day (3 trucks) with an annual maximum take equal to 125,000 Dth.

Northern Utilities, Inc.
Capacity Path Diagram and Detail
Source of Supply: Maritimes Delivered Baseload Supply

Capacity Path Diagram

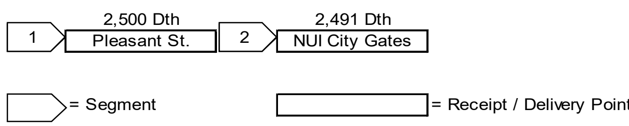


Capacity Path Detail

Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1[1]	Delivered Supply	Confidential	NA	NA	3/31/2017	7,500	Dth	Winter Only (Nov - Mar)	NA	Westbrook	Granite
2	Transportation	Granite	16-100-FT-NN	FT-NN	10/31/2017	7,474	Dth	Year-Round	Granite	Northern City Gates	
Total Path Deliverable						7,474	Dth				

Northern Utilities, Inc.
Capacity Path Diagram and Detail
Source of Supply: Peaking Contract 1

Capacity Path Diagram



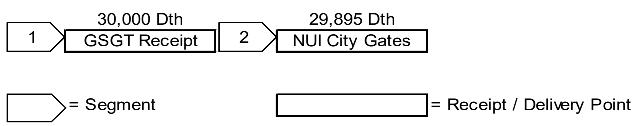
Capacity Path Detail

Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1[1]	Peaking Supply	Confidential	NA	NA	3/31/2018	2,500	Dth	Winter Only (Nov - Mar)	NA	TGP Pleasant St.	Granite
2	Transportation	Granite	16-100-FT-NN	FT-NN	10/31/2018	2,491	Dth	Year-Round	TGP Pleasant St.	Northern City Gates	
Total Path Deliverable						2,491	Dth				

Note 1: Peaking Contract 1 allows Northern to nominate up to 2,500 Dth per Day and up to 37,500 Dth from November 2017 through March 2018. Full contract volume (2,500 Dth) may also be delivered to Lawrence (Bay State), Agawam (Bay State) and/or Salem (GSGT) meters.

Northern Utilities, Inc.
Capacity Path Diagram and Detail
Source of Supply: Peaking Contract 2

Capacity Path Diagram



Capacity Path Detail

Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1[1]	Peaking Supply	Confidential	NA	NA	3/31/2018	30,000	Dth	Winter Only (Nov - Mar)	NA	Westbrook, Newington or Pleasant St.	Granite
2	Transportation	Granite	16-100-FT-NN	FT-NN	10/31/2018	29,895	Dth	Year-Round	Westbrook, Newington or Pleasant St.	Northern City Gates	
Total Path Deliverable						29,895	Dth				

Note 1: Peaking Contract 2 allows Northern to nominate up to 30,000 Dth per Day and up to 450,000 Dth from November 2017 through March 2018. Pleasant St. deliveries limited to 10,000 Dth per day and 150,000 Dth for the term. Contract volumes may also be delivered to NUI - Lewiston in which case no Granite capacity is utilized.

Northern Utilities, Inc.
New Hampshire Division
Migration to Transportation Only Service by Rate Class
November 2017 through October 2018

C&I Rate Class	Annual Sales Service Deliveries (Dth)	Percentage of Sales Service Total by Rate Class	Sales Service Percentage by Rate Class
G40	950,712	41%	86%
G50	146,154	6%	83%
G41	774,939	34%	53%
G51	224,182	10%	48%
G42	163,947	7%	25%
G52	50,319	2%	3%
Special Contracts	-	0%	0%
Total C&I	2,310,253	100%	35%

C&I Rate Class	Annual Transport-Only Deliveries (Dth)	Percentage of Transport Only Total by Rate Class	Transportation Service Percentage by Rate Class
T40	151,117	3%	14%
T50	30,278	1%	17%
T41	691,384	16%	47%
T51	238,899	6%	52%
T42	494,237	11%	75%
T52	1,516,441	35%	97%
Special Contracts	1,215,103	28%	100%
Total C&I	4,337,460	100%	65%

C&I Rate Class	Annual Total Deliveries (Dth)	Percentage of Total by Rate Class
G/T40	1,101,828	17%
G/T50	176,431	3%
G/T41	1,466,323	22%
G/T51	463,081	7%
G/T42	658,185	10%
G/T52	1,566,760	24%
Special Contracts	1,215,103	18%
Total C&I	6,647,712	100%

REDACTED

Northern Utilities, Inc.
Storage Inventory and Activity Costs

Denotes Confidential Information

Tennessee Storage

Month	Beginning Inventory Volume	Injections	Withdrawals	Ending Inventory Volume	Beginning Inventory Cost	Beginning Inventory Rate	Injection Rate	Injected Value	Withdrawal Rate	Withdrawn Value	Ending Inventory Value	Interest Rate	Carrying Costs	Ending Inventory Value Excluding Carrying Costs	Withdrawn Value plus Charges
Nov-17	222,278	-	-	222,278	$ 489,011	$ 2.20	NA	$ -	$ 2.20	$ -	$ 489,011	2.51%	$ 1,023	$ 489,011	$ -
Dec-17	222,278	-	5,115	217,163	$ 489,011	$ 2.20	NA	$ -	$ 2.20	$ 11,253	$ 477,758	2.51%	$ 1,011	$ 477,758	$ 11,253
Jan-18	217,163	-	71,296	145,867	$ 477,758	$ 2.20	NA	$ -	$ 2.20	$ 156,851	$ 320,907	2.51%	$ 835	$ 320,907	$ 156,851
Feb-18	145,867	-	64,396	81,470	$ 320,907	$ 2.20	NA	$ -	$ 2.20	$ 141,672	$ 179,235	2.51%	$ 523	$ 179,235	$ 141,672
Mar-18	81,470	-	70,903	10,568	$ 179,235	$ 2.20	NA	$ -	$ 2.20	$ 155,986	$ 23,249	2.51%	$ 212	$ 23,249	$ 155,986
Apr-18	10,568	29,679	-	40,247	$ 23,249	$ 2.20	$ 2.56	$ 76,123	$ 2.47	$ -	$ 99,371	2.51%	$ 128	$ 99,371	$ -
May-18	40,247	30,668	-	70,915	$ 99,371	$ 2.47	$ 2.48	$ 76,184	$ 2.48	$ -	$ 175,555	2.51%	$ 288	$ 175,555	$ -
Jun-18	70,915	29,679	-	100,594	$ 175,555	$ 2.48	$ 2.50	$ 74,326	$ 2.48	$ -	$ 249,881	2.51%	$ 445	$ 249,881	$ -
Jul-18	100,594	30,668	-	131,262	$ 249,881	$ 2.48	$ 2.53	$ 77,734	$ 2.50	$ -	$ 327,615	2.51%	$ 604	$ 327,615	$ -
Aug-18	131,262	30,668	-	161,930	$ 327,615	$ 2.50	$ 2.52	$ 77,424	$ 2.50	$ -	$ 405,039	2.51%	$ 766	$ 405,038	$ -
Sep-18	161,930	29,679	-	191,609	$ 405,039	$ 2.50	$ 2.44	$ 72,529	$ 2.49	$ -	$ 477,568	2.51%	$ 923	$ 477,567	$ -
Oct-18	191,609	30,668	-	222,278	$ 477,568	$ 2.49	$ 2.45	$ 75,257	$ 2.49	$ -	$ 552,825	2.51%	$ 1,078	$ 552,824	$ -

Washington 10 Storage

Month	Beginning Inventory Volume	Injections	Withdrawals	Ending Inventory Volume	Beginning Inventory Cost	Beginning Inventory Rate	Injection Rate	Injected Value	Withdrawal Rate	Withdrawn Value	Ending Inventory Value	Interest Rate	Carrying Costs	Ending Inventory Value Excluding Carrying Costs	Withdrawn Value plus Charges
Nov-17	3,400,000	-	443,503	2,956,497	$10,087,800	$ 2.97	NA	$ -	$ 2.97	$1,315,875	$ 8,771,925	2.51%		$ 8,771,925	$1,315,875
Dec-17	2,956,497	-	803,507	2,152,990	$ 8,771,925	$ 2.97	NA	$ -	$ 2.97	$2,384,005	$ 6,387,920	2.51%		$ 6,387,920	$2,384,005
Jan-18	2,152,990	-	847,459	1,305,531	$ 6,387,920	$ 2.97	NA	$ -	$ 2.97	$2,514,411	$ 3,873,509	2.51%		$ 3,873,509	$2,514,411
Feb-18	1,305,531	-	830,551	474,980	$ 3,873,509	$ 2.97	NA	$ -	$ 2.97	$2,464,244	$ 1,409,266	2.51%		$ 1,409,266	$2,464,244
Mar-18	474,980	-	474,980	-	$ 1,409,266	$ 2.97	NA	$ -	$ 2.97	$1,409,266	$ -	2.51%		$ -	$1,409,266
Apr-18	-	-	-	-	$ -	$ -	NA	$ -	$ -	$ -	$ -	2.51%		$ -	$ -
May-18	-	-	-	-	$ -	$ -	NA	$ -	$ -	$ -	$ -	2.51%		$ -	$ -
Jun-18	-	-	-	-	$ -	$ -	NA	$ -	$ -	$ -	$ -	2.51%		$ -	$ -
Jul-18	-	-	-	-	$ -	$ -	NA	$ -	$ -	$ -	$ -	2.51%		$ -	$ -
Aug-18	-	-	-	-	$ -	$ -	NA	$ -	$ -	$ -	$ -	2.51%		$ -	$ -
Sep-18	-	-	-	-	$ -	$ -	NA	$ -	$ -	$ -	$ -	2.51%		$ -	$ -
Oct-18	-	-	-	-	$ -	$ -	NA	$ -	$ -	$ -	$ -	2.51%		$ -	$ -

LNG Storage

Month	Beginning Inventory Volume	Injections	Withdrawals	Ending Inventory Volume	Beginning Inventory Cost	Beginning Inventory Rate	Injection Rate	Injected Value	Withdrawal Rate	Withdrawn Value	Ending Inventory Value	Interest Rate	Carrying Costs	Ending Inventory Value Excluding Carrying Costs	Withdrawn Value plus Charges
Nov-17	12,000	2,145	2,145	12,000	[redacted]										
Dec-17	12,000	20,931	20,931	12,000	[redacted]										
Jan-18	12,000	25,619	32,819	4,800	[redacted]										
Feb-18	4,800	16,816	16,816	4,800	[redacted]										
Mar-18	4,800	36,989	36,989	4,800	[redacted]										
Apr-18	4,800	2,145	2,145	4,800	[redacted]										
May-18	4,800	9,417	2,217	12,000	[redacted]										
Jun-18	12,000	2,145	2,145	12,000	[redacted]										
Jul-18	12,000	-	2,217	9,783	[redacted]										
Aug-18	9,783	-	2,217	7,567	[redacted]										
Sep-18	7,567	6,578	2,145	12,000	[redacted]										
Oct-18	12,000	2,217	2,217	12,000	[redacted]										

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
2016-17 ANNUAL COG RECONCILIATION
SCHEDULE 1: SUMMARY OF ANNUAL BALANCE
August 2016 - October 2017

	AMOUNT	
Annual Beginning Balance	$ 341,990	FORM III SCHEDULE 2
Less: Reported Collections	$ (27,065,144)	FORM III SCHEDULE 3
Add: Cost of Firm Gas Allowable	$ 26,396,473	FORM III SCHEDULE 4
Add: Interest	$ (31,320)	FORM III SCHEDULE 2
Annual Ending Balance	$ (358,002)	

Allocation of Reconciliation Balance to 2016 / 2017 Winter Season and 2017 Summer Season

Winter Season Sales	3,486,598	SCHEDULE 10B
Summer Season Sales	786,957	SCHEDULE 10B
Winter Season Sales Percentage	81.59%	
Summer Season Sales Percentage	18.41%	
Reconciliation Allocated to Winter Season	$ (292,077)	
Reconciliation Allocated to Summer Season	$ (65,924)	

FORM III
Schedule 2

NORTHERN UTILTIES, INC. - NEW HAMPSHIRE DIVISION
2016-17 ANNUAL COG RECONCILIATION
SCHEDULE 2: ADJUSTMENTS TO REPORTED SUMMER, WINTER AND ANNUAL ACCOUNTS
August 2016 - October 2017
Acct 191.10

												Estimated			
	Aug-16	**Sep-16**	**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**	**Total**
Inital Account Beginning Balance	$ 344,014															
Adjustment 1*	$ (2,025)															
Adjusted Beginning Balance	$ 341,990	$ 248,552	$ 887,588	$ 1,215,774	$ 1,081,767	$ 649,191	$ (286,177)	$ (755,911)	$ (1,679,738)	$ (3,408,640)	$ (2,510,677)	$ (1,989,057)	$ (1,394,115)	$ (993,529)	$ (625,859)	
Plus: Cost of Firm Gas (Schedule 4)	$ 224,310	$ 961,087	$ 954,473	$ 2,535,615	$ 3,743,916	$ 4,053,472	$ 3,593,080	$ 3,133,782	$ 1,569,270	$ 1,064,461	$ 918,505	$ 854,794	$ 813,009	$ 821,573	$ 1,155,127	$ 26,396,473
Less: Reported Collections (Schedule 3)	$ (318,608)	$ (323,705)	$ (629,350)	$ (2,672,968)	$ (4,179,012)	$ (4,989,369)	$ (4,061,296)	$ (4,054,062)	$ (3,290,234)	$ (157,263)	$ (389,865)	$ (254,222)	$ (408,450)	$ (451,209)	$ (885,530)	$ (27,065,144)
Annual Account Ending Balance	$ 247,692	$ 885,934	$ 1,212,711	$ 1,078,421	$ 646,670	$ (286,706)	$ (754,393)	$ (1,676,191)	$ (3,400,702)	$ (2,501,442)	$ (1,982,037)	$ (1,388,486)	$ (989,556)	$ (623,165)	$ (356,262)	
Month's Average Balance	$ 294,841	$ 567,243	$ 1,050,150	$ 1,147,098	$ 864,218	$ 181,242	$ (520,285)	$ (1,216,051)	$ (2,540,220)	$ (2,955,041)	$ (2,246,357)	$ (1,688,771)	$ (1,191,836)	$ (808,347)	$ (491,061)	
Interest Rate (Prime Rate)	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.75%	3.75%	3.75%	4.00%	4.00%	4.00%	4.25%	
Interest Applied	$ 860	$ 1,654	$ 3,063	$ 3,346	$ 2,521	$ 529	$ (1,517)	$ (3,547)	$ (7,938)	$ (9,235)	$ (7,020)	$ (5,629)	$ (3,973)	$ (2,694)	$ (1,739)	$ (31,320)
Annual Account Ending Balance w/int	$ 248,552	$ 887,588	$ 1,215,774	$ 1,081,767	$ 649,191	$ (286,177)	$ (755,911)	$ (1,679,738)	$ (3,408,640)	$ (2,510,677)	$ (1,989,057)	$ (1,394,115)	$ (993,529)	$ (625,859)	$ (358,002)	

* Reflects net ATV credit for May thorugh July 2016. These ATV costs / credits were not available nor included In 2015- 2016 reconciliation.

FORM III
Schedule 3

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
2016-17 ANNUAL COG RECONCILIATION
SCHEDULE 3: REVENUE BACKUP TO REPORTED COLLECTIONS
August 2016 - October 2017

	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17 (Estimated)	Sep-17 (Estimated)	Oct-17 (Estimated)	Total
Accrued Revenue	$ (21,520)	$ (1,823)	$ 107,706	$ 1,116,048	$ 619,265	$ 312,157	$ (503,358)	$ 38,892	$ 83,040	$ (1,398,745)	$ (191,911)	$ (126,541)				
Billed Revenue	$ 340,127	$ 325,528	$ 521,644	$ 1,556,920	$ 3,559,748	$ 4,677,211	$ 4,564,654	$ 4,015,170	$ 3,207,195	$ 1,556,008	$ 581,776	$ 380,763				
Calendarized Revenue	$ 318,608	$ 323,705	$ 629,350	$ 2,672,968	$ 4,179,012	$ 4,989,369	$ 4,061,296	$ 4,054,062	$ 3,290,234	$ 157,263	$ 389,865	$ 254,222	$ 408,450	$ 451,209	$ 885,530	$ 27,065,144

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
2016-17 ANNUAL COG RECONCILIATION
SCHEDULE 4: PURCHASED GAS COSTS
August 2016- October 2017

Commodity Costs	**Aug-16**	**Sep-16**	**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**	**Total**
													--------------------------Estimated	--------------------		
CONSOLIDATED EDISON	$ -	$ -	$ 16,790	$ 13,273	$ 48,762	$ 132,707	$ 201,891	$ 129,419	$ 93,788	$ 32,321	$ 10,395	$ -				**$ 679,345**
DTE ENERGY TRADING	$ 156,897	$ 143,524	$ 108,020	$ 187,766	$ 41,976	$ 1,059	$ 369,743	$ 63,802	$ 42,021	$ 409,594	$ -	$ 183,709				**$ 1,708,110**
EMERA ENERGY SERVICES INC.	$ -	$ -	$ -	$ 256,523	$ 259,501	$ 609,885	$ 633,812	$ 490,104	$ 364,370	$ 17,964	$ -	$ -				**$ 2,632,160**
FREEPOINT	$ -	$ -	$ -	$ -	$ 44,642	$ 57,057	$ 63,798	$ 52,328	$ 50,367	$ 8,483	$ -	$ -				**$ 276,675**
REPSOL	$ 62,637	$ 60,168	$ 61,396	$ 65,982	$ 790,729	$ 1,260,896	$ 1,124,840	$ 1,041,435	$ 952,360	$ 281,303	$ 168,027	$ 30,023				**$ 5,899,795**
SEQUENT	$ -	$ -	$ -	$ -	$ -	$ 73,778	$ -	$ -	$ -	$ -	$ -	$ -				**$ 73,778**
SHELL ENERGY NORTH AMERICA (US) LP	$ -	$ -	$ -	$ 4,269	$ 119,082	$ 190,552	$ 214,185	$ 159,227	$ 129,418	$ 56,163	$ 62,626	$ 51,893				**$ 987,414**
SOUTHWESTERN	$ -	$ -	$ -	$ -	$ -	$ 24,988	$ -	$ -	$ 1,253	$ -	$ 143,027	$ -				**$ 169,268**
TENASKA	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 160,179	$ -	$ -				**$ 160,179**
TWIN EAGLE	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 114,733	$ 47,208	$ 30,152				**$ 192,092**
Subtotal - Commodity	$ 219,533	$ 203,692	$ 186,206	$ 527,813	$ 1,304,692	$ 2,350,922	$ 2,608,269	$ 1,936,315	$ 1,633,576	$ 1,080,739	$ 431,283	$ 295,776				**$ 12,778,816**
DTE						$ 704	$ 816	$ 605	$ 696	$ -	$ -	$ -				
Granite	$ 55	$ 58	$ 122	$ 174	$ 635	$ 554	$ 525	$ 496	$ 260	87.35	79.67	85.69				**$ 3,132**
Maritimes	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,959	$ -	$ 2,206	$ -	$ -	$ -				**$ 5,165**
Portland	$ 11	$ 12	$ 11	$ 11	$ 26,136	$ 96,852	$ 65,109	$ 28,442	$ 14,924	1813.32	11.9	13.29				**$ 233,346**
Tennessee	$ 5,592	$ 5,797	$ 5,605	$ 8,494	$ 8,760	$ 14,008	$ 10,291	$ 9,142	$ 10,224	10009.15	9496.71	7846.53				**$ 105,263**
Subtotal - Commodity Transportation	$ 5,657	$ 5,867	$ 5,738	$ 8,679	$ 35,531	$ 112,118	$ 79,701	$ 38,685	$ 28,309	$ 11,910	$ 9,588	$ 7,946				**$ 349,728**
Commodity Cost Estimates	$ 203,692	$ 186,206	$ 527,813	$ 1,352,402	$ 2,458,615	$ 2,664,340	$ 1,993,630	$ 1,661,719	$ 1,092,521	$ 440,796	$ 303,634	$ 266,180				**$ 13,151,548**
Commodity Cost Reversals	$ (219,128)	$ (203,692)	$ (186,206)	$ (527,813)	$ (1,352,402)	$ (2,458,763)	$ (2,664,340)	$ (1,993,630)	$ (1,661,719)	$ (1,092,521)	$ (440,796)	$ (303,634)				**$ (13,104,644)**
Subtotal - Estimates	$ (15,436)	$ (17,486)	$ 341,607	$ 824,589	$ 1,106,213	$ 205,577	$ (670,710)	$ (331,911)	$ (569,198)	$ (651,725)	$ (137,162)	$ (37,454)				**$ 26,992,837**
Subtotal - Supply	$ 209,755	$ 192,072	$ 533,550	$ 1,361,081	$ 2,446,436	$ 2,668,617	$ 2,017,260	$ 1,643,089	$ 1,092,686	$ 440,924	$ 303,709	$ 266,268				**$ 13,175,448**
Withdrawal - Underground Storage	$ (119)	$ 133	$ (161)	$ 50,276	$ 827,049	$ 974,236	$ 727,840	$ 801,418	$ (470)	$ 2	$ (104)	$ 105				**$ 3,380,202**
ATV Reconciliation Charges	$ (6,078)	$ 1,492	$ 11,959	$ 9,659	$ (20,765)	$ (30,590)	$ (16,063)	$ 7,142	$ 10,327	$ -	$ -	$ -				**$ (32,917)**
Off System Sales	$ (17,986)	$ (15,459)	$ -	$ (42,260)	$ (49,311)	$ (161,583)	$ (519,433)	$ (55,669)	$ (220,867)	$ (59,363)	$ -	$ -				**$ (1,141,931)**
Net OBA Adjustment	$ (3,542)	$ (4,923)	$ (2,250)	$ (236)	$ 1,151	$ 226	$ (7,278)	$ (1,574)	$ (2,801)	$ (5,914)	$ (4,739)	$ (495)				**$ (32,375)**
Company Managed	$ -	$ -	$ -	$ -	$ (73,312)	$ (380,398)	$ (374,436)	$ (298,233)	$ (283,551)	$ -	$ -	$ -				**$ (1,409,930)**
LNG Boiloff	$ 8,449	$ 4,306	$ 5,699	$ 5,791	$ 34,097	$ 6,171	$ 6,839	$ 15,688	$ 7,380	$ 6,369	$ 6,530	$ 5,997				**$ 113,317**
Transportation Charges	$ (1,780)	$ -	$ (778)	$ (3,715)	$ (1,945)	$ 151,766	$ 60,528	$ 12,793	$ 80,297	$ 17,949						**$ 315,116**
Hedging Costs	$ 24,617	$ 19,869	$ (92)	$ (89)	$ (96)	$ (99)	$ (99)	$ (105)	$ (63)	$ (58)	$ (63)	$ (56)				**$ 43,666**
Inventory Finance Charges	$ 137	$ 161	$ 201	$ 228	$ 265	$ 221	$ 134	$ 100	$ 100	$ 135	$ 186	$ 207				**$ 2,074**
Subtotal - Other Commodity	$ 3,698	$ 5,579	$ 14,578	$ 19,653	$ 717,133	$ 559,950	$ (121,967)	$ 481,559	$ (409,647)	$ (40,880)	$ 1,810	$ 5,758				**$ 1,237,224**
Sales for Resale Estimates	$ (15,447)	$ 5,616	$ (33,755)	$ (122,623)	$ (541,981)	$ (893,869)	$ (353,902)	$ (505,847)	$ (59,363)	$ -	$ -	$ (10,723)				**$ (2,531,894)**
Sales for Resale Reversals	$ 12,383	$ 15,447	$ (5,616)	$ 33,755	$ 122,623	$ 541,981	$ 893,869	$ 353,902	$ 505,847	$ 59,363	$ -	$ -				**$ 2,533,554**
Subtotal - Estimates	$ (3,064)	$ 21,063	$ (39,371)	$ (88,868)	$ (419,358)	$ (351,888)	$ 539,967	$ (151,945)	$ 446,484	$ 59,363	$ -	$ (10,723)				**$ 1,660**
Total Annual Commodity Costs	$ 210,388	$ 218,714	$ 508,757	$ 1,291,866	$ 2,744,212	$ 2,876,678	$ 2,435,261	$ 1,972,703	$ 1,129,523	$ 459,407	$ 305,519	$ 261,302	$ 237,716	$ 246,280	$ 579,834	**$ 15,478,162**

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
2016-17 ANNUAL COG RECONCILIATION
SCHEDULE 4: PURCHASED GAS COSTS
August 2016- October 2017

													---Estimated---			
Demand Costs	**Aug-16**	**Sep-16**	**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**	**Total**
Pipeline Reservation																
Alberta Northeast	$ 6,343	$ 6,288	$ 5,934	$ 6,754	$ 4,142	$ 4,268	$ 4,252	$ 3,443	$ 3,889	$ 4,661	$ 4,819	$ 4,041				**$ 58,834**
Algonquin	$ 14,409	$ 14,409	$ 14,409	$ 14,066	$ 14,852	$ 14,854	$ 14,843	$ 14,840	$ 14,847	$ 14,838	$ 14,854	$ 14,854				**$ 176,078**
DTE Energy	$ 385,141	$ 378,482	$ 372,584	$ 368,541	$ 378,478	$ 389,452	$ 396,752	$ 388,421	$ 384,442	$ 385,191	$ 390,871	$ 415,137				**$ 4,633,493**
Emera	$ 38,741	$ 38,908	$ 38,567	$ 38,153	$ 38,784	$ 39,101	$ 40,946	$ 41,199	$ 40,343	$ 40,187	$ 39,694	$ 40,622				**$ 475,245**
Granite State	$ 154,483	$ 154,483	$ 154,483	$ 215,460	$ 215,460	$ 215,460	$ 215,460	$ 215,460	$ 215,460	$ 159,253	$ 159,253	$ 159,253				**$ 2,233,970**
Iroquois	$ 18,383	$ 18,383	$ 17,257	$ 17,257	$ 17,790	$ 17,790	$ 17,790	$ 17,790	$ 17,790	$ 17,790	$ 17,790	$ 17,790				**$ 213,597**
Portland	$ 12,125	$ 12,125	$ 12,125	$ 12,125	$ 724,954	$ 724,954	$ 724,954	$ 724,954	$ 724,954	$ 12,499	$ 12,499	$ 12,499				**$ 3,710,768**
Tennessee	$ 156,055	$ 156,055	$ 156,055	$ 156,055	$ 160,887	$ 160,887	$ 160,887	$ 160,887	$ 160,887	$ 160,887	$ 160,887	$ 160,887				**$ 1,911,318**
Texas Eastern	$ 2,288	$ 2,301	$ 2,301	$ 2,301	$ 2,372	$ 2,381	$ 2,381	$ 2,386	$ 2,386	$ 2,373	$ -	$ 2,373				**$ 25,846**
Vector	$ 71,105	$ 71,088	$ 71,089	$ 71,076	$ 107,362	$ 107,377	$ 107,381	$ 107,358	$ 107,366	$ 57,108	$ 57,102	$ 57,102				**$ 992,513**
Total Pipeline Reservation	$ 859,074	$ 852,522	$ 844,803	$ 901,788	$ 1,665,083	$ 1,676,525	$ 1,685,646	$ 1,676,738	$ 1,672,366	$ 854,788	$ 857,770	$ 884,559				**$ 14,431,661**
Product Demand																
DTE	$ -	$ -	$ -	$ -	$ 74,341	$ 74,341	$ 74,341	$ 74,341	$ 74,341	$ -	$ -	$ -				**$ 371,705**
Emera	$ -	$ -	$ -	$ -	$ 61,222	$ 61,222	$ 61,222	$ 61,222	$ 61,222	$ -	$ -	$ -				**$ 306,110**
Engi	$ -	$ -	$ -	$ -	$ 42,637	$ 42,637	$ 42,637	$ 42,637	$ 42,637	$ -	$ -	$ -				**$ 213,184**
Repsol	$ -	$ -	$ -	$ -	$ 111,512	$ 115,229	$ 115,229	$ 104,077	$ 115,229	$ -	$ -	$ -				**$ 561,275**
Shell	$ -	$ -	$ -	$ -	$ 6,035	$ 6,035	$ 6,035	$ 6,035	$ 6,035	$ -	$ -	$ -				**$ 30,174**
Off-sytem Peaking Allocation Adjustment	$ -	$ -	$ -	$ -	$ 25,739	$ 25,739	$ 25,739	$ 25,739	$ 25,739	$ -	$ -					**$ 128,693**
Total Product Demand	$ -	$ -	$ -	$ -	$ 321,485	$ 325,202	$ 325,202	$ 314,050	$ 325,202	$ -	$ -	$ -				**$ 1,611,140**
Storage Pipeline Transportation and Demand Reservation																
Tennessee	$ 4,944	$ 4,944	$ 4,944	$ 4,944	$ 5,097	$ 5,097	$ 5,097	$ 5,097	$ 5,097	$ 5,097	$ 5,097	$ 5,097				**$ 60,548**
Texas Eastern				$ -	$ -											**$ -**
Wash 10	$ 102,162	$ 102,162	$ 102,162	$ 102,162	$ 105,316	$ 105,316	$ 105,316	$ 105,316	$ 105,316	$ 105,316	$ 105,316	$ 105,316				**$ 1,251,177**
Company Managed	$ (97,772)	$ (98,210)	$ (97,650)	$ -	$ -	$ (231,249)	$ (226,263)	$ (228,673)	$ (228,388)	$ (208,689)	$ (121,584)	$ (174,889)				**$ (1,713,367)**
Total Storage and Demand Reservation	$ 9,334	$ 8,895	$ 9,455	$ 107,105	$ 110,413	$ (120,836)	$ (115,850)	$ (118,261)	$ (117,976)	$ (98,276)	$ (11,171)	$ (64,476)				**$ (401,642)**
Demand Cost Estimates	$ 487,303	$ 804,958	$ 802,177	$ 1,987,994	$ 1,862,256	$ 1,873,023	$ 1,861,505	$ 1,873,023	$ 826,893	$ 810,847	$ 798,225	$ 798,347				**$ 14,786,551**
Demand Cost Reversals	$ (919,095)	$ (487,303)	$ (804,958)	$ (802,177)	$ (1,987,994)	$ (1,862,256)	$ (1,873,023)	$ (1,861,505)	$ (1,873,023)	$ (826,893)	$ (810,847)	$ (798,225)				**$ (14,907,299)**
Subtotal	$ (431,792)	$ 317,655	$ (2,781)	$ 1,185,817	$ (125,738)	$ 10,767	$ (11,518)	$ 11,518	$ (1,046,130)	$ (16,046)	$ (12,622)	$ 122				**$ (120,748)**
PNGTS Refund	$ (21,365)	$ (21,365)	$ (21,365)	$ (443,547)	$ (445,505)	$ (441,624)	$ (443,653)	$ (443,653)	$ (331,801)	$ (16,567)	$ (16,567)	$ (16,567)				**$ (2,663,579)**
Capacity Release	$ (427,955)	$ (427,633)	$ (437,233)	$ (501,551)	$ (645,680)	$ (418,297)	$ (417,229)	$ (417,626)	$ (417,862)	$ (223,139)	$ (220,713)	$ (222,212)				**$ (4,777,129)**
Other A&G Allowance	$ 19,645	$ 19,645	$ 19,645	$ 68,151	$ 68,151	$ 68,151	$ 68,151	$ 68,151	$ 68,151	$ 17,293	$ 17,293	$ 17,293				**$ 519,723**
Local Production and Storage Allowance				$ 70,110	$ 70,110	$ 70,110	$ 70,110	$ 70,110	$ 70,110	$ -	$ -	$ -				**$ 420,658**
NH PUC Consulting Expense	$ 6,813	$ 1,665	$ -													**$ 8,478**
Total Indirect Demand Costs	$ (422,863)	$ (427,688)	$ (438,953)	$ (806,836)	$ (952,924)	$ (721,659)	$ (722,622)	$ (723,019)	$ (611,402)	$ (222,413)	$ (219,986)	$ (221,485)				**$ (6,491,850)**
Demand Cost Estimates - Capacity Release	$ (511,481)	$ (520,493)	$ (487,301)	$ (631,426)	$ (650,040)	$ (643,245)	$ (646,284)	$ (646,233)	$ (428,547)	$ (341,546)	$ (342,551)	$ (347,779)				**$ (6,196,926)**
Demand Cost Reversals - Capacity Release	$ 511,650	$ 511,481	$ 520,493	$ 487,301	$ 631,426	$ 650,040	$ 643,245	$ 646,284	$ 646,233	$ 428,547	$ 341,546	$ 342,551				**$ 6,360,797**
Subtotal	**$ 169**	**$ (9,012)**	**$ 33,192**	**$ (144,125)**	**$ (18,614)**	**$ 6,795**	**$ (3,039)**	**$ 51**	**$ 217,686**	**$ 87,001**	**$ (1,005)**	**$ (5,228)**				**$ 163,871**
Annual Demand Costs	**$ 13,922**	**$ 742,372**	**$ 445,716**	**$ 1,243,749**	**$ 999,704**	**$ 1,176,794**	**$ 1,157,820**	**$ 1,161,078**	**$ 439,747**	**$ 605,054**	**$ 612,985**	**$ 593,491**	**$ 575,293**	**$ 575,293**	**$ 575,293**	**$ 10,918,311**
Total Gas Costs	**$ 224,310**	**$ 961,087**	**$ 954,473**	**$ 2,535,615**	**$ 3,743,916**	**$ 4,053,472**	**$ 3,593,080**	**$ 3,133,782**	**$ 1,569,270**	**$ 1,064,461**	**$ 918,505**	**$ 854,794**	**$ 813,009**	**$ 821,573**	**$ 1,155,127**	**$ 26,396,473**

REDACTED

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
2016-17 ANNUAL COG RECONCILIATION
COST OF GAS ADJUSTMENT - FORM III, Schedule 4 - UNITS
August 2016 - October 2017

Indicates Confidential Data

													-----Estimated-----			
Commodity Volumes:	**Aug-16**	**Sep-16**	**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**	**Total**
CONSOLIDATED EDISON																
DTE ENERGY TRADING																
EMERA ENERGY SERVICES INC.																
FREEPOINT																
REPSOL																
SEQUENT																
SHELL ENERGY NORTH AMERICA (US) LP																
SOUTHWESTERN																
TENASKA																
TWIN EAGLE																
Subtotal - Commodity Supply																
Granite																
Portland																
Tennessee																
Subtotal - Commodity Transportation																
Commodity Volume Estimates																
Commodity Volume Reversals																
Subtotal - Estimates																
Subtotal - Supply																
Withdrawal - Underground Storage																
ATV Reconciliation																
Off System Sales																
Net OBA Adjustment																
Company Managed																
LNG Boiloff																
Transportation Charges																
Hedging Costs																
Inventory Finance Charges																
Subtotal - Other Commodity																
Sales for Resale Estimates																
Sales for Resale Reversals																
Subtotal - Estimates																
Total Commodity Volumes													101,175	112,635	241,758	

REDACTED

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
2016-17 ANNUAL COG RECONCILIATION
COST OF GAS ADJUSTMENT - FORM III, Schedule 4 - IN COST PER UNIT
August 2016 - October 2017

Indicates Confidential Data

												---Estimated---			
Commodity Costs per Unit:	**Aug-16**	**Sep-16**	**Oct-16**	**Nov-16**	**Dec-16**	**Jan-17**	**Feb-17**	**Mar-17**	**Apr-17**	**May-17**	**Jun-17**	**Jul-17**	**8/1/2017***	**9/1/2017***	**10/1/2017****	**Total**
CONSOLIDATED EDISON																
DTE ENERGY TRADING																
EMERA ENERGY SERVICES INC.																
FREEPOINT																
REPSOL																
SEQUENT																
SHELL ENERGY NORTH AMERICA (US) LP																
SOUTHWESTERN																
TENASKA																
TWIN EAGLE																
Subtotal - Commodity Supply													$ 2.97	$ 2.96	$ 2.94	
Granite																
Portland																
Tennessee																
Subtotal - Commodity Transportation													n/a	n/a	n/a	
Commodity Volume Estimates																
Commodity Volume Reversals																
Subtotal - Estimates													n/a	n/a	n/a	
Subtotal - Supply																
Withdrawal - Underground Storage																
ATV Reconciliation Charges																
Off System Sales																
Net OBA Adjustment																
Company Managed																
LNG Boiloff																
Transportation Charges																
Hedging Costs																
Inventory Finance Charge																
Subtotal - Other Commodity													n/a	n/a	n/a	
Off System Sales Estimates																
Off System Sales Reversals																
Subtotal - Estimates																
Total Commodity Costs per unit													n/a	n/a	n/a	

*: NYMEX Closing Price
**: NYMEX Futures Price for September 30, 2017

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
2016-17 ANNUAL COG RECONCILIATION
SCHEDULE 5: PURCHASED AND MADE VOLUMES
August 2016 - July 2017

New Hampshire	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Total
Throughput IN													
BTU Factor	1.023	1.027	1.028	1.026	1.03	1.031	1.039	1.031	1.028	1.028	1.028	1.026	
GST Meter Throughput (MCF)	340,004	330,938	511,511	689,646	1,003,576	1,006,349	878,257	1,032,339	580,020	484,663	353,785	327,372	7,538,460
Salem Meter (MCF)	11,741	13,322	23,798	38,075	66,578	66,104	55,548	64,400	28,809	20,591	13,549	12,465	414,980
GST Meter Throughpurt (DTH)	347,824	339,873	525,833	707,577	1,033,683	1,037,546	912,509	1,064,342	596,261	498,234	363,691	335,884	7,763,256
Salem Meter (DTH)	12,011	13,682	24,464	39,065	68,575	68,153	57,714	66,396	29,616	21,168	13,928	12,789	427,562
LNG/Propane													-
Total Throughput	359,835	353,555	550,298	746,642	1,102,259	1,105,699	970,223	1,130,738	625,876	519,401	377,619	348,673	8,190,818
Throughput OUT													
Residential Gas													
Charged	34,887	33,672	56,824	123,275	231,638	300,796	283,790	264,284	217,989	110,912	68,878	40,221	1,767,166
Uncharged Current	16,649	20,368	36,681	113,814	161,369	187,320	141,689	131,616	160,071	73,266	33,874	21,311	1,098,027
Uncharged Prior	(23,950)	(16,649)	(20,368)	(36,681)	(113,814)	(161,369)	(187,320)	(141,689)	(131,616)	(160,071)	(73,266)	(33,874)	(1,100,667)
Total Residential Gas	**27,585**	**37,391**	**73,138**	**200,407**	**279,193**	**326,748**	**238,159**	**254,211**	**246,444**	**24,107**	**29,486**	**27,657**	1,764,526
Interruptible				-	-	-	-	-	-	-	-	-	-
<u>*Commercial/Industrial Gas*</u>													
Charged	52,370	50,200	74,673	142,453	253,190	329,848	314,559	298,877	234,111	119,798	76,343	55,451	2,001,873
Uncharged Current	24,992	30,366	48,203	118,406	170,699	197,380	123,709	141,195	142,072	79,136	37,546	29,885	1,143,587
Uncharged Prior	(33,362)	(24,992)	(30,366)	(48,203)	(118,406)	(170,699)	(197,380)	(123,709)	(141,195)	(142,072)	(79,136)	(37,546)	(1,147,065)
Total C/I Gas	**44,000**	**55,574**	**92,511**	**212,656**	**305,483**	**356,528**	**240,888**	**316,363**	**234,988**	**56,862**	**34,753**	**47,790**	1,998,396
Transportation													
Charged	274,851	278,608	319,418	366,684	429,192	465,424	432,867	468,656	382,427	337,827	240,259	291,833	4,288,046
Uncharged Current	84,822	109,660	140,020	199,071	212,735	294,883	237,529	238,343	298,465	223,161	118,160	157,150	2,313,998
Uncharged Prior	(117,357)	(84,822)	(109,660)	(140,020)	(199,071)	(212,735)	(294,883)	(237,529)	(238,343)	(298,465)	(223,161)	(118,160)	(2,274,206)
Total Transportation	**242,316**	**303,446**	**349,778**	**425,735**	**442,856**	**547,573**	**375,513**	**469,470**	**442,549**	**262,523**	**135,258**	**330,823**	**4,327,838**
Company Use	**77**	**85**	**76**	**109**	**180**	**212**	**210**	**205**	**158**	**72**	**54**	**58**	**1,496**
Total Throughput OUT	**313,978**	**396,496**	**515,502**	**838,907**	**1,027,712**	**1,231,060**	**854,770**	**1,040,250**	**924,139**	**343,564**	**199,551**	**406,328**	**8,092,256**
Total Throughput IN	**359,835**	**353,555**	**550,298**	**746,642**	**1,102,259**	**1,105,699**	**970,223**	**1,130,738**	**625,876**	**519,401**	**377,619**	**348,673**	**8,190,818**
Difference IN/OUT	45,858	(42,941)	34,795	(92,265)	74,546	(125,361)	115,454	90,488	(298,262)	175,837	178,068	(57,656)	98,562
%													1.20%

Attachment A

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
DEFERRED WORKING CAPITAL ALLOWANCE ON PURCHASED GAS COSTS
August 2016 - October 2017

ANNUAL BALANCE SEASON - Acct 182.21

		BEGINNING BALANCE	WORKING CAP ALLOWANCE (2)	WORKING CAP PERCENTAGE	WORKING CAP COLLECTIONS	WORKING CAP DEFERRED	ENDING BALANCE	AVE MONTHLY BALANCE	INTEREST RATE	INTEREST	ENDING BAL W/ INTEREST
		A	B	C	D	E = B + D	F = A + E	G = (A + F) / 2	H	I = G * (H / 12)	K = F + I + J
August 2016	$	(266)									
Adjustment	$	(2)									
August 2016	$	(268)	199	0.0887%	(127)	72	(196)	(232)	3.50%	(1)	(197)
September	$	(197)	852	0.0887%	(128)	724	528	165	3.50%	0	528
October	$	528	847	0.0887%	(294)	553	1,081	805	3.50%	2	1,083
November	$	1,083	2,249	0.0887%	(2,044)	206	1,289	1,186	3.50%	3	1,292
December	$	1,292	3,321	0.0887%	(3,452)	(131)	1,161	1,227	3.50%	4	1,165
January 2017	$	1,165	3,596	0.0887%	(3,947)	(352)	813	989	3.50%	3	816
February	$	816	3,187	0.0887%	(3,197)	(10)	806	811	3.50%	2	808
March	$	808	2,780	0.0887%	(3,641)	(862)	(53)	377	3.50%	1	(52)
April	$	(52)	1,490	0.0950%	(2,435)	(945)	(997)	(525)	3.75%	(2)	(999)
May	$	(999)	*1,011*	0.0950%	*(96)*	915	(84)	(541)	3.75%	(2)	(86)
June	$	(86)	*873*	0.0950%	*(285)*	588	502	208	3.75%	1	503
July	$	503	*867*	0.1014%	*(181)*	686	1,189	846	4.00%	3	1,191
Estimated August	$	1,191	*824*	0.1014%	*(150)*	674	1,866	1,529	4.00%	5	1,871
Estimated September	$	1,871	*833*	0.1014%	*(150)*	683	2,554	2,213	4.00%	7	2,561
Estimated October	$	2,561	*1,244*	0.1077%	*(300)*	944	3,505	3,033	4.25%	11	3,516

Winter Season Sales Percentage		81.59%
Summer Season Sales Percentage		18.41%
Reconciliation Allocated to Winter Season	$	2,868.74
Reconciliation Allocated to Summer Season	$	647.50

Attachment B

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
BAD DEBT EXPENSE - CALCULATION OF COLLECTION ALLOWANCE
August 2016 - October 2017

ANNUAL BALANCE- Acct 182.22

	BEGINNING BALANCE	ACUTAL BAD DEBT	BAD DEBT COLLECTIONS	DEFERRED BALANCE	ENDING BALANCE	AVE MO BALANCE	INTEREST RATE	INTEREST	END BAL W/ INTEREST
	A	B	C	D = B + C	E = A + D	F = (A + E) / 2	G	H = (F *G) / 12	J = E + H + I
August 2016	$89,877	31,540	(818)	30,722	120,599	105,238	3.50%	307	120,906
September	$120,906	13,680	(836)	12,844	133,750	127,328	3.50%	371	134,121
October	$134,121	2,910	(1,578)	1,332	135,454	134,788	3.50%	393	135,847
November	$135,847	(147)	(28,456)	(28,602)	107,244	121,546	3.50%	355	107,599
December	$107,599	(52)	(49,546)	(49,598)	58,001	82,800	3.50%	241	58,243
January 2017	$58,243	5,903	(56,568)	(50,665)	7,578	32,910	3.50%	96	7,674
February	$7,674	4,964	(45,827)	(40,864)	(33,190)	(12,758)	3.50%	(37)	(33,227)
March	($33,227)	4,869	(52,196)	(47,327)	(80,554)	(56,891)	3.50%	(166)	(80,720)
April	($80,720)	18,007	*(34,971)*	(16,964)	(97,684)	(89,202)	3.75%	(279)	(97,963)
May	($97,963)	31,930	(3,119)	28,811	(69,152)	(83,557)	3.75%	(261)	(69,413)
June	($69,413)	24,074	(4,921)	19,152	(50,261)	(59,837)	3.75%	(187)	(50,448)
July	($50,448)	(1,010)	(3,291)	(4,302)	(54,749)	(52,598)	4.00%	(175)	(54,925)
Estimated August	($54,925)	25,000	(850)	24,150	(30,775)	(42,850)	4.00%	(143)	(30,917)
Estimated September	($30,917)	25,000	(875)	24,125	(6,792)	(18,855)	4.00%	(63)	(6,855)
Estimated October	($6,855)	5,000	(2,000)	3,000	(3,855)	(5,355)	4.25%	(19)	(3,874)

Winter Season Sales Percentage		81.59%
Summer Season Sales Percentage		18.41%
Reconciliation Allocated to Winter Season	$	(3,160.78)
Reconciliation Allocated to Summer Season	$	(713.42)

Attachment C

Northern Utilities, Inc. - New Hampshire Division
Environmental Response Costs
May 2016 - October 2017

		Beginning Balance	Firm Sales and Transportation (therms)	ERC Rate Recoveries /Passback	Current ERC Recoveries/ Passbacks	Ending Balance
May 2016	(act)	$ (60,937)	4,459,867	$ (0.0022)	$ (9,831)	$ (51,106)
June 2016	(act)	$ (51,106)	2,951,987	$ (0.0022)	$ (6,489)	$ (44,617)
July 2016	(act)	$ (44,617)	2,424,523	$ (0.0022)	$ (5,426)	$ (39,191)
August 2016	(act)	$ (39,191)	2,650,001	$ (0.0022)	$ (5,831)	$ (33,360)
September 2016	(act)	$ (33,360)	2,651,579	$ (0.0022)	$ (5,829)	$ (27,531)
October 2016	(act)	$ (27,531)	3,484,051	$ (0.0022)	$ (7,663)	$ (19,869)
November 2016	(act)	$ 405,593 (1)	5,380,275	$ 0.0034 (2)	$ 17,002	$ 388,592
December 2016	(act)	$ 388,592	8,165,647	$ 0.0056	$ 45,724	$ 342,868
January 2017	(act)	$ 342,868	9,990,097	$ 0.0056	$ 55,948	$ 286,919
February 2017	(act)	$ 286,919	9,376,948	$ 0.0056	$ 52,510	$ 234,409
March 2017	(act)	$ 234,409	9,265,700	$ 0.0056	$ 51,886	$ 182,523
April 2017	(act)	$ 182,523	7,292,392	$ 0.0056	$ 40,839	$ 141,684
May 2017	(act)	$ 141,684	4,579,550	$ 0.0056	$ 25,645	$ 116,039
June 2017	(act)	$ 116,039	3,069,446	$ 0.0056	$ 17,192	$ 98,847
July 2017	(act)	$ 98,847	2,715,359	$ 0.0056	$ 15,226	$ 83,621
August 2017	(est)	$ 83,621	2,519,913	$ 0.0056	$ 14,112	$ 69,510
September 2017	(est)	$ 69,510	2,831,668	$ 0.0056	$ 15,857	$ 53,653
October 2017	(est)	$ 53,653	3,949,342	$ 0.0056	$ 22,116	$ 31,536

(1) November Beginning Balance includes $132,297 amortization from all prior years at 1/7 of annual costs. (See Section 4.7 of Tariff.)

(2) November Current ERC Recoveries/Passbacks reflect an Average ERC Rate based on actual Firm Sales and Transportation (therms) at ($0.0022) and actual Firm Sales and Transportation (therms) at $0.0056.

Attachment D

NORTHERN UTILITIES
NEW HAMPSHIRE DIVISION
RLIARA Reconciliation
May 2016 - October 2017

		Beginning Balance	Program Costs	Regulatory Assessments		RLIARA Recoveries	Ending Balance	Average Monthly Balance	Interest Rate	Interest	Ending Balance w/Interest
		A	B	C		D	E = A+B+C-D	F = (A+E)/2	G	H = F*(G/12)	I = E+H
May 2016	Actual	$ (76,204)	$ 37,109	$ 27,503		$ 44,161	$ (55,753)	$ (65,979)	3.50%	$ (192)	$ (55,945)
June 2016	Actual	$ (55,945)	$ 18,950	$ 27,503		$ 29,192	$ (38,685)	$ (47,315)	3.50%	$ (138)	$ (38,823)
July 2016	Actual	$ (38,823)	$ 16,915	$ 27,503		$ 23,974	$ (18,379)	$ (28,601)	3.50%	$ (83)	$ (18,462)
August 2016	Actual	$ (18,462)	$ 16,774	$ (17,576)	(1)	$ 26,198	$ (45,462)	$ (31,962)	3.50%	$ (248)	$ (45,710)
September 2016	Actual	$ (45,710)	$ 16,918	$ 4,963	(1)	$ 26,212	$ (50,041)	$ (47,875)	3.50%	$ (140)	$ (50,181)
October 2016	Actual	$ (50,181)	$ 18,664	$ 22,743		$ 34,467	$ (43,241)	$ (46,711)	3.50%	$ (136)	$ (43,377)
November 2016	Actual	$ (43,377)	$ 20,111	$ 22,743		$ 52,159	$ (52,682)	$ (48,029)	3.50%	$ (140)	$ (52,822)
December 2016	Actual	$ (52,822)	$ 28,715	$ 22,743		$ 78,396	$ (79,760)	$ (66,291)	3.50%	$ (193)	$ (79,953)
January 2017	Actual	$ (79,953)	$ 39,868	$ 22,743		$ 95,907	$ (113,249)	$ (96,602)	3.50%	$ (282)	$ (113,531)
February 2017	Actual	$ (113,531)	$ 38,859	$ 22,743		$ 90,028	$ (141,957)	$ (127,744)	3.50%	$ (373)	$ (142,330)
March 2017	Actual	$ (142,330)	$ 40,959	$ 22,743		$ 88,967	$ (167,595)	$ (154,962)	3.50%	$ (452)	$ (168,047)
April 2017	Actual	$ (168,047)	$ 40,252	$ 22,743		$ 70,014	$ (175,066)	$ (171,556)	3.75%	$ (536)	$ (175,602)
May 2017	Actual	$ (175,602)	$ 26,562	$ 22,743		$ 43,965	$ (170,262)	$ (172,932)	3.75%	$ (540)	$ (170,802)
June 2017	Actual	$ (170,802)	$ 15,174	$ 22,743		$ 29,498	$ (162,383)	$ (166,592)	3.75%	$ (521)	$ (162,904)
July 2017	Actual	$ (162,904)	$ 12,207	$ 22,743		$ 26,135	$ (154,089)	$ (158,496)	4.00%	$ (528)	$ (154,617)
August 2017	Est.	$ (154,617)	$ 16,774	$ 22,743		$ 24,191	$ (139,291)	$ (146,954)	4.00%	$ (158)	$ (139,449)
September 2017	Est.	$ (139,449)	$ 16,918	$ 22,743		$ 27,184	$ (126,972)	$ (133,210)	4.00%	$ (113)	$ (127,085)
October 2017	Est.	$ (127,085)	$ 18,664	$ 22,743		$ 37,914	$ (123,592)	$ (125,338)	4.00%	$ (62)	$ (123,655)

(1) Accounting true ups to Regulatory Assessment.

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
SALES VARIANCE ANALYSIS

	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	TOTAL
Forecast Bill Month Sales	115,626	112,918	148,249	268,489	491,313	682,734	686,433	613,959	411,996	247,069	142,157	98,020	4,018,963
Actual Sales	87,257	83,871	131,497	265,728	484,827	630,643	598,348	563,161	452,100	230,709	145,220	96,484	3,769,847
Difference	(28,369)	(29,047)	(16,752)	(2,761)	(6,486)	(52,091)	(88,085)	(50,798)	40,104	(16,360)	3,063	(1,536)	(249,116)
Normal Cal. Month Actual Sales	87,257	83,871	131,497	290,821	480,310	681,594	702,777	574,772	423,422	230,709	145,220	96,484	3,928,735
Actual Sales	87,257	83,871	131,497	265,728	484,827	630,643	598,348	563,161	452,100	230,709	145,220	96,484	3,769,847
Weather Variance	-	-	-	25,094	(4,517)	50,950	104,428	11,611	(28,678)	-	-	-	158,888
Total Variance Excluding Weather (excl weather effect)	(28,369)	(29,047)	(16,752)	22,332	(11,003)	(1,140)	16,344	(39,187)	11,426	(16,360)	3,063	(1,536)	(90,228)
Variance-difference due to meter count													(241,346)
-difference in load pattern													151,118
Total Sales Variance													(90,228)

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
SALES VARIANCE ANALYSIS
August 2016 - July 2017

	NORMAL MMBtu			METERS		
	2016-17 Forecast	2016-17 Actual	Difference	2016-17 Forecast	2016-17 Actual	Difference
Res Heat	1,790,013	1,823,252	33,239	271,472	287,039	15,567
Res General	25,910	23,713	(2,198)	23,452	16,305	(7,147)
Total Res	1,815,923	1,846,964	31,041	294,923	303,344	8,421
G-40	803,290	899,062	95,772	61,044	54,715	(6,329)
G-50	144,893	145,796	903	9,134	8,922	(212)
G-41	726,785	640,253	(86,532)	6,682	4,841	(1,841)
G-51	221,302	216,599	(4,704)	1,581	1,872	291
G-42	166,028	138,476	(27,552)	188	140	(48)
G-52	140,742	41,585	(99,157)	83	55	(28)
Total C & I	2,203,040	2,081,770	(121,269)	78,712	70,545	(8,167)
Total Company	4,018,963	3,928,735	(90,228)	373,636	373,889	253

	NORMAL AVERAGE USE			Change in Sales Due to Change In:			
	2016-17 Forecast	2016-17 Actual	Difference	Meter Count	Load Pattern	Total Chg MMBtu	% Difference
Res Heat	6.59	6.35	(0.24)	102,648	(69,409)	33,239	1.86%
Res General	1.10	1.45	0.35	(7,896)	5,699	(2,198)	-8.48%
Total Res	7.70	7.81	0.11	94,752	(63,710)	31,041	1.71%
G-40	13.16	16.43	3.27	(83,283)	179,055	95,772	11.92%
G-50	15.86	16.34	0.48	(3,363)	4,266	903	0.62%
G-41	108.77	132.26	23.49	(200,252)	113,719	(86,532)	-11.91%
G-51	139.94	115.70	(24.24)	40,669	(45,373)	(4,704)	-2.13%
G-42	883.13	989.11	105.99	(42,390)	14,838	(27,552)	-16.59%
G-52	1,695.69	756.10	(939.59)	(47,479)	(51,678)	(99,157)	-70.45%
Total C & I	27.99	29.51	1.52	(336,098)	214,828	(121,269)	-5.50%
Total Company	10.76	10.51	(0.25)	(241,346)	151,118	(90,228)	-2.25%

Attachment F

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
August 2016 - October 2017
SUPPLIER REFUNDS
Period Ending October 31, 2017
ANNUAL DEMAND - Acct 242.90.10

	BEGINNING BALANCE	REFUND COLLECTIONS(1)	ENDING BALANCE	AVE MONTHLY BALANCE	INTEREST RATE(2)	INTEREST	ENDING BAL W/ INTEREST
	A	B	C = A + B	D = (A + C) / 2	E	F = D * (E / 12)	G = C + F
August 2016	$ (4,379,877)	$ 21,365	(4,358,512)	(4,369,195)	1.76%	(6,412)	(4,364,924)
September	$ (4,364,924)	$ 21,363	(4,343,561)	(4,354,242)	1.78%	(6,448)	(4,350,009)
October	$ (4,350,009)	$ 21,365	(4,328,644)	(4,339,326)	1.78%	(6,437)	(4,335,081)
November	$ (4,335,081)	$ 443,547	(3,891,534)	(4,113,307)	1.81%	(6,187)	(3,897,721)
December	$ (3,897,721)	$ 445,505	(3,452,216)	(3,674,968)	1.95%	(5,972)	(3,458,188)
January 2017	$ (3,458,188)	$ 441,624	(3,016,564)	(3,237,376)	2.02%	(5,452)	(3,022,016)
February	$ (3,022,016)	$ 443,653	(2,578,363)	(2,800,190)	2.03%	(4,728)	(2,583,091)
March	$ (2,583,091)	$ 443,653	(2,139,437)	(2,361,264)	2.16%	(4,246)	(2,143,684)
April	$ (2,143,684)	$ 331,801	(1,811,883)	(1,977,783)	2.24%	(3,690)	(1,815,573)
May	$ (1,815,573)	$ 16,567	(1,799,006)	(1,807,289)	2.26%	(3,398)	(1,802,403)
June	$ (1,802,403)	$ 16,567	(1,785,836)	(1,794,120)	2.40%	(3,590)	(1,789,426)
July	$ (1,789,426)	$ 16,567	(1,772,859)	(1,781,143)	2.48%	(3,677)	(1,776,536)
Estimated August	$ (1,776,536)	$ 16,567	(1,759,969)	(1,768,252)	2.48%	(3,650)	(1,763,619)
Estimated September	$ (1,763,619)	$ 16,567	(1,747,052)	(1,755,335)	2.48%	(3,623)	(1,750,675)
Estimated October	$ (1,750,675)	$ 16,567	(1,734,108)	(1,742,392)	2.48%	(3,597)	(1,737,705)
Totals		2,663,577				(60,236)	

(1) Refund Collections reflect transfer of PNGTS Refund dollars to the Demand and Commodity Account in accordance with Order No. 26,836 in Docket No. DG 15-393.
(2) Interest charge on Supplier Refund resulting from PNGTS rate case is calculated at the Company's short term borrowing rate effective April 1, 2015 per Order No. 26,825 in Docket No. DG 15-393.

ANNUAL COMMODITY - Acct 242.90.01

	BEGINNING BALANCE	REFUND COLLECTIONS	ENDING BALANCE	AVE MONTHLY BALANCE	INTEREST RATE	INTEREST	ENDING BAL W/ INTEREST
	A	B	C = A + B	D = (A + C) / 2	E	F = D * (E / 12)	G = C + F
August 2016	$ -	-	0	0	3.25%	0	0
September	$ -	0	0	0	3.25%	0	0
October	$ -	0	0	0	3.25%	0	0
November	$ -	0	0	0	3.25%	0	0
December	$ -	0	0	0	3.25%	0	0
January 2017	$ -	0	0	0	3.25%	0	0
February	$ -	0	0	0	3.25%	0	0
March	$ -	0	0	0	3.25%	0	0
April	$ -	0	0	0	3.25%	0	0
May	$ -	0	0	0	3.25%	0	0
June	$ -	0	0	0	3.25%	0	0
July	$ -	0	0	0	3.25%	0	0
Estimated August							
Estimated September		0				0	

NORTHERN UTILITIES, INC.- NEW HAMPSHIRE DIVISION
Residential Low Income Assistance and Regulatory Assessment Costs (RLIARA)

		Customer Charge	First Block	Last Block	Total
1	**Peak Period**				
2	R-5 Base Rates	$21.36	$0.6239	$0.5103	
3	R-10 Rate at 40% of R5	$8.54	$0.2496	$0.2041	
4	Program Subsidy	$12.82	$0.3743	$0.3062	
5	Average Annual Therms		201	408	609
6					
7	Peak Period Subsidy	$76.90	$75.23	$124.93	$277.06
8					
9	**Off Peak Period**				
10	R-5 Base Rates	$21.36	$0.5449	$0.5449	
11	R10 Rate at 40% of R5	$8.54	$0.2179	$0.2179	
12	Program Subsidy	$12.82	$0.3270	$0.3270	
13	Average Annual Therms		103	26	129
14					
15	Off Peak Period Subsidy	$76.90	$33.75	$8.44	$119.08
16					
17	Estimated Annual Subsidy				$396.14
18					
19	Number of Estimated 2017/18 Participants				848
20					
21	Annual Subsidy times Number of Participants (Ln 17 *Ln 19)				$336,093
22	Prior Year Ending Balance 10/31/2017 - RLIARA Page 2				($103,698)
23	Estimated Annual Administrative Costs				$0
24	Estimated Non-Distribution Regulatory Assessment (Based off of NHPUC invoice dated August 9, 2017)				$58,314
25	Total Program Costs				$290,709
26					
27	Estimated weather normalized firm therms billed for				
28	the twelve months ended 10/31/18 sales and transportation				73,959,113
29	(Attachment 2 to Schedule 10B, Page 1 of 3, "Total Division"				
30	subtract "Special Contracts").				
31	**Total Residential Low Income Assistance and Regulatory Assessment Costs Charge**				**$0.0039**

NORTHERN UTILITIES, INC., NEW HAMPSHIRE DIVISION
NOVEMBER 2016 THROUGH OCTOBER 2017
RESIDENTIAL LOW INCOME ASSISTANCE AND REGULATORY ASSESSMENT COSTS (RLIARA) RECONCILIATION

											Estimate	Estimate	Estimate	
1	**FOR THE MONTH OF:**	**Nov-16**	**Dec-16**	**Jan-17**	**Feb-17**	**Mar-17**	**Apr-17**	**May-17**	**Jun-17**	**Jul-17**	**Aug-17**	**Sep-17**	**Oct-17**	**Total**
2	**DAYS IN MONTH**	30	31	31	28	31	30	31	30	31	31	30	31	365
3														**Average**
4	RLIA Participant Count	710	689	855	839	892	1,003	909	699	683	988	985	929	848
5														**Total**
6	Beginning Balance	($43,378)	($52,823)	($79,955)	($113,534)	($142,333)	($168,050)	($175,605)	($170,805)	($162,907)	($154,621)	($153,128)	($121,773)	($43,378)
7														
8	Add: Actual Costs	$20,111	$28,715	$39,868	$38,859	$40,959	$40,252	$26,562	$15,174	$12,207	$21,881	$41,407	$34,467	$360,461
9														
10	Add: Regulatory Assessments	$22,743	$22,743	$22,743	$22,743	$22,743	$22,743	$22,743	$22,743	$22,743	$4,860	$4,860	$4,860	$219,263
11														
12	Less: Collected Revenue	$52,159	$78,396	$95,907	$90,028	$88,967	$70,014	$43,965	$29,498	$26,135	$24,736	$14,453	$20,853	($600,514)
13														
14	Add: Administrative and Start Up Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
15														
16	Ending Balance Pre-Interest	($52,683)	($79,762)	($113,252)	($141,960)	($167,598)	($175,069)	($170,265)	($162,387)	($154,093)	($152,616)	($121,315)	($103,299)	
17														
18	Month's Average Balance	($48,030)	($66,292)	($96,604)	($127,747)	($154,965)	($171,559)	($172,935)	($166,596)	($158,500)	($153,619)	($137,222)	($112,536)	
19														
20	Interest Rate	3.50%	3.50%	3.50%	3.50%	3.50%	3.75%	3.75%	3.75%	4.00%	4.00%	4.00%	4.25%	
21														
22	Interest Applied	($140)	($193)	($282)	($373)	($452)	($536)	($540)	($521)	($528)	($512)	($457)	($399)	
23														
24	Ending Balance	($52,823)	($79,955)	($113,534)	($142,333)	($168,050)	($175,605)	($170,805)	($162,907)	($154,621)	($153,128)	($121,773)	**($103,698)**	

() Over Collection

NORTHERN UTILITIES, INC., NEW HAMPSHIRE DIVISION

Calculation of Distribution and Non-Distribution Revenues of the NHPUC Annual Regulatory Assessment

NHPUC Assessment Invoice dated August 9, 2017

	July 2017	August 2017	September 2017	October 2017	November 2017	December 2017	January 2018	February 2018	March 2018	April 2018	May 2018	June 2018	Total Fiscal Year	
Distribution	$25,887.50	$25,887.50	$25,887.50	$25,887.50	$25,887.50	$25,887.50	$25,887.50	$25,887.50	$25,887.50	$25,887.50	$25,887.50	$25,887.50	$310,650.00	1
Non-Distribution	$4,859.50	$4,859.50	$4,859.50	$4,859.50	$4,859.50	$4,859.50	$4,859.50	$4,859.50	$4,859.50	$4,859.50	$4,859.50	$4,859.50	$58,314.00	2
Total		$92,387.25			$92,387.25			$92,387.25			$92,387.25		$369,549.00	

(1) The $310,650.00 for Distribution represents the amount included in the test year in Docket DG 17-070.
(2) Total Invoice amount minus Distribution amount.

Northern Utilities, Inc. -- New Hampshire Division

EEC Budget

	Residential	Low-Income	Gen Service	Total
August-17	$29,508	$23,488	$50,959	$103,955
September-17	$29,508	$23,488	$56,982	$109,979
October-17	$53,885	$42,892	$93,055	$189,832
November-17	$53,885	$42,892	$93,055	$189,832
December-17	$53,885	$42,892	$99,078	$195,855
January-18	$10,344	$4,414	$10,989	$25,747
February-18	$20,688	$8,828	$21,978	$51,494
March-18	$30,237	$12,902	$36,297	$79,435
April-18	$40,581	$17,316	$43,111	$101,007
May-18	$50,925	$21,730	$54,100	$126,754
June-18	$61,269	$26,144	$69,264	$156,676
July-18	$71,613	$30,558	$76,078	$178,248
August-18	$81,957	$34,972	$87,067	$203,995
September-18	$91,505	$39,046	$101,385	$231,937
October-18	$101,850	$43,460	$108,199	$253,509
Total	$781,640	$415,020	$1,001,597	$2,198,256

Budget with Low-Income Costs Allocated to Residential and General Service Classes

	Residential	Low-Income	Gen Service	Total
August-17	$32,768	0	$71,188	$103,955
September-17	$32,666	0	$77,313	$109,979
October-17	$61,348	0	$128,484	$189,832
November-17	$64,727	0	$125,105	$189,832
December-17	$66,274	0	$129,581	$195,855
January-18	$11,697	0	$14,050	$25,747
February-18	$23,477	0	$28,017	$51,494
March-18	$34,015	0	$45,421	$79,435
April-18	$45,648	0	$55,360	$101,007
May-18	$56,232	0	$70,522	$126,754
June-18	$65,761	0	$90,915	$156,676
July-18	$76,354	0	$101,894	$178,248
August-18	$86,872	0	$117,124	$203,995
September-18	$96,483	0	$135,454	$231,937
October-18	$109,548	0	$143,961	$253,509
Total	$863,868	$0	$1,334,389	$2,198,256

EEC Charge Factor Calculation

EEC Charge Factors for Residential Customers

EEC Reconciliation Adjustment	$68,263	Schedule 16 EEC Page 3 Nov '17 - Oct '18 Totals- November 2017 Beginning Balance
EEC Costs	$668,738	Schedule 16 EEC Page 3 Nov '17 - Oct '18 Totals- Column 2
EEC Performance Incentive	$41,121	Schedule 16 EEC Page 3 Nov '17 - Oct '18 Totals- Column 3
EEC Low-Income Costs	$68,348	Schedule 16 EEC Page 3 Nov '17 - Oct '18 Totals- Column 4
EEC Allocated Low-Income Performance Incentive	$4,060	Schedule 16 EEC Page 3 Nov '17 - Oct '18 Totals- Column 5
Total	$850,530	
Forecasted Annual Throughput Volumes for Residential Customers	19,633,024	Schedule 16 EEC Page 3 Nov '17 - Oct '18 Totals- Column 6
Energy Efficiency Charge Factor for Residential Customers	**$0.0433**	

EEC Charge Factors for Commercial and Industrial Customers (C&I)

EEC Reconciliation Adjustment	($117,039)	Schedule 16 EEC Page 4 Nov '17 - Oct '18 Totals- November 2017 Beginning Balance
EEC Costs	$800,601	Schedule 16 EEC Page 4 Nov '17 - Oct '18 Totals- Column 2
EEC Performance Incentive	$45,648	Schedule 16 EEC Page 4 Nov '17 - Oct '18 Totals- Column 3
EEC Low-Income Costs	$256,804	Schedule 16 EECPage 4 Nov '17 - Oct '18 Totals- Column 4
EEC Allocated Low-Income Performance Incentive	$13,712	Schedule 16 EEC Page 4 Nov '17 - Oct '18 Totals- Column 5
Total	$999,725	
Forecasted Annual Throughput Volumes for C&I Customers	54,326,090	Schedule 16 EEC Page 4 Nov '17 - Oct '18 Totals- Column 6
Energy Efficiency Charge Factor for C&I Customers	**$0.0184**	

Northern Utilities, Inc.

New Hampshire Division

Calculation of the EEC Charge, a Component of the Local Distribution Adjustment Charge

To Be Effective November 1, 2017 through October 31, 2018

Residential Customers

		Beginning Balance (Over)/Under	EEC Rate per Therm	EEC Collections	EEC Costs	DSM PI	Allocated Low Income Costs	Allocated Low Income PI	Ending Balance (Over)/Under	Average Balance (Over)/Under	Interest Prime Rate	Interest @ Prime Rate	Ending Balance plus Interest (Over)/Under	Therm Sales	# of Days
August-16	Actual	($120,821)	$0.0297	$10,359	$76,233	$3,792	$715	$62	($50,379)	($85,600)	3.50%	($254)	($50,633)	348,871	31
September-16	Actual	($50,633)	$0.0297	$10,002	$34,015	$3,792	$4,418	$384	($18,026)	($34,329)	3.50%	($98)	($18,124)	336,716	30
October-16	Actual	($18,124)	$0.0297	$16,876	$37,746	$3,792	$3,980	$346	$10,864	($3,630)	3.50%	($11)	$10,853	568,241	31
November-16	Actual	$10,853	$0.0331	$38,713	$55,789	$11,291	($1,008)	($88)	$38,126	$24,489	3.50%	$414	$38,539	1,232,751	30
December-16	Actual	$38,539	$0.0331	$76,673	$108,334	$3,789	$6,887	$599	$81,475	$60,007	3.50%	$99	$81,574	2,316,380	31
January-17	Actual	$81,574	$0.0331	$99,563	$12,485	$2,326	$1,457	$85	($1,637)	$39,968	3.50%	$119	($1,518)	3,007,957	31
February-17	Actual	($1,518)	$0.0331	$93,935	$53,145	$2,326	$2,009	$117	($37,857)	($19,688)	3.50%	($53)	($37,910)	2,837,897	28
March-17	Actual	($37,910)	$0.0331	$87,478	$42,241	$2,326	$1,989	$116	($78,717)	($58,314)	3.50%	($173)	($78,890)	2,642,839	31
April-17	Actual	($78,890)	$0.0331	$72,153	$18,223	$2,326	$1,683	$98	($128,714)	($103,802)	3.75%	($320)	($129,034)	2,179,888	30
May-17	Actual	($129,034)	$0.0331	$36,716	$91,117	$2,326	$1,445	$84	($70,779)	($99,906)	3.75%	($394)	($71,173)	1,109,119	31
June-17	Actual	($71,173)	$0.0331	$22,791	$42,745	$2,326	$3,559	$207	($45,127)	($58,150)	3.75%	($179)	($45,306)	688,778	30
July-17	Forecast	($45,306)	$0.0331	$12,567	$29,508	$2,326	$3,640	$171	($22,229)	($33,767)	4.00%	($115)	($22,343)	379,672	31
August-17	Forecast	($22,343)	$0.0331	$11,514	$29,508	$2,326	$3,259	$153	$1,390	($10,477)	4.00%	($36)	$1,354	347,843	31
September-17	Forecast	$1,354	$0.0331	$11,747	$29,508	$2,326	$3,158	$149	$24,747	$13,051	4.00%	$43	$24,790	354,884	30
October-17	Forecast	$24,790	$0.0331	$20,561	$53,885	$2,326	$7,463	$192	$68,096	$46,443	4.25%	$168	$68,263	621,166	31
November-17	Forecast	**$68,263**	$0.0433	$66,143	$53,885	$2,326	$10,842	$279	$69,452	$68,858	4.25%	$241	$69,693	1,527,546	30
December-17	Forecast	$69,693	$0.0433	$105,411	$53,885	$2,326	$12,389	$319	$33,200	$51,446	4.25%	$186	$33,386	2,434,445	31
January-18	Forecast	$33,386	$0.0433	$152,434	$10,344	$3,647	$1,353	$477	($103,228)	($34,921)	4.25%	($126)	($103,354)	3,520,419	31
February-18	Forecast	($103,354)	$0.0433	$158,441	$20,688	$3,647	$2,789	$492	($234,179)	($168,766)	4.25%	($550)	($234,729)	3,659,144	28
March-18	Forecast	($234,729)	$0.0433	$125,973	$30,237	$3,647	$3,778	$456	($322,585)	($278,657)	4.25%	($1,006)	($323,591)	2,909,301	31
April-18	Forecast	($323,591)	$0.0433	$94,556	$40,581	$3,647	$5,067	$455	($368,396)	($345,993)	4.25%	($1,209)	($369,605)	2,183,734	30
May-18	Forecast	($369,605)	$0.0433	$50,661	$50,925	$3,647	$5,307	$380	($360,006)	($364,806)	4.25%	($1,317)	($361,323)	1,169,988	31
June-18	Forecast	($361,323)	$0.0433	$21,331	$61,269	$3,647	$4,492	$267	($312,979)	($337,151)	4.25%	($1,178)	($314,156)	492,637	30
July-18	Forecast	($314,156)	$0.0433	$16,729	$71,613	$3,647	$4,741	$241	($250,643)	($282,400)	4.25%	($1,019)	($251,662)	386,344	31
August-18	Forecast	($251,662)	$0.0433	$15,664	$81,957	$3,647	$4,915	$219	($176,589)	($214,125)	4.25%	($773)	($177,362)	361,750	31
September-18	Forecast	($177,362)	$0.0433	$14,233	$91,505	$3,647	$4,977	$198	($91,266)	($134,314)	4.25%	($469)	($91,735)	328,700	30
October-18	Forecast	($91,735)	$0.0433	$28,535	$101,850	$3,647	$7,698	$276	($6,801)	($49,268)	4.25%	($178)	($6,978)	659,015	31
Nov 17 thru Oct 18 Totals				$850,110	$668,738	$41,121	$68,348	$4,060						19,633,024	

Forecast therm Sales from Company Forecast as seen in Attachment 2 to Schedule 10 B, Page 1 of 3, filed on September 15, 2017 in this Cost of Gas Docket.
Actual Performance Incentives includes reconciliations from prior year(s).

Northern Utilities, Inc.

New Hampshire Division

Calculation of the EEC Charge, a Component of the Local Distribution Adjustment Charge

To Be Effective November 1, 2017 through October 31, 2018

General Service Customers

		Beginning Balance (Over)/Under	EEC Rate per Therm	EEC Collections	EEC Costs	DSM PI	Allocated Low Income Costs	Allocated Low Income PI	Ending Balance (Over)/Under	Average Balance (Over)/Under	Interest Prime Rate	Interest @ Prime Rate	Ending Balance plus Interest (Over)/Unde	Therm Sales	# of Days
August-16	Actual	($297,651)	$0.0146	$33,594	$12,566	$3,800	$4,715	$410	($309,754)	($303,702)	3.50%	($900)	($310,654)	2,301,130	31
September-16	Actual	($310,654)	$0.0146	$33,797	$13,739	$3,800	$30,375	$2,641	($293,896)	($302,275)	3.50%	($867)	($294,763)	2,314,864	30
October-16	Actual	($294,763)	$0.0146	$42,581	$34,049	$3,800	$20,425	$1,776	($277,295)	($286,029)	3.50%	($848)	($278,142)	2,915,811	31
November-16	Actual	($278,142)	$0.0142	$59,322	$78,561	$8,691	($3,390)	($295)	($253,897)	($266,020)	3.50%	($918)	($254,815)	4,147,524	30
December-16	Actual	($254,815)	$0.0142	$83,060	$272,509	$3,800	$17,136	$1,490	($42,940)	($148,878)	3.50%	($363)	($43,303)	5,849,267	31
January-17	Actual	($43,303)	$0.0142	$99,147	$6,035	$3,069	$3,381	$197	($129,767)	($86,535)	3.50%	($247)	($130,015)	6,982,140	31
February-17	Actual	($130,015)	$0.0142	$92,855	$11,377	$3,069	$4,628	$269	($203,525)	($166,770)	3.50%	($421)	($203,946)	6,539,051	28
March-17	Actual	($203,946)	$0.0142	$94,045	$43,145	$3,069	$4,985	$290	($246,501)	($225,224)	3.50%	($620)	($247,121)	6,622,861	31
April-17	Actual	($247,121)	$0.0142	$72,598	$7,339	$3,069	$3,947	$230	($305,134)	($276,127)	3.75%	($775)	($305,909)	5,112,504	30
May-17	Actual	($305,909)	$0.0142	$49,281	$10,205	$3,069	$4,521	$263	($337,131)	($321,520)	3.75%	($917)	($338,049)	3,470,431	31
June-17	Actual	($338,049)	$0.0142	$33,805	$13,568	$3,069	$12,302	$716	($342,199)	($340,124)	3.75%	($918)	($343,116)	2,380,668	30
July-17	Forecast	($343,116)	$0.0142	$29,400	$50,959	$3,069	$19,849	$934	($297,706)	($320,411)	4.00%	($1,089)	($298,794)	2,070,431	31
August-17	Forecast	($298,794)	$0.0142	$30,656	$50,959	$3,069	$20,229	$952	($254,241)	($276,518)	4.00%	($939)	($255,181)	2,158,882	31
September-17	Forecast	($255,181)	$0.0142	$32,447	$56,982	$3,069	$20,331	$956	($206,289)	($230,735)	4.00%	($759)	($207,048)	2,284,992	30
October-17	Forecast	($207,048)	$0.0142	$41,873	$93,055	$3,069	$35,429	$913	($116,455)	($161,751)	4.25%	($584)	($117,039)	2,948,806	31
November-17	Forecast	**($117,039)**	$0.0184	$83,086	$93,055	$3,069	$32,050	$826	($71,125)	($94,082)	4.25%	($329)	($71,454)	4,515,525	30
December-17	Forecast	($71,454)	$0.0184	$110,290	$99,078	$3,069	$30,503	$786	($48,307)	($59,881)	4.25%	($216)	($48,523)	5,994,048	31
January-18	Forecast	($48,523)	$0.0184	$146,559	$10,989	$3,951	$3,061	$1,079	($176,002)	($112,263)	4.25%	($405)	($176,407)	7,965,148	31
February-18	Forecast	($176,407)	$0.0184	$145,798	$21,978	$3,951	$6,039	$1,065	($289,173)	($232,790)	4.25%	($759)	($289,932)	7,923,782	28
March-18	Forecast	($289,932)	$0.0184	$129,280	$36,297	$3,951	$9,124	$1,100	($368,740)	($329,336)	4.25%	($1,189)	($369,929)	7,026,066	31
April-18	Forecast	($369,929)	$0.0184	$97,133	$43,111	$3,951	$12,249	$1,101	($406,650)	($388,290)	4.25%	($1,356)	($408,006)	5,278,951	30
May-18	Forecast	($408,006)	$0.0184	$66,616	$54,100	$3,951	$16,423	$1,176	($398,973)	($403,490)	4.25%	($1,456)	($400,429)	3,620,426	31
June-18	Forecast	($400,429)	$0.0184	$43,688	$69,264	$3,951	$21,651	$1,289	($347,962)	($374,196)	4.25%	($1,307)	($349,269)	2,374,348	30
July-18	Forecast	($349,269)	$0.0184	$38,710	$76,078	$3,951	$25,817	$1,315	($280,819)	($315,044)	4.25%	($1,137)	($281,956)	2,103,792	31
August-18	Forecast	($281,956)	$0.0184	$40,710	$87,067	$3,951	$30,057	$1,337	($200,254)	($241,105)	4.25%	($870)	($201,124)	2,212,497	31
September-18	Forecast	($201,124)	$0.0184	$41,399	$101,385	$3,951	$34,069	$1,358	($101,760)	($151,442)	4.25%	($529)	($102,289)	2,249,948	30
October-18	Forecast	($102,289)	$0.0184	$56,333	$108,199	$3,951	$35,762	$1,281	($9,430)	($55,860)	4.25%	($202)	($9,632)	3,061,560	31
Nov 17 thru Oct 18 Totals				$999,602	$800,601	$45,648	$256,804	$13,712						54,326,089	

Forecast therm Sales from Company Forecast as seen in Attachment 2 to Schedule 10 B, Page 1 of 3, filed on September 15, 2017 in this Cost of Gas Docket. Does not include Special Contracts.
Actual Performance Incentives includes reconciliations from prior year(s).

Northern Utilities, Inc.
Calculation of Lost Revenue Rate (LRR)
Effective November 1, 2017

Line	Sector			Reference
	Residential Classes- R5, R6, R10, R11			
1	Sector Ending Balance-October 31, 2017	$	1,696	Page 2, Ln 2, Nov-2017
2	Lost Distribution Revenue-November 2017 through October 2018	$	54,159	Page 2, Ln 12, Total
3	Interest- November 2017 through October 2018	$	(697)	Page 2, Ln 25, Total
4	**Total to be recovered**	**$**	**55,157**	Line 1+ Line 2+Line 3
5	Sector Sales - Therms- November 2017 through October 2018		19,633,024	Page 2, Line 15
6	**Lost Revenue Rate ($ per therm)**		**$0.0028**	Line 4 / Line 5
	Commercial & Industrial Classes-G40/T40, G50/T50, G41/T41, G51/T51, G42/T42, G-52/T52			
7	Sector Ending Balance-October 31, 2017		2,962	Page 2, Ln 29, Nov-2017
8	Lost Distribution Revenue-November 2017 through October 2018	$	51,468	Page 2, Ln 40, Total
9	Interest- November 2017 through October 2018	**$**	**(329)**	Page 2, Ln 53, Total
10	**Total to be recovered**	**$**	**54,100**	Line 7+Line 8+Line 9
11	Sector Sales - Therms- November 2017 through October 2018		54,326,089	Page 2, Line 43
12	**Lost Revenue Rate ($ per therm)**		**$0.0010**	Line 10 / Line 11

Northern Utilities, Inc.
Lost Revenue Reconciliation
2018

Line	Sector / Description	Unit	Estimate Nov-17	Estimate Dec-17	Estimate Jan-18	Estimate Feb-18	Estimate Mar-18	Estimate Apr-18	Estimate May-18	Estimate Jun-18	Estimate Jul-18	Estimate Aug-18	Estimate Sep-18	Estimate Oct-18	Total
1	**RESIDENTIAL**														
2	**Beginning Balance - (Over)/Under**	$'s	$ 1,696	$ (238)	$ (3,994)	$ (10,591)	$ (17,443)	$ (21,999)	$ (24,233)	$ (23,256)	$ (19,922)	$ (15,757)	$ (10,908)	$ (5,280)	
3	**COSTS**														
4	Incremental Annualized Savings	Therms	5,360	18,089	1,566	3,132	4,577	6,143	7,709	9,275	10,841	12,407	13,852	15,418	108,367
5	Incremental Monthly Savings	Therms	447	1,507	130	261	381	512	642	773	903	1,034	1,154	1,285	9,031
6															-
7	Cumulative Savings - Current	Therms	447	1,507	130	261	381	512	642	773	903	1,034	1,154	1,285	9,031
8	Cumulative Savings - Prior	Therms	3,629	-	-	-	-	-	-	-	-	-	-	-	-
9	Cumulative LBR Savings	Therms	4,076	5,583	5,713	5,974	6,356	6,868	7,510	8,283	9,187	10,220	11,375	12,660	93,805
10															
11	Average Distribution Rate	$/Therm	$ 0.57736	$ 0.57736	$ 0.57736	$ 0.57736	$ 0.57736	$ 0.57736	$ 0.57736	$ 0.57736	$ 0.57736	$ 0.57736	$ 0.57736	$ 0.57736	
12	Lost Distribution Revenue	**$'s**	$ 2,353	$ 3,223	$ 3,299	$ 3,449	$ 3,670	$ 3,965	$ 4,336	$ 4,782	$ 5,304	$ 5,901	$ 6,567	$ 7,309	**$ 54,159**
13															
14	**REVENUE**														
15	Sector Sales	Therms	1,527,546	2,434,445	3,520,419	3,659,144	2,909,301	2,183,734	1,169,988	492,637	386,344	361,750	328,700	659,015	19,633,024
16	Lost Revenue Rate	$/Therm	$0.0028	$0.0028	$0.0028	$0.0028	$0.0028	$0.0028	$0.0028	$0.0028	$0.0028	$0.0028	$0.0028	$0.0028	
17	Revenue	**$'s**	$ 4,277	$ 6,816	$ 9,857	$ 10,246	$ 8,146	$ 6,114	$ 3,276	$ 1,379	$ 1,082	$ 1,013	$ 920	$ 1,845	**$ 54,972**
18															
19	(Over)/Under-Recovery (Exc interest)		$ (228)	$ (3,831)	$ (10,552)	$ (17,387)	$ (21,920)	$ (24,148)	$ (23,172)	$ (19,853)	$ (15,700)	$ (10,869)	$ (5,261)	$ 184	
20															
21	**INTEREST**														
22	Average Monthly Balance		$ 734	$ (2,035)	$ (7,273)	$ (13,989)	$ (19,682)	$ (23,074)	$ (23,702)	$ (21,555)	$ (17,811)	$ (13,313)	$ (8,085)	$ (2,548)	
23	Interest Rate-WSJ Prime Rate	Annual %	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	Total
24	Days per Month		30	31	31	28	31	30	31	30	31	31	30	31	365
25	Computed Interest	$'s	$ (10)	$ (163)	$ (38)	$ (57)	$ (79)	$ (84)	$ (84)	$ (69)	$ (57)	$ (39)	$ (18)	$ 1	$ (697.40)
26															
27	**Ending Balance**	**$'s**	$ (238)	$ (3,994)	$ (10,591)	$ (17,443)	$ (21,999)	$ (24,233)	$ (23,256)	$ (19,922)	$ (15,757)	$ (10,908)	$ (5,280)	$ 185	
28	**COMMERCIAL & INDUSTRIAL**														
29	**Beginning Balance - (Over)/Under**	**$'s**	$ 2,962	$ 1,125	$ (1,417)	$ (5,847)	$ (10,152)	$ (13,438)	$ (14,794)	$ (14,260)	$ (12,192)	$ (9,519)	$ (6,570)	$ (3,229)	
30															
31	**COSTS**														
32	Incremental Annualized Savings	Therms	28,649	59,686	3,206	6,412	9,371	12,578	15,784	18,990	22,196	25,402	28,361	31,567	262,201
33	Incremental Monthly Savings	Therms	2,387	4,974	267	534	781	1,048	1,315	1,582	1,850	2,117	2,363	2,631	21,850
34															-
35	Cumulative Savings - Current	Therms	2,387	4,974	267	534	781	1,048	1,315	1,582	1,850	2,117	2,363	2,631	21,850
36	Cumulative Savings - Prior	Therms	12,534	-	-	-	-	-	-	-	-	-	-	-	-
37	Cumulative LBR Savings	Therms	14,922	19,895	20,163	20,697	21,478	22,526	23,841	25,424	27,273	29,390	31,754	34,384	**291,746**
38															
39	Average Distribution Rate	$/Therm	$ 0.17641	$ 0.17641	$ 0.17641	$ 0.17641	$ 0.17641	$ 0.17641	$ 0.17641	$ 0.17641	$ 0.17641	$ 0.17641	$ 0.17641	$ 0.17641	
40	Lost Distribution Revenue	**$'s**	$ 2,632	$ 3,510	$ 3,557	$ 3,651	$ 3,789	$ 3,974	$ 4,206	$ 4,485	$ 4,811	$ 5,185	$ 5,602	$ 6,066	**$ 51,468**
41															
42	**REVENUE**														
43	Sector Sales	Therms	4,515,525	5,994,048	7,965,148	7,923,782	7,026,066	5,278,951	3,620,426	2,374,348	2,103,792	2,212,497	2,249,948	3,061,560	54,326,089
44	Lost Revenue Rate	$/Therm	$0.0010	$0.0010	$0.0010	$0.0010	$0.0010	$0.0010	$0.0010	$0.0010	$0.0010	$0.0010	$0.0010	$0.0010	
45	Revenue	**$'s**	$ 4,516	$ 5,994	$ 7,965	$ 7,924	$ 7,026	$ 5,279	$ 3,620	$ 2,374	$ 2,104	$ 2,212	$ 2,250	$ 3,062	**$ 54,326**
46															
47	(Over)/Under-Recovery (Exc interest)	$'s	$ 1,079	$ (1,360)	$ (5,826)	$ (10,119)	$ (13,389)	$ (14,743)	$ (14,209)	$ (12,149)	$ (9,484)	$ (6,546)	$ (3,218)	$ (225)	
48															
49	**INTEREST**														
50	Average Monthly Balance		$ 2,020	$ (117)	$ (3,622)	$ (7,983)	$ (11,771)	$ (14,090)	$ (14,502)	$ (13,205)	$ (10,838)	$ (8,032)	$ (4,894)	$ (1,727)	
51	Interest Rate-WSJ Prime Rate	Annual %	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	4.25%	Total
52	Days per Month		30	31	31	28	31	30	31	30	31	31	30	31	365
53	Computed Interest	$'s	$ 46	$ (58)	$ (21)	$ (33)	$ (48)	$ (51)	$ (51)	$ (42)	$ (34)	$ (24)	$ (11)	$ (1)	$ (329)
54															
55	**Ending Balance**	**$'s**	$ 1,125	$ (1,417)	$ (5,847)	$ (10,152)	$ (13,438)	$ (14,794)	$ (14,260)	$ (12,192)	$ (9,519)	$ (6,570)	$ (3,229)	$ (226)	

NOTES:
Line 11 and Line 39, see page 3.
Line 4 and Line 32, see Page 4.

Northern Utilities, Inc.

Summary of Average Distribution Rate for Lost Revenue

Calculation of Average Distribution Rate for Lost Revenue (Detail)

		(1) Number of Customers	(2) Customer Charge	(3)=(1)X(2) Calculated Customer	(4) Billing Determinants - Winter First Therms	Excess Therms	(5) Winter Distribution Rates First Therms $/thm	Excess Therms $/thm	(6) = (4) X (5) Calculated Winter Distribution Revenue	(7) Billing Determinants - Summer First Therms	Excess Therms	(8) Summer Distribution Rates First Therms $/thm	Excess Therms $/thm	(9) = (7) X (8) Calculated Summer Distribution Revenue
R-5	Residential, Heating	270,640	$21.36	$5,780,870	5,789,680	7,839,764	$ 0.6468	$ 0.5332	$7,924,927	2,642,288	382,014	$ 0.5678	$ 0.5678	$1,717,198
R-10	Residential Heating, Low Income	12,052	$8.54	$102,924	267,004	283,179	$ 0.6468	$ 0.5332	$323,689	108,201	8,800	$ 0.5678	$ 0.5678	$66,433
R-6	Residential, Non-Heating	16,650	$21.36	$355,644	55,016	94,660	$ 0.4443	$ 0.4443	$66,501	55,804	33,594	$ 0.4443	$ 0.4443	$39,720
R-11	Residential Non-Heating, Low Incom	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Residential Service		299,342		$6,239,438	6,111,700	8,217,602			$8,315,117	2,806,293	424,408			$1,823,351
G-40/T-40	Low Annual, High Winter Use	58,925	$67.45	$3,974,491	1,839,901	6,193,053	$ 0.1844	$ 0.1844	$1,481,277	729,110	576,749	$ 0.1844	$ 0.1844	$240,800
G-50/T-50	Low Annual, Low Winter Use	9,708	$67.45	$654,805	218,399	697,489	$ 0.1844	$ 0.1844	$168,890	219,197	545,720	$ 0.1844	$ 0.1844	$141,051
G-41/T-41	Medium Annual, High Winter Use	8,266	$196.73	$1,626,170	10,640,539		$ 0.2327		$2,476,053	2,508,973		$ 0.1851		$464,411
G-51/T-51	Medium Annual, Low Winter Use	3,103	$196.73	$610,453	1,631,320	979,727	$ 0.1749	$ 0.1467	$429,044	1,234,616	636,585	$ 0.1412	$ 0.1187	$249,890
G-42/T-42	High Annual, High Winter Use	450	$1,124.19	$505,886	5,047,220		$ 0.1993		$1,005,911	1,710,865		$ 0.1295		$221,557
G-52/T-52	High Annual, Low Winter Use	385	$1,124.19	$432,813	9,238,799		$ 0.1770		$1,635,267	7,699,964		$ 0.0936		$720,717
Total General Service		80,837		$7,804,618	28,616,178	7,870,269			$7,196,442	14,102,725	1,759,053			$2,038,426
Total Company		380,179		$14,044,056	34,727,878	16,087,871			$15,511,559	16,909,018	2,183,460			$3,861,777

Notes:

Column (1),Column (4) and Column (7): 2016 actual billing determinants.

Column (2), Column (5) and Column (8): Winter distribution rates effective August 1, 2017, Summer distribution rates effective August 1, 2017.

R-11 Rate Class is closed May 1, 2017. R-11 Rate Class Customers migrated to R-6 Rate Class.

Calculation of Average Distribution Rate for Lost Revenue (Summary)

		(10)=(3) Total Calculated Customer	(11) = (6) + (9) Total Volumetric Revenue	12=(10+(11) Total Distribution Revenue	(13)=(4)+(7) Total Annual Therms
R-5	Residential, H	$5,780,870	$9,642,125	$15,422,996	16,653,745
R-10	Residential H	$102,924	$390,122	$493,046	667,183
R-6	Residential, N	$355,644	$106,221	$461,865	239,074
R-11	Residential N	NA	NA		NA
Total Residential Service		$6,239,438	$10,138,468	$16,377,906	17,560,002
G-40/T-40	Low Annual,	$3,974,491	$1,722,077	$5,696,568	9,338,812
G-50/T-50	Low Annual,	$654,805	$309,940	$964,745	1,680,805
G-41/T-41	Medium Ann	$1,626,170	$2,940,464	$4,566,635	13,149,512
G-51/T-51	Medium Ann	$610,453	$678,934	$1,289,387	4,482,248
G-42/T-42	High Annual,	$505,886	$1,227,468	$1,733,353	6,758,085
G-52/T-52	High Annual,	$432,813	$2,355,984	$2,788,797	16,938,763
Total General Service		$7,804,618	$9,234,868	$17,039,486	52,348,225
Total Company		$14,044,056	$19,373,336	$33,417,392	$69,908,227

Based on Actual Billing Determinants for 2016 at Current Distribution Rates

	(1) Revenue	(2) therms	(3)=(1)X(2) $/therm
R-5	$9,642,125	16,653,745	$0.5790
R-10	$390,122	667,183	$0.5847
R-6	$106,221	239,074	$0.4443
Total	$10,138,468	17,560,002	**$0.5774**
G-40/T-40	$1,722,077	9,338,812	$0.1844
G-50/T-50	$309,940	1,680,805	$0.1844
G-41/T-41	$2,940,464	13,149,512	$0.2236
G-51/T-51	$678,934	4,482,248	$0.1515
G-42/T-42	$1,227,468	6,758,085	$0.1816
G-52/T-52	$2,355,984	16,938,763	$0.1391
Total General	$9,234,868	52,348,225	**$0.1764**

Northern Utilities, Inc.
Gas Savings for LRR Calculation

Planned Gas Savings - 2018	Annual Therms
1. Residential Programs	
2. Home Energy Assistance	19,646
3. EnergyStar® Homes	14,361
4. Home Perf w/ EnergyStar®	14,737
5. EnergyStar® Appliances	40,008
6. Home Energy Reports	31,700
7. Residential	120,452
8.	
9. Commercial & Industrial Programs	
10. Large Business Energy Solutions	164,327
11. Small Business Energy Solutions	82,291
12. Education (Gas)	-
13. Commercial & Industrial	246,618

LBR Savings Allocation	Unit	Estimate Nov-17	Estimate Dec-17	Estimate Jan-18	Estimate Feb-18	Estimate Mar-18	Estimate Apr-18	Estimate May-18	Estimate Jun-18	Estimate Jul-18	Estimate Aug-18	Estimate Sep-18	Estimate Oct-18	Estimate Nov-18	Estimate Dec-18	Nov-17 to Oct-18 Total	Jan 18 to Dec-18 Total
14. Residential Programs		8.0%	27.0%	1.3%	2.6%	3.8%	5.1%	6.4%	7.7%	9.0%	10.3%	11.5%	12.8%	14.1%	15.4%	105.5%	100.0%
15. Annualized Therms	Therms	5,360	18,089	1,566	3,132	4,577	6,143	7,709	9,275	10,841	12,407	13,852	15,418	16,984	18,550	108,367	120,452
16.																	
17. Monthly Incremental	Therms	447	1,507	130	261	381	512	642	773	903	1,034	1,154	1,285	1,415	1,546		10,038
18. Monthly Cumulative	Therms	4,076	5,583	5,713	5,974	6,356	6,868	7,510	8,283	9,187	10,220	11,375	12,660	14,075	15,621	93,805	113,842
19.																	
20. Commercial & Industrial Programs		12%	25%	1.3%	2.6%	3.8%	5.1%	6.4%	7.7%	9.0%	10.3%	11.5%	12.8%	14.1%	15.4%		
21. Annualized Therms	Therms	28,649	59,686	3,206	6,412	9,371	12,578	15,784	18,990	22,196	25,402	28,361	31,567	34,773	37,979	262,201	246,618
22.																	
23. Monthly Incremental	Therms	2,387	4,974	267	534	781	1,048	1,315	1,582	1,850	2,117	2,363	2,631	2,898	3,165	21,850	20,552
24. Monthly Cumulative	Therms	14,922	19,895	20,163	20,697	21,478	22,526	23,841	25,424	27,273	29,390	31,754	34,384	37,282	40,447	291,746	334,657

Northern Utilities, Inc.
Lost Revenue Reconciliation
2017

Line	Sector / Description	Unit	Recast Jan-17	Recast Feb-17	Recast Mar-17	Recast Apr-17	Recast May-17	Recast Jun-17	Estimate Jul-17	Estimate Aug-17	Estimate Sep-17	Estimate Oct-17	Total
1	**RESIDENTIAL**												
2	**Beginning Balance - (Over)/Under**	$'s	$ -	$ (653)	$ (2,083)	$ (3,236)	$ (3,989)	$ (3,984)	$ (3,604)	$ (2,735)	$ (1,538)	$ (10)	
3	**COSTS**												
4	Incremental Annualized Savings	Therms	2,680	3,350	3,350	2,680	2,680	2,680	6,700	6,700	5,360	7,370	43,547
5	Incremental Monthly Savings	Therms	223	279	279	223	223	223	558	558	447	614	3,629
6													
7	Cumulative Savings - Current	Therms	223	502	782	1,005	1,228	1,452	2,010	2,568	3,015	3,629	16,414
8	Cumulative Savings - Prior	Therms	-	-	-	-	-	-	-	-	-	-	-
9	Cumulative LBR Savings	Therms	223	502	782	1,005	1,228	1,452	2,010	2,568	3,015	3,629	16,414
10													
11	Average Distribution Rate	$/Therm	$ 0.55356	$ 0.55356	$ 0.55356	$ 0.55356	$ 0.55356	$ 0.55356	$ 0.55356	$ 0.57736	$ 0.57736	$ 0.57736	
12	Lost Distribution Revenue (Actual thru April)	**$'s**	$ 124	$ 278	$ 433	$ 556	$ 680	$ 804	$ 1,113	$ 1,483	$ 1,741	$ 2,095	**$ 9,305**
13													
14	**REVENUE**												
15	Sector Sales	Therms	3,007,957	2,837,897	2,642,839	2,179,888	1,109,119	668,778	390,499	468,347	354,785	659,206	14,319,316
16	Lost Revenue Rate	$/Therm	$0.0006	$0.0006	$0.0006	$0.0006	$0.0006	$0.0006	$0.0006	$0.0006	$0.0006	$0.0006	
17	Revenue	**$'s**	$ 775	$ 1,702	$ 1,585	$ 1,307	$ 654	$ 408	$ 234	$ 281	$ 213	$ 396	**$ 7,555**
18													
19	(Over)/Under-Recovery (Exc interest)		$ (651)	$ (2,077)	$ (3,235)	$ (3,987)	$ (3,963)	$ (3,589)	$ (2,725)	$ (1,533)	$ (10)	$ 1,689	
20													
21	**INTEREST**												
22	Average Monthly Balance		$ (326)	$ (1,365)	$ (2,659)	$ (3,611)	$ (3,976)	$ (3,786)	$ (3,164)	$ (2,134)	$ (774)	$ 840	
23	Interest Rate-WSJ Prime Rate	Annual %	3.50%	3.50%	3.50%	3.75%	3.75%	3.75%	4.00%	4.00%	4.00%	4.25%	Total
24	Days per Month		31	28	31	30	31	30	31	31	30	31	365
25	Computed Interest	$'s	$ (2)	$ (6)	$ (1)	$ (2)	$ (21)	$ (15)	$ (9)	$ (5)	$ (0)	$ 6	$ (55)
26													
27	**Ending Balance**	**$'s**	$ (653)	$ (2,083)	$ (3,236)	$ (3,989)	$ (3,984)	$ (3,604)	$ (2,735)	$ (1,538)	$ (10)	$ 1,696	
28	**COMMERCIAL & INDUSTRIAL**												
29	**Beginning Balance - (Over)/Under**	**$'s**	$ -	$ (768)	$ (1,896)	$ (2,764)	$ (2,929)	$ (2,605)	$ (1,940)	$ (1,226)	$ (6)	$ 1,398	
30													
31	**COSTS**												
32	Incremental Annualized Savings	Therms	7,162	7,162	21,487	31,037	11,937	9,550	7,162	16,712	16,712	21,487	150,409
33	Incremental Monthly Savings	Therms	597	597	1,791	2,586	995	796	597	1,393	1,393	1,791	12,534
34													
35	Cumulative Savings - Current	Therms	597	1,194	2,984	5,571	6,565	7,361	7,958	9,351	10,743	12,534	64,859
36	Cumulative Savings - Prior	Therms	-	-	-	-	-	-	-	-	-	-	-
37	Cumulative LBR Savings	Therms	597	1,194	2,984	5,571	6,565	7,361	7,958	9,351	10,743	12,534	64,859
38													
39	Average Distribution Rate	$/Therm	$ 0.15551	$ 0.15551	$ 0.15551	$ 0.15551	$ 0.15551	$ 0.15551	$ 0.15551	$ 0.17641	$ 0.17641	$ 0.17641	
40	Lost Distribution Revenue	**$'s**	$ 93	$ 186	$ 464	$ 866	$ 1,021	$ 1,145	$ 1,238	$ 1,650	$ 1,895	$ 2,211	**$ 10,768**
41													
42	**REVENUE**												
43	Sector Sales	Therms	6,982,140	6,539,051	6,622,861	5,112,504	3,470,431	2,380,668	2,595,235	2,151,565	2,476,883	3,290,136	41,621,474
44	Lost Revenue Rate	$/Therm	$0.0002	$0.0002	$0.0002	$0.0002	$0.0002	$0.0002	$0.0002	$0.0002	$0.0002	$0.0002	
45	Lost Distribution Revenue (Actual thru April)	**$'s**	$ 859	$ 1,308	$ 1,324	$ 1,022	$ 688	$ 474	$ 519	$ 430	$ 495	$ 658	**$ 7,779**
46													
47	(Over)/Under-Recovery (Exc interest)	$'s	$ (766)	$ (1,891)	$ (2,756)	$ (2,920)	$ (2,596)	$ (1,934)	$ (1,221)	$ (6)	$ 1,394	$ 2,951	
48													
49	**INTEREST**												
50	Average Monthly Balance		$ (383)	$ (1,330)	$ (2,326)	$ (2,842)	$ (2,763)	$ (2,269)	$ (1,581)	$ (616)	$ 694	$ 2,175	
51	Interest Rate-WSJ Prime Rate	Annual %	3.50%	3.50%	3.50%	3.75%	3.75%	3.75%	4.00%	4.00%	4.00%	4.25%	Total
52	Days per Month		31	28	31	30	31	30	31	31	30	31	365
53	Computed Interest	$'s	$ (2)	$ (5)	$ (8)	$ (9)	$ (8)	$ (6)	$ (4)	$ (0)	$ 5	$ 11	$ (28)
54													
55	**Ending Balance**	**$'s**	$ (768)	$ (1,896)	$ (2,764)	$ (2,929)	$ (2,605)	$ (1,940)	$ (1,226)	$ (6)	$ 1,398	$ 2,962	

Note: Recast denotes change from accounting records. Savings recast to match original budget. Lost revenue is calculated based on original estimated savings. The final reconciliation using actual savins will be provided in the June 2018 filing.

Calculation of Lost Revenues - Northern Utilities, Inc.

Year 2018

Savings and lost revenues are estimated based on a calendar year. Does not include prior cumulative savings.

	Annualized	"Installed" Savings												
	Therm Savings	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
Residential														
Jan	1,566	130	130	130	130	130	130	130	130	130	130	130	130	1,566
Feb	3,132		261	261	261	261	261	261	261	261	261	261	261	2,871
Mar	4,577			381	381	381	381	381	381	381	381	381	381	3,814
Apr	6,143				512	512	512	512	512	512	512	512	512	4,607
May	7,709					642	642	642	642	642	642	642	642	5,139
Jun	9,275						773	773	773	773	773	773	773	5,410
Jul	10,841							903	903	903	903	903	903	5,420
Aug	12,407								1,034	1,034	1,034	1,034	1,034	5,169
Sep	13,852									1,154	1,154	1,154	1,154	4,617
Oct	15,418										1,285	1,285	1,285	3,854
Nov	16,984											1,415	1,415	2,831
Dec	18,550												1,546	1,546
Total	120,452	130	391	773	1,285	1,927	2,700	3,604	4,637	5,792	7,077	8,492	10,038	46,846
		130	522	1,295	2,580	4,507	7,207	10,811	15,448	21,240	28,316	36,808	46,846	
Proposed Distribution Rate														**$ 0.5774**
Lost Revenue														**$ 27,047**
C&I														
Jan	3,206	267	267	267	267	267	267	267	267	267	267	267	267	3,206
Feb	6,412		534	534	534	534	534	534	534	534	534	534	534	5,878
Mar	9,371			781	781	781	781	781	781	781	781	781	781	7,810
Apr	12,578				1,048	1,048	1,048	1,048	1,048	1,048	1,048	1,048	1,048	9,433
May	15,784					1,315	1,315	1,315	1,315	1,315	1,315	1,315	1,315	10,522
Jun	18,990						1,582	1,582	1,582	1,582	1,582	1,582	1,582	11,077
Jul	22,196							1,850	1,850	1,850	1,850	1,850	1,850	11,098
Aug	25,402								2,117	2,117	2,117	2,117	2,117	10,584
Sep	28,361									2,363	2,363	2,363	2,363	9,454
Oct	31,567										2,631	2,631	2,631	7,892
Nov(Staff1-10)	34,773											2,898	2,898	5,796
Dec(Staff 1-10)	37,979												3,165	3,165
Total	246,618	267	802	1,582	2,631	3,946	5,528	7,378	9,495	11,858	14,489	17,387	20,552	95,914
		267	1,069	2,651	5,282	9,228	14,756	22,134	31,629	43,487	57,976	75,362	95,914	
Proposed Distribution Rate														**$ 0.1764**
Lost Revenue														**$ 16,920**
Total Lost Revenue														**$ 43,967**

CALCULATION OF ENVIRONMENTAL RESPONSE COST RATE

November 1, 2017 through October 31, 2018

Total ERC Costs for the Period	$406,108	(See 2017 ERC Filing)
Less Current (Over) Collection (Estimated)	$34,802	(See page 2 of 2)
Total ERC Cost to be Recovered	$440,910	
Forcasted Firm Sales & Firm Transportation Volumes (Attachment 2 to Schedule 10B, Page 1 of 3, "Total Division" subtract "Special Contracts").	73,959,113	
ERC Recovery Rate	**$0.0060**	

Northern Utilities, Inc. - New Hampshire Division
Environmental Response Cost 12 Month Reconciliation

Month	Actual or Forecast	Beginning Balance (Over)/Under	Revenue	New ERC Costs To be recovered	Ending Balance (Over)/Under
August	Actual	($39,191)	($5,831)		($33,360)
September	Actual	($33,360)	($5,829)		($27,531)
October	Actual	($27,531)	($7,663)		($19,869)
November-'16	Actual	($19,869)	$17,002	$425,462	$388,592
December	Actual	$388,592	$45,724		$342,868
January- '17	Actual	$342,868	$55,948		$286,919
February	Actual	$286,919	$52,510		$234,409
March	Actual	$234,409	$51,886		$182,523
April	Actual	$182,523	$40,840		$141,683
May	Actual	$141,683	$25,646		$116,038
June	Actual	$116,038	$17,192		$98,845
July	Actual	$98,845	$15,226		$83,618
August	Est.	$83,618	$14,038		$69,580
September	Est.	$69,580	$14,783		$54,795
October	Est.	$54,795	$19,992		$34,802

NORTHERN UTILITIES, INC.- NEW HAMPSHIRE DIVISION
REMEDIATION ADJUSTMENT CLAUSE COMPLIANE FILING
2016-2017 ENVIORMENTAL RESPONSE COSTS
SITE SPECIFIC EXPENSES

Line	Description	Total	11/11 - 10/12	11/12 - 10/13	11/13 - 10/14	11/14-10/15	11/15-10/16	11/16-10/17	11/17-10/18	11/18-10/19	11/19-10/20	11/20-10/21	11/21-10/22	11/22-10/23	11/23-10/24
	ENVIRONMENTAL RESPONSE COST (ERC)														
1	July 10 - June 11 Expenses Amortization (1/7)	$ 121,209	$ 17,316	$ 17,316	$ 17,316	$ 17,316	$ 17,316	$ 17,316	$ 17,316						
2	July 11 - June 12 Expenses Amortization (1/7)	$ 159,020		$ 22,717	$ 22,717	$ 22,717	$ 22,717	$ 22,717	$ 22,717	$ 22,717					
3	July 12 - June 13 Expenses Amortization (1/7)	$ 175,406			$ 25,058	$ 25,058	$ 25,058	$ 25,058	$ 25,058	$ 25,058	$ 25,058				
4	July 13 - June 14 Expenses Amortization (1/7)	$ 40,881				$ 5,840	$ 5,840	$ 5,840	$ 5,840	$ 5,840	$ 5,840	$ 5,840			
5	July 14 - June 15 Expenses Amortization (1/7)	$ 112,198					$ 16,028	$ 16,028	$ 16,028	$ 16,028	$ 16,028	$ 16,028	$ 16,028		
6	July 15 - June 16 Expenses Amortization (1/7)	$ 2,179,885						$ 311,412	$ 311,412	$ 311,412	$ 311,412	$ 311,412	$ 311,412	$ 311,412	
7	July 16 - June 17 Expenses Amortization (1/7)	$ 54,154							$7,736	$7,736	$7,736	$7,736	$7,736	$7,736	$7,736
8	Subtotal (Line 1 through Line 7)	$ 2,842,753	$ 17,316	$ 40,033	$ 65,091	$ 70,931	$ 86,959	$ 398,371	$ 406,108	$ 388,792	$ 366,075	$ 341,017	$ 335,177	$ 319,148	$ 7,736
9	Add: Excess amortization from prior years (from schedule 5, Line 10)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	Less: Excess amortization to be deferred (from schedule 5, Line 9)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11	Total Enviromental Response cost to be recovered (ERC)	$ 2,842,753	$ 17,316	$ 40,033	$ 65,091	$ 70,931	$ 86,959	$ 398,371	$ 406,108	$ 388,792	$ 366,075	$ 341,017	$ 335,177	$ 319,148	$ 7,736
12	July 2010 - June 2011 Unamortized beginning balance		$ 121,209	$ 103,893	$ 86,578	$ 69,262	$ 51,947	$ 34,631	$ 17,316						
13	July 2011 - June 2012 Unamortized beginning balance			$ 159,020	$ 136,303	$ 113,586	$ 90,869	$ 68,151	$ 45,434	$ 22,717					
14	July 2012 - June 2013 Unamortized beginning balance				$ 175,406	$ 150,348	$ 125,290	$ 100,232	$ 75,174	$ 50,116	$ 25,058				
15	July 2013 - June 2014 Unamortized beginning balance					$ 40,881	$ 35,041	$ 29,201	$ 23,361	$ 17,521	$ 11,680	$ 5,840			
16	July 2014 - June 2015 Unamortized beginning balance						$ 112,198	$ 96,170	$ 80,141	$ 64,113	$ 48,085	$ 32,057	$ 16,028		
17	July 2015 - June 2016 Unamortized beginning balance							$ 2,179,885	$ 1,868,473	$ 1,557,061	$ 1,245,649	$ 934,236	$ 622,824	$ 311,412	
18	July 2016 - June 2017 Unamortized beginning balance								$ 54,154	$ 46,418	$ 38,681	$ 30,945	$ 23,209	$ 15,473	$ 7,736
19	Total Unamortized beginning balance		$ 121,209	$ 262,913	$ 398,287	$ 374,077	$ 415,344	$ 2,508,270	$ 2,164,053	$ 1,757,945	$ 1,369,153	$ 1,003,078	$ 662,061	$ 326,885	$ 7,736
20	INSURANCE/3RD PARTY EXPENSES (IE) Expenses (from schedule 2)														
21	INSURANCE/3RD PARTY RECOVERIES (IR)														
22	UNDER/OVER Recovery from previous year														
23	**Total of Lines 19, 20, 21, 22**		$ 121,209	$ 262,913	$ 398,287	$ 374,077	$ 415,344	$ 2,508,270	$ 2,164,053	$ 1,757,945	$ 1,369,153	$ 1,003,078	$ 662,061	$ 326,885	$ 7,736

Northern Utilities, Inc.- New Hampshire
Calculation of Balancing Charge

November 2017 through October 2018

		MDQ	Max Swing	% MDQ
1	New Hampshire Underground	15,980	3,532	22.10%
2	LNG	0	0	0.00%
3	Propane	0	0	0.00%

		% MDQ	Costs	Balancing Costs	% Allocated	Allocated Costs
4	New Hampshire Underground					
5	Del., Res., and Transp.	22.10%	$6,932,313	$1,532,240	0.21%	$3,241
6	Capacity	22.10%	$1,310,819	$289,729	35.64%	$103,254
7	LNG	0.00%	$316,739	$0	0.00%	$0
8	Propane	0.00%	$0	$0	0.00%	$0
9	Total		$8,559,871	$1,821,969		$106,496
10	Annual Sum of Absolute Swings					142,624
11	Balancing Rate Per MMBtu Swing					**$0.75**

Note: LNG and LP MDQ allocated based on NH's current PR-Allocator percentage. 44.82%

Northern Utilities, Inc.
Calculation of Balancing Charge
Costs of Balancing Resources
November 2017 through October 2018

1	**New Hampshire**		Northern	Division			
2	El Paso FS Storage		Capacity	Allocated	Rate	Months	Costs
3	Capacity	Cap	259,337	116,235	$0.0205	12	$28,594
4	Deliverability	Del	4,243	1,902	$1.4938	12	$34,089
5	Firm Transportation-Tenn	Trans	2,653	1,189	$8.1475	12	$116,256
6	Firm Transportation-GSGT	Trans	2,653	1,189	$4.4212	12	$63,086
7	Total						$242,025
8							
9	W-10 Storage						
10	W-10	Cap	34,000	15,239	$ 7.0833	5	$539,708
11	Union	Cap				7	$742,518
12	Vector - In	Trans	17,172	7,696	$ 7.6042	5	$292,628
13	Vector -Out	Trans	17,086	7,658	$ 4.5625	5	$174,697
14	TCPL	Trans	34,000	15,239	$ 25.2338	5	$1,922,664
15	TCPL	Trans	34,000	15,239	$ 20.5729	7	$2,194,544
16	PNGTS	Trans	33,000	14,791	$ 18.2500	5	$1,349,642
17	Firm Transportation-GSGT	Trans	33,000	14,791	$ 4.4212	12	$784,706
18	Total						$ 8,001,108
19							
20	**Maine**		Northern	Division			
21		Type	Capacity	Allocated	Rate	Months	Costs
22	**El Paso FS Storage**						
23	Capacity	Cap	259,337	143,102	$0.0205	12	$35,203
24	Deliverability	Del	4,243	2,341	$1.4938	12	$41,969
25	Firm Transportation-Tenn	Trans	2,653	1,464	$8.1475	12	$143,128
26	Firm Transportation-GSGT	Trans	2,653	1,464	$4.4212	12	$77,668
27	Total						$297,968
28	**W-10 Storage**						
29	W-10	Cap	34,000	18,761	$ 7.0833	5	$664,459
	Union	Cap				7	$914,149
30	Vector - In	Trans	17,172	9,476	$ 7.6042	5	$360,268
31	Vector -Out	Trans	17,086	9,428	$ 4.5625	5	$215,078
32	TCPL	Trans	34,000	18,761	$ 25.2338	5	$2,367,082
	TCPL	Trans	34,000	18,761	$ 20.5729	7	$2,701,806
33	PNGTS	Trans	33,000	18,209	$ 18.2500	5	$1,661,608
34	Firm Transportation-GSGT	Trans	33,000	18,209	$ 4.4212	12	$966,089
35	Total						$ 9,850,538
36	LNG						
37	NH		6,500	2,913			
38	ME		6,500	3,587			$316,739
39	Total						$316,739
40	Propane						
41	Capacity						
42	NH		0	0			
43	ME		0	0			
44	Total						$0
45	Maine Summary						
46		Del	4,243	2,341			$41,969
47		Res	0	0			$0
48		Trans	173,564	95,773			$8,492,726
49		Cap	293,337	161,863			$1,613,811
50		Total	471,144	259,977			$10,148,506
51		Gate Station Delivery	35,653	19,673			
52							
53	New Hampshire Summary						
54		Del	4,243	1,902			**$34,089**
55		Res	0	0			**$0**
56		Trans	173,564	77,791			**$6,898,224**
57		Cap	293,337	131,474			**$1,310,819**
58		Total	471,144	211,167			$8,243,132
59		Gate Station Delivery	35,653	**15,980**			

Northern Utilities, Inc.
Calculation of Balancing Charge
Analysis of Swings

	Division	UGS Maximum Swings	UGS Sum Positive Swings	Northern UGS Withdrawals	Allocated UGS Withdrawals	Positive UGS Swings as a % of UGS Withdrawals
1	NH	**3,532**	3,811	4,019,426	1,801,507	**0.21%**
2	ME	7,580	1,635	4,019,426	2,217,919	0.07%

	Division	LP Max. Swing	LP Sum Positive Swings	LP Tank Capacity	LP Allocated Tank Capacity	LP Swings as a % of Tank Capacity
3	NH	0	0	25,733	11,534	0.00%
4	ME	0	0	25,733	14,199	0.00%

	Division	LNG Max. Swing	LNG Sum Positive Swings	LNG Tank Capacity	LNG Allocated Tank Capacity	LNG Swings as a % of Tank Capacity
5	NH	0	(9,481)	13,750	6,163	153.85%
6	ME	1,418	(26,271)	13,750	7,587	346.25%

	Division	UGS Absolute Value All Swings	UGS Total Absolute Value All Swings	Northern UGS Capacity	Allocated UGS Capacity	Positive UGS Swings as a % of UGS Withdrawals
7	NH	45,999	36,518	293,337	131,474	34.99%
8	ME	94,294	68,023	293,337	161,863	58.26%
9	Total	140,292	104,540		293,337	**35.64%**

	Division		UGS Max Abs Cum. All Swings		Allocated UGS Capacity	
10	NH		49,355		131,474	
11	ME		34,012		161,863	55.18%
12	Total		83,367		293,337	**28.42%**

Northern Utilities, Inc.
Calculation of Suppliler Balancing Charge

Derivation of Absolute Swings
May 2000 through April 2001
Summary

		Sum Positive Swings		Sum Negative Swings		Sum LP / LNG Swings		ABS all Swings		Total
		Ports-NH	Port-Maine	Ports-NH	Port-Maine	Ports-NH	Port-Maine	Ports-NH	52.76%	ABS Swings
1	May	1,060	1,484	8,125	1,162	0	0	9,185		9,185
2	June	0	28	1,213	5,553	0	0	1,213	5,582	6,794
3	July	1,125	0	0	0	0	0	1,125	0	1,125
4	Aug	45	0	99	1,027	0	0	145	1,027	1,172
5	Sept	0	0	301	11,279	0	0	301	11,279	11,580
6	Oct	1,196	123	2,821	26,853	0	0	4,017	26,976	30,993
7	Nov	384	0	3,976	7,620	(2,382)	(2,539)	6,743	10,159	16,901
8	Dec	0	0	7,956	12,177	0	0	7,956	12,177	20,133
9	Jan	0	0	1,873	174	(423)	(13,355)	2,296	13,530	15,826
10	Feb	0	0	2,807	542	(4,431)	(4,339)	7,238	4,880	12,118
11	March	0	0	1,048	0	(2,245)	(6,038)	3,293	6,038	9,331
12	April	0	0	2,487	0	0	0	2,487	0	2,487
13	Total	3,811	1,635	32,707	66,387	(9,481)	(26,271)	45,999	94,294	140,292
14				add back 10% of the scheduled deliveries=				96,625	97,195	193,819
15						Total ABS Swings =		**142,624**	**191,488**	334,112

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	$ 0.1661	$ 0.2763	$ 0.2618	No Change from Page 3 - Lines 80 and 100 of Summary - Includes PNGTS Refund
2	Winter Commodity Cost of Gas Rate	$ 0.4353	$ 0.4263	$ 0.4275	No Change from Page 3 - Lines 86 and 106 of Summary
3	Winter Indirect Cost of Gas	$ 0.0295	$ 0.0295	$ 0.0295	Reflects Prior Period Over Collection removed from Page 1, Line 22 of Summary
4	Winter Cost of Gas Rate (Exclusive of Credits)	$ 0.6309	$ 0.7321	$ 0.7188	Sum Lines 1 through 3
5	Winter Cost of Gas Rate for Incumbent Sales Customers	$ 0.6227	$ 0.7239	$ 0.7106	Page 3 - Lines 73 and 93 of Summary
6	**Winter Re-Entry Surcharge**	$ 0.0082	$ 0.0082	**$ 0.0082**	**Positive Difference between Line 4 and Line 5**
7	Projected Sales (therms)	2,448,624	16,182,727	18,631,351	Page 3 - Lines 85 and 105 of Summary

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	$ 0.0793	$ 0.1504	$ 0.1411	No Change from Page 7 - Lines 190 and 210 of Summary - PNGTS Refund Completed
9	Summer Commodity Cost of Gas Rate	$ 0.2730	$ 0.2730	$ 0.2730	No Change from Page 7 - Lines 196 and 216 of Summary
10	Summer Indirect Cost of Gas	$ 0.0105	$ 0.0105	$ 0.0105	Reflects Prior Period Over Collection removed from Page 5, Line 132 of Summary
11	Summer Cost of Gas Rate (Exclusive of Credits)	$ 0.3628	$ 0.4339	$ 0.4246	Sum Lines 8 through 10
12	Summer Cost of Gas Rate for Incumbent Sales Customers	$ 0.3543	$ 0.4254	$ 0.4161	Lines 91 and 111 of Summary
13	**Summer Re-Entry Surcharge**	$ 0.0085	$ 0.0085	**$ 0.0085**	**Positive Difference between Line 11 and Line 12**
14	Projected Sales (therms)	1,757,926	2,713,210	4,471,136	No Change from Page 7 - Lines 196 and 216 of Summary

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

Line	Item	HLF (50, 51, 52)	LLF (40, 41, 42)	
1	LLF Winter Demand Cost of Gas Rate	$ 0.3191	$ 0.3191	Page 3 - Line 100 of Summary - Excludes PNGTS Refund since Capacity Exempt Customers were not allocated PNGTS contract costs
2	LLF Winter Commodity Cost of Gas Rate	$ 0.4263	$ 0.4263	Page 3 - Line 106 of Summary
3	LLF Winter Indirect Cost of Gas	$ 0.0295	$ 0.0295	Reflects Prior Period Over Collection removed from Page 1, Line 22 of Summary
4	Floor Price (LLF Winter Cost of Gas Rate, Exclusive of Credits)	$ 0.7749	$ 0.7749	Sum Lines 1 through 3.
5	Total Incremental Cost	$ 0.6408	$ 0.6408	See Line 15 of Incremental Commodity Price Worksheet
6	Total Conversion Rate	$ 0.7749	$ 0.7749	Maximum of Line 4 and Line 5
7	Winter Gas Adjustment Factor for Incumbent Sales Customers	$ 0.6227	$ 0.7239	Page 3 - Lines 73 and 93 of Summary
8	**Conversion Surcharge**	**$ 0.1522**	**$ 0.0510**	**Positive Difference between Line 6 and Line 7**

Incremental Commodity Price Worksheet

Line	Month	NYMEX	Algonquin City-Gate Basis	Projected FOM Index	Projected Non-Capacity Assigned Delivery Service Loads	Comments
1	Nov-17	$ 3.050	$ 0.420	$ 3.470	212,129	
2	Dec-17	$ 3.200	$ 3.100	$ 6.300	223,242	
3	Jan-18	$ 3.300	$ 5.460	$ 8.760	252,563	
4	Feb-18	$ 3.300	$ 5.470	$ 8.770	223,449	
5	Mar-18	$ 3.260	$ 2.050	$ 5.310	253,101	
6	Apr-18	$ 2.930	$ 0.210	$ 3.140	210,092	
7	Winter Period Weigthed Average Baseload Price ($/Dth)			$ 6.052	1,374,577	Average, Weighted by Loads, Lines 1 through 6
8	Load Shape Price Factor			1.018		See Load Shape Price Factor Worksheet
9	Winter Period Incremental Load Shape Price ($/Dth)			$ 6.160		Line 7 times Line 8
10	Granite Fuel			0.35%		Granite Tariff
11	Granite Variable Transport ($/Dth)			$ 0.1466		Granite Tariff (IT Daily Rate plus ACA)
12	Northern City-Gate Price ($/Dth)			$ 6.328		Line 9 times (1 plus Line 10) plus Line 11
13	New Hampshire Division City-Gate Sendout to Sales Ratio			1.0126		See Att NUI-FXW-2
14	Northern Retail Meter Price ($/Dth)			$ 6.408		Line 12 times Line 13
15	Northern Retail Meter Price ($/therm)			$ 0.6408		Line 14 divided by 10

Load Shape Price Factor Worksheet

Month	Date	Historic Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment			2016-2017 Cost Analysis	
		Capacity Assigned	Capacity Exempt	Total	Capacity Assigned	Capacity Exempt	Total	AGT City-Gate Price	AGT City-Gate Cost
Nov-16	11/1/2016	5,055	8,218	13,273	-	8,218	8,218	$ 2.500	$ 20,545
Nov-16	11/2/2016	4,376	6,941	11,317	-	6,941	6,941	$ 2.035	$ 14,125
Nov-16	11/3/2016	4,978	7,451	12,429	-	7,451	7,451	$ 1.910	$ 14,231
Nov-16	11/4/2016	5,712	8,306	14,018	-	8,306	8,306	$ 1.970	$ 16,363
Nov-16	11/5/2016	4,799	7,022	11,821	-	7,022	7,022	$ 1.860	$ 13,061
Nov-16	11/6/2016	5,487	5,878	11,365	-	5,878	5,878	$ 1.860	$ 10,933
Nov-16	11/7/2016	6,268	8,839	15,107	-	8,839	8,839	$ 1.860	$ 16,441
Nov-16	11/8/2016	4,971	9,149	14,120	-	9,149	9,149	$ 1.820	$ 16,651
Nov-16	11/9/2016	5,184	8,431	13,615	-	8,431	8,431	$ 2.105	$ 17,747
Nov-16	11/10/2016	5,041	7,859	12,900	-	7,859	7,859	$ 2.930	$ 23,027
Nov-16	11/11/2016	6,165	7,706	13,871	-	7,706	7,706	$ 2.210	$ 17,030
Nov-16	11/12/2016	5,511	7,426	12,937	-	7,426	7,426	$ 2.135	$ 15,855
Nov-16	11/13/2016	5,014	6,540	11,554	-	6,540	6,540	$ 2.135	$ 13,963
Nov-16	11/14/2016	4,943	7,807	12,750	-	7,807	7,807	$ 2.135	$ 16,668
Nov-16	11/15/2016	4,566	7,597	12,163	-	7,597	7,597	$ 2.310	$ 17,549
Nov-16	11/16/2016	4,861	7,136	11,997	-	7,136	7,136	$ 2.400	$ 17,126
Nov-16	11/17/2016	5,313	7,979	13,292	-	7,979	7,979	$ 2.325	$ 18,551
Nov-16	11/18/2016	5,008	7,625	12,633	-	7,625	7,625	$ 1.935	$ 14,754
Nov-16	11/19/2016	4,646	6,746	11,392	-	6,746	6,746	$ 3.155	$ 21,284
Nov-16	11/20/2016	6,720	6,700	13,420	-	6,700	6,700	$ 3.155	$ 21,139
Nov-16	11/21/2016	7,492	9,328	16,820	-	9,328	9,328	$ 3.155	$ 29,430
Nov-16	11/22/2016	7,280	8,793	16,073	-	8,793	8,793	$ 3.945	$ 34,688
Nov-16	11/23/2016	6,810	6,111	12,921	-	6,111	6,111	$ 4.080	$ 24,933
Nov-16	11/24/2016	6,353	5,156	11,509	-	5,156	5,156	$ 2.960	$ 15,262
Nov-16	11/25/2016	6,256	4,994	11,250	-	4,994	4,994	$ 2.960	$ 14,782
Nov-16	11/26/2016	6,049	4,750	10,799	-	4,750	4,750	$ 2.960	$ 14,060
Nov-16	11/27/2016	6,848	5,952	12,800	-	5,952	5,952	$ 2.960	$ 17,618
Nov-16	11/28/2016	7,085	8,322	15,407	-	8,322	8,322	$ 2.960	$ 24,633
Nov-16	11/29/2016	6,014	8,438	14,452	-	8,438	8,438	$ 3.040	$ 25,652

Load Shape Price Factor Worksheet

Month	Date	Historic Delivery Service Loads: Capacity Assigned	Historic Delivery Service Loads: Capacity Exempt	Historic Delivery Service Loads: Total	Delivery Service Loads Not Subject to Capacity Assignment: Capacity Assigned	Delivery Service Loads Not Subject to Capacity Assignment: Capacity Exempt	Delivery Service Loads Not Subject to Capacity Assignment: Total	2016-2017 Cost Analysis: AGT City-Gate Price	2016-2017 Cost Analysis: AGT City-Gate Cost
Nov-16	11/30/2016	5,639	7,916	13,555	-	7,916	7,916	$ 2.530	$ 20,027
Dec-16	12/1/2016	4,426	8,320	12,746	-	8,320	8,320	$ 2.915	$ 24,253
Dec-16	12/2/2016	4,312	8,026	12,338	-	8,026	8,026	$ 3.645	$ 29,255
Dec-16	12/3/2016	4,642	7,609	12,251	-	7,609	7,609	$ 4.420	$ 33,632
Dec-16	12/4/2016	5,164	7,057	12,221	-	7,057	7,057	$ 4.420	$ 31,192
Dec-16	12/5/2016	5,586	8,562	14,148	-	8,562	8,562	$ 4.420	$ 37,844
Dec-16	12/6/2016	5,192	8,283	13,475	-	8,283	8,283	$ 6.070	$ 50,278
Dec-16	12/7/2016	5,182	7,814	12,996	-	7,814	7,814	$ 4.670	$ 36,491
Dec-16	12/8/2016	5,349	7,918	13,267	-	7,918	7,918	$ 6.135	$ 48,577
Dec-16	12/9/2016	6,020	8,062	14,082	-	8,062	8,062	$ 9.730	$ 78,443
Dec-16	12/10/2016	6,167	7,331	13,498	-	7,331	7,331	$ 9.615	$ 70,488
Dec-16	12/11/2016	5,293	5,256	10,549	-	5,256	5,256	$ 9.615	$ 50,536
Dec-16	12/12/2016	5,344	7,858	13,202	-	7,858	7,858	$ 9.615	$ 75,555
Dec-16	12/13/2016	5,002	8,325	13,327	-	8,325	8,325	$ 5.760	$ 47,952
Dec-16	12/14/2016	5,538	7,969	13,507	-	7,969	7,969	$ 9.955	$ 79,331
Dec-16	12/15/2016	7,724	9,639	17,363	-	9,639	9,639	$ 12.845	$ 123,813
Dec-16	12/16/2016	7,043	9,019	16,062	-	9,019	9,019	$ 9.755	$ 87,980
Dec-16	12/17/2016	5,411	7,504	12,915	-	7,504	7,504	$ 6.590	$ 49,451
Dec-16	12/18/2016	5,265	7,233	12,498	-	7,233	7,233	$ 6.590	$ 47,665
Dec-16	12/19/2016	6,921	9,635	16,556	-	9,635	9,635	$ 6.590	$ 63,495
Dec-16	12/20/2016	5,693	8,728	14,421	-	8,728	8,728	$ 9.870	$ 86,145
Dec-16	12/21/2016	5,156	7,489	12,645	-	7,489	7,489	$ 7.675	$ 57,478
Dec-16	12/22/2016	5,377	7,427	12,804	-	7,427	7,427	$ 6.900	$ 51,246
Dec-16	12/23/2016	4,635	6,260	10,895	-	6,260	6,260	$ 8.355	$ 52,302
Dec-16	12/24/2016	4,302	4,138	8,440	-	4,138	4,138	$ 5.145	$ 21,290
Dec-16	12/25/2016	5,422	4,977	10,399	-	4,977	4,977	$ 5.145	$ 25,607
Dec-16	12/26/2016	4,666	4,642	9,308	-	4,642	4,642	$ 5.145	$ 23,883
Dec-16	12/27/2016	4,298	6,221	10,519	-	6,221	6,221	$ 5.145	$ 32,007
Dec-16	12/28/2016	5,065	7,313	12,378	-	7,313	7,313	$ 5.680	$ 41,538

Load Shape Price Factor Worksheet

		Historic Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment			2016-2017 Cost Analysis	
Month	Date	Capacity Assigned	Capacity Exempt	Total	Capacity Assigned	Capacity Exempt	Total	AGT City-Gate Price	AGT City-Gate Cost
Dec-16	12/29/2016	5,226	6,424	11,650	-	6,424	6,424	$ 5.375	$ 34,529
Dec-16	12/30/2016	5,438	4,937	10,375	-	4,937	4,937	$ 5.595	$ 27,623
Dec-16	12/31/2016	4,825	4,453	9,278	-	4,453	4,453	$ 5.595	$ 24,915
Jan-17	1/1/2017	7,451	5,110	12,561	-	5,110	5,110	$ 5.065	$ 25,882
Jan-17	1/2/2017	6,501	5,040	11,541	-	5,040	5,040	$ 5.065	$ 25,528
Jan-17	1/3/2017	6,162	7,450	13,612	-	7,450	7,450	$ 5.065	$ 37,734
Jan-17	1/4/2017	6,397	7,737	14,134	-	7,737	7,737	$ 5.215	$ 40,348
Jan-17	1/5/2017	7,068	8,164	15,232	-	8,164	8,164	$ 6.705	$ 54,740
Jan-17	1/6/2017	8,742	8,472	17,214	-	8,472	8,472	$ 8.115	$ 68,750
Jan-17	1/7/2017	9,698	8,375	18,073	-	8,375	8,375	$ 9.195	$ 77,008
Jan-17	1/8/2017	10,193	6,957	17,150	-	6,957	6,957	$ 9.195	$ 63,970
Jan-17	1/9/2017	10,251	9,739	19,990	-	9,739	9,739	$ 9.195	$ 89,550
Jan-17	1/10/2017	6,847	8,401	15,248	-	8,401	8,401	$ 5.265	$ 44,231
Jan-17	1/11/2017	5,427	6,994	12,421	-	6,994	6,994	$ 3.855	$ 26,962
Jan-17	1/12/2017	4,562	6,954	11,516	-	6,954	6,954	$ 3.370	$ 23,435
Jan-17	1/13/2017	8,394	8,704	17,098	-	8,704	8,704	$ 4.865	$ 42,345
Jan-17	1/14/2017	8,148	7,838	15,986	-	7,838	7,838	$ 5.430	$ 42,560
Jan-17	1/15/2017	8,322	8,036	16,358	-	8,036	8,036	$ 5.430	$ 43,635
Jan-17	1/16/2017	7,682	8,523	16,205	-	8,523	8,523	$ 5.430	$ 46,280
Jan-17	1/17/2017	7,085	7,956	15,041	-	7,956	7,956	$ 5.430	$ 43,201
Jan-17	1/18/2017	7,930	8,113	16,043	-	8,113	8,113	$ 3.660	$ 29,694
Jan-17	1/19/2017	6,876	7,704	14,580	-	7,704	7,704	$ 3.620	$ 27,888
Jan-17	1/20/2017	6,516	7,520	14,036	-	7,520	7,520	$ 3.735	$ 28,087
Jan-17	1/21/2017	5,947	6,271	12,218	-	6,271	6,271	$ 3.225	$ 20,224
Jan-17	1/22/2017	6,951	5,447	12,398	-	5,447	5,447	$ 3.225	$ 17,567
Jan-17	1/23/2017	7,905	8,039	15,944	-	8,039	8,039	$ 3.225	$ 25,926
Jan-17	1/24/2017	7,645	8,394	16,039	-	8,394	8,394	$ 3.575	$ 30,009
Jan-17	1/25/2017	7,096	7,969	15,065	-	7,969	7,969	$ 3.590	$ 28,609
Jan-17	1/26/2017	6,442	7,296	13,738	-	7,296	7,296	$ 3.560	$ 25,974

Load Shape Price Factor Worksheet

Month	Date	Historic Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment			2016-2017 Cost Analysis	
		Capacity Assigned	Capacity Exempt	Total	Capacity Assigned	Capacity Exempt	Total	AGT City-Gate Price	AGT City-Gate Cost
Jan-17	1/27/2017	6,903	7,776	14,679	-	7,776	7,776	$ 4.005	$ 31,143
Jan-17	1/28/2017	6,875	7,148	14,023	-	7,148	7,148	$ 5.165	$ 36,919
Jan-17	1/29/2017	7,468	6,924	14,392	-	6,924	6,924	$ 5.165	$ 35,762
Jan-17	1/30/2017	8,679	8,767	17,446	-	8,767	8,767	$ 5.165	$ 45,282
Jan-17	1/31/2017	8,503	8,869	17,372	-	8,869	8,869	$ 5.110	$ 45,321
Feb-17	2/1/2017	7,899	8,398	16,297	-	8,398	8,398	$ 4.540	$ 38,127
Feb-17	2/2/2017	8,287	8,628	16,915	-	8,628	8,628	$ 5.445	$ 46,979
Feb-17	2/3/2017	8,475	8,750	17,225	-	8,750	8,750	$ 5.310	$ 46,463
Feb-17	2/4/2017	7,951	7,934	15,885	-	7,934	7,934	$ 4.535	$ 35,981
Feb-17	2/5/2017	7,250	5,891	13,141	-	5,891	5,891	$ 4.535	$ 26,716
Feb-17	2/6/2017	8,040	8,348	16,388	-	8,348	8,348	$ 4.535	$ 37,858
Feb-17	2/7/2017	9,043	9,208	18,251	-	9,208	9,208	$ 3.110	$ 28,637
Feb-17	2/8/2017	7,107	7,621	14,728	-	7,621	7,621	$ 3.350	$ 25,530
Feb-17	2/9/2017	10,686	9,347	20,033	-	9,347	9,347	$ 5.855	$ 54,727
Feb-17	2/10/2017	10,236	9,122	19,358	-	9,122	9,122	$ 5.860	$ 53,455
Feb-17	2/11/2017	9,465	7,889	17,354	-	7,889	7,889	$ 4.195	$ 33,094
Feb-17	2/12/2017	8,435	6,107	14,542	-	6,107	6,107	$ 4.195	$ 25,619
Feb-17	2/13/2017	9,059	8,112	17,171	-	8,112	8,112	$ 4.195	$ 34,030
Feb-17	2/14/2017	8,187	8,718	16,905	-	8,718	8,718	$ 4.800	$ 41,846
Feb-17	2/15/2017	7,567	8,135	15,702	-	8,135	8,135	$ 3.745	$ 30,466
Feb-17	2/16/2017	8,661	8,913	17,574	-	8,913	8,913	$ 4.035	$ 35,964
Feb-17	2/17/2017	7,579	8,265	15,844	-	8,265	8,265	$ 3.570	$ 29,506
Feb-17	2/18/2017	5,316	6,779	12,095	-	6,779	6,779	$ 3.120	$ 21,150
Feb-17	2/19/2017	5,706	5,531	11,237	-	5,531	5,531	$ 3.120	$ 17,257
Feb-17	2/20/2017	7,723	8,246	15,969	-	8,246	8,246	$ 3.120	$ 25,728
Feb-17	2/21/2017	6,954	7,504	14,458	-	7,504	7,504	$ 3.120	$ 23,412
Feb-17	2/22/2017	6,590	7,785	14,375	-	7,785	7,785	$ 2.680	$ 20,864
Feb-17	2/23/2017	4,639	6,807	11,446	-	6,807	6,807	$ 2.255	$ 15,350
Feb-17	2/24/2017	4,366	6,007	10,373	-	6,007	6,007	$ 2.115	$ 12,705

Load Shape Price Factor Worksheet

		Historic Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment			2016-2017 Cost Analysis	
Month	Date	Capacity Assigned	Capacity Exempt	Total	Capacity Assigned	Capacity Exempt	Total	AGT City-Gate Price	AGT City-Gate Cost
Feb-17	2/25/2017	5,000	5,282	10,282	-	5,282	5,282	$ 2.275	$ 12,017
Feb-17	2/26/2017	6,980	5,576	12,556	-	5,576	5,576	$ 2.275	$ 12,685
Feb-17	2/27/2017	6,041	8,049	14,090	-	8,049	8,049	$ 2.275	$ 18,311
Feb-17	2/28/2017	5,541	7,547	13,088	-	7,547	7,547	$ 2.180	$ 16,452
Mar-17	3/1/2017	3,862	6,572	10,434	-	6,572	6,572	$ 2.175	$ 14,294
Mar-17	3/2/2017	8,114	8,341	16,455	-	8,341	8,341	$ 3.235	$ 26,983
Mar-17	3/3/2017	9,103	9,299	18,402	-	9,299	9,299	$ 4.285	$ 39,846
Mar-17	3/4/2017	10,930	10,205	21,135	-	10,205	10,205	$ 3.915	$ 39,953
Mar-17	3/5/2017	9,036	8,705	17,741	-	8,705	8,705	$ 3.915	$ 34,080
Mar-17	3/6/2017	7,168	8,920	16,088	-	8,920	8,920	$ 3.915	$ 34,922
Mar-17	3/7/2017	6,355	7,901	14,256	-	7,901	7,901	$ 2.445	$ 19,318
Mar-17	3/8/2017	5,306	7,103	12,409	-	7,103	7,103	$ 2.360	$ 16,763
Mar-17	3/9/2017	6,929	8,059	14,988	-	8,059	8,059	$ 2.980	$ 24,016
Mar-17	3/10/2017	9,008	8,814	17,822	-	8,814	8,814	$ 5.965	$ 52,576
Mar-17	3/11/2017	10,619	8,896	19,515	-	8,896	8,896	$ 8.035	$ 71,479
Mar-17	3/12/2017	9,883	8,268	18,151	-	8,268	8,268	$ 8.035	$ 66,433
Mar-17	3/13/2017	8,075	8,225	16,300	-	8,225	8,225	$ 8.035	$ 66,088
Mar-17	3/14/2017	8,283	5,909	14,192	-	5,909	5,909	$ 8.365	$ 49,429
Mar-17	3/15/2017	8,891	8,762	17,653	-	8,762	8,762	$ 7.950	$ 69,658
Mar-17	3/16/2017	8,545	8,534	17,079	-	8,534	8,534	$ 7.500	$ 64,005
Mar-17	3/17/2017	7,776	8,881	16,657	-	8,881	8,881	$ 6.680	$ 59,325
Mar-17	3/18/2017	7,223	7,899	15,122	-	7,899	7,899	$ 4.290	$ 33,887
Mar-17	3/19/2017	6,931	6,234	13,165	-	6,234	6,234	$ 4.290	$ 26,744
Mar-17	3/20/2017	6,220	8,277	14,497	-	8,277	8,277	$ 4.290	$ 35,508
Mar-17	3/21/2017	6,451	7,923	14,374	-	7,923	7,923	$ 3.305	$ 26,186
Mar-17	3/22/2017	9,621	9,897	19,518	-	9,897	9,897	$ 6.960	$ 68,883
Mar-17	3/23/2017	7,579	8,460	16,039	-	8,460	8,460	$ 4.035	$ 34,136
Mar-17	3/24/2017	6,545	6,686	13,231	-	6,686	6,686	$ 2.800	$ 18,721
Mar-17	3/25/2017	6,936	7,804	14,740	-	7,804	7,804	$ 2.640	$ 20,603

Load Shape Price Factor Worksheet

		Historic Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment			2016-2017 Cost Analysis	
Month	Date	Capacity Assigned	Capacity Exempt	Total	Capacity Assigned	Capacity Exempt	Total	AGT City-Gate Price	AGT City-Gate Cost
Mar-17	3/26/2017	6,561	8,110	14,671	-	8,110	8,110	$ 2.640	$ 21,410
Mar-17	3/27/2017	6,919	8,308	15,227	-	8,308	8,308	$ 2.640	$ 21,933
Mar-17	3/28/2017	6,578	8,318	14,896	-	8,318	8,318	$ 2.820	$ 23,457
Mar-17	3/29/2017	6,563	8,236	14,799	-	8,236	8,236	$ 2.920	$ 24,049
Mar-17	3/30/2017	6,252	8,472	14,724	-	8,472	8,472	$ 3.065	$ 25,967
Mar-17	3/31/2017	6,944	8,121	15,065	-	8,121	8,121	$ 3.665	$ 29,763
Apr-17	4/1/2017	6,943	7,761	14,704	-	7,761	7,761	$ 3.710	$ 28,793
Apr-17	4/2/2017	6,045	7,636	13,681	-	7,636	7,636	$ 3.710	$ 28,330
Apr-17	4/3/2017	5,914	7,003	12,917	-	7,003	7,003	$ 3.710	$ 25,981
Apr-17	4/4/2017	7,051	7,932	14,983	-	7,932	7,932	$ 3.610	$ 28,635
Apr-17	4/5/2017	6,437	8,166	14,603	-	8,166	8,166	$ 3.740	$ 30,541
Apr-17	4/6/2017	6,255	7,440	13,695	-	7,440	7,440	$ 3.220	$ 23,957
Apr-17	4/7/2017	5,699	6,795	12,494	-	6,795	6,795	$ 3.410	$ 23,171
Apr-17	4/8/2017	5,820	6,938	12,758	-	6,938	6,938	$ 3.305	$ 22,930
Apr-17	4/9/2017	4,607	6,899	11,506	-	6,899	6,899	$ 3.305	$ 22,801
Apr-17	4/10/2017	3,266	6,580	9,846	-	6,580	6,580	$ 3.305	$ 21,747
Apr-17	4/11/2017	3,076	6,644	9,720	-	6,644	6,644	$ 3.100	$ 20,596
Apr-17	4/12/2017	4,970	6,630	11,600	-	6,630	6,630	$ 3.205	$ 21,249
Apr-17	4/13/2017	5,173	7,245	12,418	-	7,245	7,245	$ 3.020	$ 21,880
Apr-17	4/14/2017	4,796	6,037	10,833	-	6,037	6,037	$ 2.630	$ 15,877
Apr-17	4/15/2017	2,898	5,255	8,153	-	5,255	5,255	$ 2.630	$ 13,821
Apr-17	4/16/2017	2,698	5,651	8,349	-	5,651	5,651	$ 2.630	$ 14,862
Apr-17	4/17/2017	4,167	6,856	11,023	-	6,856	6,856	$ 2.630	$ 18,031
Apr-17	4/18/2017	5,603	7,841	13,444	-	7,841	7,841	$ 3.070	$ 24,072
Apr-17	4/19/2017	4,749	7,031	11,780	-	7,031	7,031	$ 3.475	$ 24,433
Apr-17	4/20/2017	4,984	7,175	12,159	-	7,175	7,175	$ 2.985	$ 21,417
Apr-17	4/21/2017	5,572	6,917	12,489	-	6,917	6,917	$ 2.870	$ 19,852
Apr-17	4/22/2017	5,250	6,602	11,852	-	6,602	6,602	$ 2.755	$ 18,189
Apr-17	4/23/2017	4,363	4,601	8,964	-	4,601	4,601	$ 2.755	$ 12,676

Load Shape Price Factor Worksheet

Month	Date	Historic Delivery Service Loads Capacity Assigned	Capacity Exempt	Total	Delivery Service Loads Not Subject to Capacity Assignment Capacity Assigned	Capacity Exempt	Total	2016-2017 Cost Analysis AGT City-Gate Price	AGT City-Gate Cost
Apr-17	4/24/2017	4,742	6,835	11,577	-	6,835	6,835	$ 2.755	$ 18,830
Apr-17	4/25/2017	5,558	7,398	12,956	-	7,398	7,398	$ 3.245	$ 24,007
Apr-17	4/26/2017	4,464	7,209	11,673	-	7,209	7,209	$ 2.735	$ 19,717
Apr-17	4/27/2017	4,347	6,757	11,104	-	6,757	6,757	$ 3.140	$ 21,217
Apr-17	4/28/2017	2,801	6,348	9,149	-	6,348	6,348	$ 2.895	$ 18,377
Apr-17	4/29/2017	3,188	5,064	8,252	-	5,064	5,064	$ 2.895	$ 14,660
Apr-17	4/30/2017	4,913	4,166	9,079	-	4,166	4,166	$ 2.895	$ 12,061
Winter Period		1,157,132	1,352,282	2,509,414	-	1,352,282	1,352,282	$ 4.394	$ 5,941,538

Weighted Average Daily Price	$ 4.394
Straight Average Daily Price	$ 4.315
Load Shape Price Factor	1.018

Month	Projected Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment		
	Capacity Assigned	Capacity Exempt	Total	Capacity Assigned	Capacity Exempt	Total
Nov-17	180,561	212,129	392,690	-	212,129	212,129
Dec-17	233,607	223,242	456,849	-	223,242	223,242
Jan-18	252,415	252,563	504,978	-	252,563	252,563
Feb-18	227,861	223,449	451,309	-	223,449	223,449
Mar-18	212,338	253,101	465,439	-	253,101	253,101
Apr-18	163,578	210,092	373,671	-	210,092	210,092
Winter	1,270,359	1,374,577	2,644,936	-	1,374,577	1,374,577

Northern Utilities - New Hampshire Division
Capacity Assignment Calculations 2016-2017
Derivation of Class Assignments and Weightings

Basic assumptions:

1 The MBA method allocates capacity costs based on design day demands in two pieces:
  a The base use portion of the class design day demand based on base use
  b The remaining portion of design day demand based on remaining design day demand

2 Base demand is composed solely of pipeline supplies

3 Remaining demand consists of a portion of pipeline and all storage and peaking supplies

		Design Day Demand, Dt	Adjusted Design Day Demand, Dt	Percent of Total	Avg Daily Base Use Load, Dt	Remaining Design Day Demand
1	RATE A-Resi Non-Htg	208	224	0.4%	33	192
2	RATE B-Resi Htg	23,009	24,788	41.5%	1,343	23,445
3	RATE G-40	9,095	9,798	16.4%	450	9,348
4	RATE G-50	634	683	1.1%	260	422
5	RATE G-41	7,413	7,986	13.4%	504	7,483
6	RATE G-51	972	1,047	1.8%	354	693
7	RATE G-42	1,568	1,690	2.8%	144	1,545
8	RATE G-52	218	235	0.4%	98	137
9	Special Contract	1,580	1,702	2.8%	1,519	183
10	RATE T-40	1,417	1,527	2.6%	54	1,473
11	RATE T-50	112	121	0.2%	-	121
12	RATE T-41	6,272	6,757	11.3%	348	6,408
13	RATE T-51	965	1,039	1.7%	462	577
14	RATE T-42	1,303	1,404	2.4%	92	1,312
15	RATE T-52	678	731	1.2%	386	345
16	Total	55,444	59,731	100.0%	6,046	53,685
17						-
18	Residential Total	23,217	25,012	41.9%	1,375	23,637
19	LLF Total	27,069	29,161	48.8%	1,593	27,568
20	HLF Total	5,158	5,557	9.3%	3,077	2,479
21	Total	55,444	59,731	100.0%	6,046	53,685
22						
23						

24		Resdential	Total C&I	LLF C&I	HLF C&I	Total
25	Residential Allocation	MDQ, Dt	MDQ, Dt	MDQ, Dt	MDQ, Dt	MDQ, Dt
26	Pipeline - Base	1,375	4,670	1,593	3,077	6,046
27	Pipeline - Remaining	4,296	3,202	2,938	264	7,499
28	Storage	7,118	9,880	9,065	815	16,999
29	Peaking	12,222	16,965	15,565	1,400	29,188
30	Total	25,012	34,718	29,161	5,557	59,731
31	Check - Should be 0	-	-	-	-	-
32						

33	Caapcity Allocations %s	**LLF C&I**	**HLF C&I**
34			
35	Pipeline	**15.54%**	**60.13%**
36	Storage	**31.09%**	**14.67%**
37	Peaking	**53.37%**	**25.20%**
38	Total	**100.00%**	**100.00%**

Northern Utilities, Inc.
New Hampshire Division
Design Day Forecast by Rate Class

2017-2018 Forecast Annual Sales (Dth)

	Res Non-Heat	Res Heat	G/T40	G/T50	G/T41	G/T51	G/T42	G/T52	Special Contracts	Res	LLF	HLF	Total Division
Sales Service	22,581	1,940,721	950,712	146,154	774,939	224,182	163,947	50,319	0	1,963,302	1,889,598	420,655	4,273,555
Capacity Assigned Delivery Service			148,157	25,894	655,614	222,505	136,218	156,459	552,328		939,990	957,185	1,897,175
Capacity Exempt Delivery Service			2,960	4,384	35,770	16,394	358,019	1,359,983	662,776		396,749	2,043,536	2,440,285
Total System	22,581	1,940,721	1,101,828	176,431	1,466,323	463,081	658,185	1,566,760	1,215,103	1,963,302	3,226,336	3,421,376	8,611,015

2017-2018 Forecast Annual Sendout (Dth)

	Res Non-Heat	Res Heat	G/T40	G/T50	G/T41	G/T51	G/T42	G/T52	Special Contracts	Res	LLF	HLF	Total Division	Prior Year WN Act Total Division	
Sales Service	22,866	1,965,175	962,691	147,995	784,703	227,007	166,013	50,953		1,988,041	1,913,407	425,955	4,327,403	4,062,643	6.5%
Capacity Assigned Delivery Service			150,024	26,220	663,874	225,308	137,935	158,430	559,286		951,832	969,245	1,921,077	1,823,954	5.3%
Capacity Exempt Delivery Service			2,997	4,439	36,221	16,601	362,530	1,377,119	671,127		401,748	2,069,285	2,471,033	2,488,981	-0.7%
Total System	22,866	1,965,175	1,115,711	178,654	1,484,798	468,916	666,478	1,586,502	1,230,413	1,988,041	3,266,987	3,464,485	8,719,513	8,375,578	4.1%

2017-2018 Forecast Load Factor (%)

	Res Non-Heat	Res Heat	G/T40	G/T50	G/T41	G/T51	G/T42	G/T52	Special Contracts	Res	LLF	HLF	Total Division	Prior Year Actual Total Division	
Sales Service	30.1%	23.4%	29.0%	64.0%	29.0%	64.0%	29.0%	64.0%		23.5%	29.0%	64.0%	27.5%	27.5%	0.2%
Capacity Assigned Delivery Service			29.0%	64.0%	29.0%	64.0%	29.0%	64.0%	97.0%		29.0%	79.6%	42.7%	43.1%	-0.8%
Capacity Exempt Delivery Service			33.0%	85.0%	33.0%	85.0%	33.0%	85.0%	85.0%		33.0%	85.0%	67.7%	66.3%	2.0%
Total System	30.1%	23.4%	29.0%	64.4%	29.1%	64.6%	31.0%	81.5%	90.1%	23.5%	29.4%	80.2%	36.5%	36.8%	-0.7%

2017-2018 Design Day Sendout (Dth)

	Res Non-Heat	Res Heat	G/T40	G/T50	G/T41	G/T51	G/T42	G/T52	Special Contracts	Res	LLF	HLF	Total Division	Prior Year Design Day Actual Total Division	
Sales Service	208	23,009	9,095	634	7,413	972	1,568	218		23,217	18,077	1,823	43,117	40,546	6.3%
Capacity Assigned Delivery Service			1,417	112	6,272	965	1,303	678	1,580		8,992	3,335	12,327	11,607	6.2%
Capacity Exempt Delivery Service			25	14	301	54	3,010	4,439	2,163		3,335	6,670	10,005	10,279	-2.7%
Total System	208	23,009	10,537	760	13,986	1,990	5,881	5,335	3,743	23,217	30,404	11,828	65,450	62,433	4.8%

2017-2018 Baseload Sendout (Dth)
(Average Daily July and August Sendout)

	Res Non-Heat	Res Heat	G/T40	63689.86	G/T41	G/T51	G/T42	G/T52	Special Contracts	Res	LLF	HLF	Total Division
Sales Service	33	1,343	450	260	504	354	144	98		1,375	1,098	711	3,185
Capacity Assigned Delivery Service			54	0	348	462	92	386	1,519		495	2,366	2,861
Capacity Exempt Delivery Service			1	0	29	36	385	3,302	1,617		415	4,955	5,370
Total System	33	1,343	506	260	881	851	622	3,785	3,136	1,375	2,008	8,032	11,416

2017-2018 Planning Load Design Day Sendout (Dth)

	Res Non-Heat	Res Heat	G/T40	G/T50	G/T41	G/T51	G/T42	G/T52	Special Contracts	Res	LLF	HLF	Total Division
Sales Service	208	23,009	9,095	634	7,413	972	1,568	218		23,217	18,077	1,823	43,117
Capacity Assigned Delivery Service			1,417	112	6,272	965	1,303	678	1,580		8,992	3,335	12,327
Capacity Exempt Delivery Service			0	0	0	0	0	0	0		0	0	0
Total System	208	23,009	10,512	746	13,685	1,936	2,871	896	1,580	23,217	27,069	5,158	55,444

2017-2018 Planning Load Baseload Sendout (Dth)
(Average Daily July and August Sendout)

	Res Non-Heat	Res Heat	G/T40	G/T50	G/T41	G/T51	G/T42	G/T52	Special Contracts	Res	LLF	HLF	Total Division
Sales Service	33	1,343	450	260	504	354	144	98		1,375	1,098	711	3,185
Capacity Assigned Delivery Service			54	0	348	462	92	386	1,519		495	2,366	2,861
Capacity Exempt Delivery Service			0	0	0	0	0	0	0		0	0	0
Total System	33	1,343	504	260	852	815	237	483	1,519	1,375	1,593	3,077	6,046

Schedule 20

Annual Hedging Program

Submitted in February 2017 under separate cover

Northern Utilities
Simplified Market Based Allocator (MBA) Calculations
ALLOCATION OF NORTHERN FIXED CAPACITY COSTS BETWEEN ME & NH DIVISIONS

Total Fixed Capacity Costs To Be Allocated

	NUI Total
Pipeline Demand	$ 9,265,284
Storage Demand	$ 23,507,218
Peaking Demand	$ 4,245,628
Subtotal Demand	$ 37,018,130
Capacity Release (Credit)	$ -
Asset Management (Credit)	$ (4,245,078)
Total Net Demand Costs	$ 32,773,052

Proportional Responsibility (PR) Allocators

Allocation of Product and Pipeline Demand Costs (including Injections) to Months

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Annual
Design Year Pipeline Sendout	946,866	852,996	810,561	1,001,607	1,445,191	1,064,918	667,415	433,423	381,416	387,126	414,891	775,089	9,181,501
Rank	4	5	6	3	1	2	8	9	12	11	10	7	
% Max Month	65.52%	59.02%	56.09%	69.31%	100.00%	73.69%	46.18%	29.99%	26.39%	26.79%	28.71%	53.63%	
PR	1.62%	0.59%	0.41%	1.26%	26.31%	2.19%	2.02%	0.14%	2.20%	0.04%	0.19%	1.06%	38.04%
CumPR	8.28%	6.65%	6.07%	9.54%	38.04%	11.73%	4.59%	2.57%	2.20%	2.24%	2.43%	5.66%	100.00%
Product and Pipeline Demand Costs	$ 767,005	$ 616,553	$ 562,141	$ 883,989	$ 3,524,910	$ 1,086,936	$ 425,624	$ 238,105	$ 203,775	$ 207,103	$ 224,904	$ 524,239	$ 9,265,284

Allocation of Storage Injection Fees to Months

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Annual
Storage Injection Volume	-	-	-	-	-	-	-	-	-	-	-	-	-
Design Year Pipeline Sendout	946,866	852,996	810,561	1,001,607	1,445,191	1,064,918	667,415	433,423	381,416	387,126	414,891	775,089	9,181,501
% of Deliveries Injected	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Injection Fees	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Allocation of Storage Demand Costs to Months

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Annual
Design Year Storage	428,167	955,360	1,031,308	749,298	357,397	-	-	-	-	-	-	-	3,521,529
Rank	4	2	1	3	5	6	6	6	6	6	6	6	
% Max Month	41.52%	92.64%	100.00%	72.66%	34.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
PR	1.72%	9.99%	7.36%	10.38%	6.93%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	36.38%
CumPR	8.65%	29.02%	36.38%	19.03%	6.93%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Storage Demand Costs	$ 2,032,550	$ 6,820,904	$ 8,552,035	$ 4,472,456	$ 1,629,273	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 23,507,218
Plus Injection Fees	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
TOTAL	$ 2,032,550	$ 6,820,904	$ 8,552,035	$ 4,472,456	$ 1,629,273	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 23,507,218

Allocation of Peaking Demand Costs to Months

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Annual
Design Year Peaking Volumes	3,735	378,466	612,822	363,167	78,502	2,145	2,217	2,145	2,217	2,217	2,145	2,217	1,451,994
Rank	5	2	1	3	4	12	9	11	8	7	10	6	
% Max Month	0.61%	61.76%	100.00%	59.26%	12.81%	0.35%	0.36%	0.35%	0.36%	0.36%	0.35%	0.36%	
PR	0.05%	1.25%	38.24%	15.48%	3.05%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	58.10%
CumPR	0.08%	19.86%	58.10%	18.61%	3.13%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	100.00%
Peaking Demand Costs	$ 3,398	$ 843,276	$ 2,466,891	$ 790,280	$ 132,894	$ 1,238	$ 1,293	$ 1,238	$ 1,293	$ 1,293	$ 1,238	$ 1,293	$ 4,245,628

Northern Utilities
Simplified Market Based Allocator (MBA) Calculations
ALLOCATION OF NORTHERN FIXED CAPACITY COSTS BETWEEN ME & NH DIVISIONS

LN		
1		
2		`
3	Pipeline Demand	Schedule 5A, PG 1, LN 1
4	Storage Demand	Schedule 5A, PG 1, LN 3 & 4
5	Peaking Demand	Schedule 5A, PG 1, LN 3 & 5
6	Subtotal Demand	Sum LN 3 : LN 5
7		
8	Capacity Release (Credit)	Schedule 5A, PG 6
9	Asset Management (Credit)	Schedule 5A, PG 6
10	Total Net Demand Costs	Sum LN 6 : LN 9
11		
12		

13 **Proportional Responsibility (PR) Allocators**

14

15 **Allocation of Product and Pipeline Demand Costs (including Injections) to Months**

LN		
16		
17	Design Year Pipeline Sendout	Company Analysis
18	Rank	LN 17 Ranking
19	% Max Month	LN 17 / LN 17 MAX
20	PR	The difference between LN 19 for the month and LN 19 for next highest rank
21	CumPR	Cumulative Values, LN 20
22	Product and Pipeline Demand Costs	LN 21 * LN 3

23

24 **Allocation of Storage Injection Fees to Months**

LN		
25		
26	Storage Injection Volume	Company Analysis
27	Design Year Pipeline Sendout	LN 17
28	% of Deliveries Injected	LN 26 / Sum (LN 26 : LN 27)
29	Injection Fees	LN 28 * LN 22

30

31 **Allocation of Storage Demand Costs to Months**

LN		
32		
33	Design Year Storage	Company Analysis
34	Rank	LN 33 Ranking
35	% Max Month	LN 33 / LN 33 MAX
36	PR	The difference between LN 35 for the month and LN 35 for next highest rank
37	CumPR	Cumulative Values, LN 36
38	Storage Demand Costs	LN 37 * LN 4
39	Plus Injection Fees	LN 29
40	TOTAL	LN 38 + LN 39

41

42 **Allocation of Peaking Demand Costs to Months**

LN		
43		
44	Design Year Peaking Volumes	Company Analysis
45	Rank	LN 44 Ranking
46	% Max Month	LN 44 / LN 44 MAX
47	PR	The difference between LN 46 for the month and LN 46 for next highest rank
48	CumPR	Cumulative Values, LN 47
49	Peaking Demand Costs	LN 48 * LN 5

Northern Utilities
Simplified Market Based Allocator (MBA) Calculations
ALLOCATION OF NORTHERN FIXED CAPACITY COSTS BETWEEN ME & NH DIVISIONS

	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual
Pipeline & Product Demand	$ 767,005	$ 616,553	$ 562,141	$ 883,989	$ 3,524,910	$ 1,086,936	$ 425,624	$ 238,105	$ 203,775	$ 207,103	$ 224,904	$ 524,239	$ 9,265,284
Storage Incld Inj Fees	$ 2,032,550	$ 6,820,904	$ 8,552,035	$ 4,472,456	$ 1,629,273	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 23,507,218
Peaking	$ 3,398	$ 843,276	$ 2,466,891	$ 790,280	$ 132,894	$ 1,238	$ 1,293	$ 1,238	$ 1,293	$ 1,293	$ 1,238	$ 1,293	$ 4,245,628
Less Injection Fees	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Less: Capacity Release	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Less: Asset Mgmt	$ (707,513)	$ (707,513)	$ (707,513)	$ (707,513)	$ (707,513)	$ (707,513)	$ -	$ -	$ -	$ -	$ -	$ -	$ (4,245,078)
Total Demand	$ 2,095,439	$ 7,573,221	$ 10,873,554	$ 5,439,212	$ 4,579,564	$ 380,662	$ 426,917	$ 239,343	$ 205,068	$ 208,397	$ 226,142	$ 525,533	$ 32,773,052

Capacity Cost Allocator based on Design Year Firm Sendout

	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual
Therms													
Maine	770,395	1,205,951	1,354,508	1,158,139	1,037,341	598,538	371,966	240,282	208,648	209,650	239,763	436,399	7,831,578
New Hampshire	608,373	980,871	1,100,183	955,932	843,749	468,525	297,666	195,287	174,985	179,693	177,274	340,907	6,323,446
Total	1,378,768	2,186,823	2,454,691	2,114,072	1,881,090	1,067,063	669,632	435,568	383,633	389,343	417,036	777,306	14,155,024

Percentage of Total	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual
Maine	55.88%	55.15%	55.18%	54.78%	55.15%	56.09%	55.55%	55.17%	54.39%	53.85%	57.49%	56.14%	55.18%
New Hampshire	44.12%	44.85%	44.82%	45.22%	44.85%	43.91%	44.45%	44.83%	45.61%	46.15%	42.51%	43.86%	44.82%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Allocation of Demand Costs by Division

Maine	$1,170,839	$4,176,350	$6,000,068	$2,979,731	$2,525,434	$213,521	$237,143	$132,034	$111,531	$112,216	$130,014	$295,047	$18,083,928
New Hampshire	$924,600	$3,396,871	$4,873,485	$2,459,481	$2,054,130	$167,141	$189,774	$107,309	$93,537	$96,181	$96,128	$230,486	$14,689,124
Total	$ 2,095,439	$ 7,573,221	$ 10,873,554	$ 5,439,212	$ 4,579,564	$ 380,662	$ 426,917	$ 239,343	$ 205,068	$ 208,397	$ 226,142	$ 525,533	$ 32,773,052

Detailed Allocation of Demand Costs by Division

Maine	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	
Pipeline & Product Demand	$ 428,568	$ 340,006	$ 310,192	$ 484,270	$ 1,943,837	$ 609,685	$ 236,425	$ 131,351	$ 110,828	$ 111,519	$ 129,302	$ 294,321	$ 5,130,304	55.37%
Storage Incld Injection Fees	$ 1,135,699	$ 3,761,475	$ 4,719,045	$ 2,450,119	$ 898,474	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,964,813	55.15%
Peaking	$ 1,899	$ 465,036	$ 1,361,240	$ 432,935	$ 73,285	$ 695	$ 718	$ 683	$ 703	$ 696	$ 712	$ 726	$ 2,339,328	55.10%
Less: Injection Fees	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Capacity Release (Credit)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Asset Management (Credit)	$ (395,327)	$ (390,167)	$ (390,408)	$ (387,593)	$ (390,163)	$ (396,859)	$ -	$ -	$ -	$ -	$ -	$ -	$ (2,350,517)	55.37%
Total Allocated Demand	$ 1,170,839	$ 4,176,350	$ 6,000,068	$ 2,979,731	$ 2,525,434	$ 213,521	$ 237,143	$ 132,034	$ 111,531	$ 112,216	$ 130,014	$ 295,047	$ 18,083,928	55.18%

New Hampshire	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	
Pipeline & Product Demand	$ 338,436	$ 276,547	$ 251,949	$ 399,718	$ 1,581,073	$ 477,251	$ 189,199	$ 106,754	$ 92,947	$ 95,584	$ 95,602	$ 229,918	$ 4,134,980	44.63%
Storage Incld Injection Fees	$ 896,851	$ 3,059,429	$ 3,832,990	$ 2,022,337	$ 730,798	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,542,405	44.85%
Peaking	$ 1,499	$ 378,241	$ 1,105,651	$ 357,346	$ 59,609	$ 544	$ 575	$ 555	$ 590	$ 597	$ 526	$ 567	$ 1,906,300	44.90%
Less: Injection Fees	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Capacity Release	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Asset Management	$ (312,186)	$ (317,346)	$ (317,105)	$ (319,920)	$ (317,350)	$ (310,654)	$ -	$ -	$ -	$ -	$ -	$ -	$ (1,894,561)	44.63%
Total Allocated Demand	$ 924,600	$ 3,396,871	$ 4,873,485	$ 2,459,481	$ 2,054,130	$ 167,141	$ 189,774	$ 107,309	$ 93,537	$ 96,181	$ 96,128	$ 230,486	$ 14,689,124	44.82%

Northern Utilities
Simplified Market Based Allocator (MBA) Calculations
ALLOCATION OF NORTHERN FIXED CAPACITY COSTS BETWEEN ME & NH DIVISIONS

50	Pipeline & Product Demand	LN 22
51	Storage	LN 40
52	Peaking	LN 49
53	Less: Injection Fees	-(LN 29)
54	Less: Capacity Release	-(LN 8 / 5)
55	Less: Asset Management	-(LN 9 / 6)
56	Total Demand	Sum (LN 50 : LN 55)
57		
58	**Capacity Cost Allocator based on Design Year Firm Sendout**	
59		
60	**Therms**	
61	Maine	Company Analysis
62	New Hampshire	Company Analysis
63	Total	LN 61 + LN 62
64	**Percentage of Total**	
65	Maine	LN 61 / LN 63
66	New Hampshire	LN 62 / LN 63
67	Total	LN 65 + LN 66
68		
69	**Allocation of Demand Costs by Division**	
70	Maine	LN 56 * LN 65
71	New Hampshire	LN 56 * LN 66
72	Total	LN 70 + LN 71
73	**Detailed Allocation of Demand Costs by Division**	
74	**Maine**	
75	Pipeline & Product Demand	LN 50 * LN 65
76	Storage	LN 51 * LN 65
77	Peaking	LN 52 * LN 65
78	Injection Fees	LN 53 * LN 65
79	Capacity Release (Credit)	LN 54 * LN 65
80	Asset Management (Credit)	LN 55 * LN 65
81	**Total Allocated Demand**	Sum (LN 75 : LN 80)
82		
83	**New Hampshire**	
84	Pipeline & Product Demand	LN 50 * LN 66
85	Storage	LN 51 * LN 66
86	Peaking	LN 52 * LN 66
87	Injection Fees	LN 53 * LN 66
88	Capacity Release	LN 54 * LN 66
89	Asset Management (Credit)	LN 55 * LN 66
90	**Total Allocated Demand**	Sum (LN 84 : LN 89)

REDACTED

Northern Utilities, Inc.
Peaking Contract Demand Cost Estimates
November 1, 2016 through October 31, 2017

Denotes Confidential Information

Cost data originally provided in Docket No. DG 16-819 as Schedule 5A, Page 5

Resource	Supplier	Contract Quantity	Maximum Daily Quantity	Months Per Year	Annual Fixed Charges
Peaking Contract 1	[redacted]	75,000	5,000	5	[redacted]
Peaking Contract 2		225,000	15,000	5	
Peaking Contract 3		150,000	10,000	5	
Peaking Contract 4		150,000	10,000	5	
Total Peaking Supply Contract Demand Costs					$ 2,902,500
Subtotal - Off System Peaking Supply Contracts, less GSGT losses of 0.35%			39,860		$ 2,902,500

Actual Off System Peaking Capacity and Demand Cost Allocation, calculated by applying MPR Allocator

	Maine Division	New Hampshire Division	Total Company
MPR Allocators	56.27%	43.73%	100.00%
Actual Capacity Allocation	22,429	17,431	39,860
Actual Demand Cost Allocation	$1,633,237	$1,269,263	$2,902,500

	Maine Division	New Hampshire Division	Total Company
Peaking Assigned %	16.36%	20.40%	36.76%
Delivery Service Capacity Allocation	3,669	3,556	7,226
Sales Service Capacity Allocation	18,760	13,875	32,634
Actual Capacity Allocation	22,429	17,431	39,860

Proposed Off System Peaking Capacity and Demand Cost Allocation

	Maine Division	New Hampshire Division	Total Company
Delivery Service Allocation	0	3,556	3,556
Sales Service Allocation	18,760	13,875	32,634
Proposed Capacity Allocation	18,760	17,431	36,191
Proposed Allocators	51.84%	48.16%	100.00%
Proposed Cost Allocation	$1,504,544	$1,397,956	$2,902,500

Proposed Adjustment to Reconciliation

	Maine Division	New Hampshire Division	Total Company
Proposed minus Acutal Cost Allocation	($128,693)	$128,693	$0

REDACTED

Northern Utilities, Inc.
Peaking Contract Demand Cost Estimates
November 1, 2017 through October 31, 2018

Denotes Confidential Information

Cost data provided in
Schedule 5A, Page 5

Resource	Supplier	Contract Quantity	Maximum Daily Quantity	Months Per Year	Annual Fixed Charges
Peaking Contract 1	[redacted]	37,500	2,500	5	[redacted]
Peaking Contract 2		450,000	30,000	5	
Total Peaking Supply Cor					
Subtotal - Off System Peaking Supply Contracts, less GSGT losses of 0.35%			32,386		$ 1,612,688

Actual Off System Peaking Capacity and Demand Cost Allocation, calculated by applying MPR Allocator

	Maine Division	New Hampshire Division	Total Company
MPR Allocators	55.18%	44.82%	100.00%
Actual Capacity Allocation	17,871	14,516	32,386
Actual Demand Cost Allocation	$889,881	$722,807	$1,612,688

	Maine Division	New Hampshire Division	Total Company
Peaking Assigned %	9.87%	19.38%	29.25%
Delivery Service Capacity Allocation	1,764	2,814	4,578
Sales Service Capacity Allocation	16,107	11,702	27,809
Actual Capacity Allocation	17,871	14,516	32,386

Proposed Off System Peaking Capacity and Demand Cost Allocation

	Maine Division	New Hampshire Division	Total Company
Delivery Service Allocation	0	0	0
Sales Service Allocation	16,107	11,702	27,809
Proposed Capacity Allocation	16,107	11,702	27,809
Proposed Allocators	57.92%	42.08%	100.00%
Proposed Cost Allocation	$934,080	$678,607	$1,612,688

Proposed Adjustment to Reconciliation

	Maine Division	New Hampshire Division	Total Company
Proposed minus Acutal Cost Allocation	$44,199	($44,199)	$0

Northern Utilities
ALLOCATION OF COMMODITY COSTS BETWEEN ME & NH DIVISIONS

		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	Summer
1	**Supply Volumes - MMBtu**															
2	Total Pipeline	648,293	916,964	898,057	943,605	1,070,055	883,856	474,732	321,807	282,899	284,126	306,404	614,624	7,645,423	5,360,832	2,284,591
3	Total Storage	422,462	671,741	774,929	737,127	430,971	0	0	0	0	0	0	0	3,037,229	3,037,229	0
4	Total Peaking	2,145	40,610	332,966	97,749	49,783	2,145	2,217	2,145	2,217	2,217	2,145	2,217	538,553	525,397	13,156
5	Total Off-system Sales													0	0	
6	Subtotal	1,072,900	1,629,315	2,005,951	1,778,481	1,550,809	886,001	476,948	323,952	285,115	286,342	308,549	616,841	11,221,205	8,923,458	2,297,747
7	Less Interruptible - Maine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Less Interruptible - New Hampshire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Total Firm Supply	1,072,900	1,629,315	2,005,951	1,778,481	1,550,809	886,001	476,948	323,952	285,115	286,342	308,549	616,841	11,221,205	8,923,458	2,297,747
10	Total Firm Pipeline Sendout	648,293	916,964	898,057	943,605	1,070,055	883,856	474,732	321,807	282,899	284,126	306,404	614,624	7,645,423	5,360,832	2,284,591
11	**Variable Costs**															
12	Pipeline Costs Modeled in Sendout™	$ 1,971,953	$ 4,381,350	$ 4,904,060	$ 4,856,523	$ 3,669,966	$ 2,538,352	$ 1,273,432	$ 862,289	$ 761,921	$ 763,018	$ 800,369	$ 1,648,370	$ 28,431,602	$ 22,322,204	$ 6,109,399
13	NYMEX Price Used for Forecast	$3.050	$3.200	$3.300	$3.300	$3.260	$2.930	$2.890	$2.920	$2.940	$2.950	$2.920	$2.940			
14	NYMEX Price Used for Update	$3.050	$3.200	$3.300	$3.300	$3.260	$2.930	$2.890	$2.920	$2.940	$2.950	$2.920	$2.940			
15	Increase/(Decrease) NYMEX Price	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000	$0.000			
16	Increase/(Decrease) in Pipeline Costs	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ -	
17	Total Updated Pipeline Costs	$ 1,971,953	$ 4,381,350	$ 4,904,060	$ 4,856,523	$ 3,669,966	$ 2,538,352	$ 1,273,432	$ 862,289	$ 761,921	$ 763,018	$ 800,369	$ 1,648,370	$ 28,431,602	$ 22,322,204	$ 6,109,399
18																
19	Total Pipeline	$ 1,971,953	$ 4,381,350	$ 4,904,060	$ 4,856,523	$ 3,669,966	$ 2,538,352	$ 1,273,432	$ 862,289	$ 761,921	$ 763,018	$ 800,369	$ 1,648,370	$ 28,431,602	$ 22,322,204	$ 6,109,399
20	Total Storage	$ 1,288,041	$ 2,044,595	$ 2,314,286	$ 2,203,714	$ 1,265,863	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,116,500	$ 9,116,500	$ -
21	Total Peaking	$ 13,703	$ 379,025	$ 3,873,697	$ 1,106,595	$ 410,008	$ 14,612	$ 14,580	$ 14,082	$ 14,551	$ 14,551	$ 14,012	$ 14,477	$ 5,883,892	$ 5,797,639	$ 86,253
22	Total Off-sytem Sales	$ -				$ -								$ -	$ -	
23																
24	Subtotal	$ 3,273,697	$ 6,804,970	$ 11,092,044	$ 8,166,832	$ 5,345,837	$ 2,552,964	$ 1,288,012	$ 876,371	$ 776,473	$ 777,570	$ 814,381	$ 1,662,847	$ 43,431,994	$ 37,236,342	$ 6,195,652
25																
26	Hedging Expense & (Gain)/Loss Estimate															
27	NYMEX Options Contracts															
28	Number of contracts	12	20	29	30	25	-	-	-	-	-	-	-	116	116	-
29	Option Contract Price	$ 0.2300	$ 0.2370	$ 0.2475	$ 0.2470	$ 0.2400										
30	Hedging Expense	$ 27,600	$ 47,400	$ 71,775	$ 74,100	$ 60,000								$ 280,875	$ 280,875	
31	NYMEX Option Strike Price	$ 4.800	$ 5.250	$ 6.000	$ 6.250	$ 6.300	$ -	$ -	$ -	$ -	$ -	$ -	$ -			
32	NYMEX Price Used for Forecast	$ 3.050	$ 3.200	$ 3.300	$ 3.300	$ 3.260		$ 2.890	$ 2.920	$ 2.940	$ 2.950	$ 2.920	$ 2.940			
33	NYMEX Price Used for Update	No	No	No	No	No		$ 2.890	$ 2.920	$ 2.940	$ 2.950	$ 2.920	$ 2.940			
34	Option Hedging Gain (Credit)	$ -	$ -	$ -	$ -	$ -		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
35	Total Option Cost	$ 27,600	$ 47,400	$ 71,775	$ 74,100	$ 60,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 280,875	$ 280,875	$ -
36																
37	Interruptible Cost Estimate															
38	Variable Pipeline Costs Excld Hedges	$ 1,971,953	$ 4,381,350	$ 4,904,060	$ 4,856,523	$ 3,669,966	$ 2,538,352	$ 1,273,432	$ 862,289	$ 761,921	$ 763,018	$ 800,369	$ 1,648,370	$ 28,431,602	$ 22,322,204	$ 6,109,399
39	Average Supply Cost ($/MMBtu)	$ 3.042	$ 4.778	$ 5.461	$ 5.147	$ 3.430	$ 2.872	$ 2.682	$ 2.680	$ 2.693	$ 2.685	$ 2.612	$ 2.682			
40	Interruptible Cost - Maine	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41	Interruptible Cost - New Hampshire	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42																
43	Firm Sales Pipeline Commodity Excld Hedge	$ 1,971,953	$ 4,381,350	$ 4,904,060	$ 4,856,523	$ 3,669,966	$ 2,538,352	$ 1,273,432	$ 862,289	$ 761,921	$ 763,018	$ 800,369	$ 1,648,370	$ 28,431,602	$ 22,322,204	$ 6,109,399
44	Total Storage	$ 1,288,041	$ 2,044,595	$ 2,314,286	$ 2,203,714	$ 1,265,863	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,116,500	$ 9,116,500	$ -
45	Total Peaking	$ 13,703	$ 379,025	$ 3,873,697	$ 1,106,595	$ 410,008	$ 14,612	$ 14,580	$ 14,082	$ 14,551	$ 14,551	$ 14,012	$ 14,477	$ 5,883,892	$ 5,797,639	$ 86,253
46	Off-system Sales	$ -	$ -	$ -	$ -	$ -	$ -							$ -	$ -	
47	Firm Sales Variable Costs Excld Hedge	$ 3,273,697	$ 6,804,970	$ 11,092,044	$ 8,166,832	$ 5,345,837	$ 2,552,964	$ 1,288,012	$ 876,371	$ 776,473	$ 777,570	$ 814,381	$ 1,662,847	$ 43,431,994	$ 37,236,342	$ 6,195,652
48	Plus Net Hedging Expense / (Credit)	$ 27,600	$ 47,400	$ 71,775	$ 74,100	$ 60,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 280,875	$ 280,875	$ -
49	Total Firm Sales Variable Costs	$ 3,301,297	$ 6,852,370	$ 11,163,819	$ 8,240,932	$ 5,405,837	$ 2,552,964	$ 1,288,012	$ 876,371	$ 776,473	$ 777,570	$ 814,381	$ 1,662,847	$ 43,712,869	$ 37,517,217	$ 6,195,652

Northern Utilities
ALLOCATION OF COMMODITY COSTS BETWEEN ME & NH DIVISIONS

1	Supply Volumes - MMBtu		
2	Total Pipeline	Schedule 6A, page 2	
3	Total Storage	Schedule 6A, page 2	
4	Total Peaking	Schedule 6A, page 2	
5	Total Off-system Sales	Schedule 6A, page 2	
6	Subtotal	SUM LN 2: LN 4	
7	Less Interruptible - Maine	Company Analysis	
8	Less Interruptible - New Hampshire	Company Analysis	
9	Total Firm Supply	LN 6 - LN 7 - LN 8	
10	Total Firm Pipeline Sendout	LN 2 - LN 7 - LN 8	
11	Variable Costs		
12	Pipeline Costs Modeled in Sendout™		0
13	NYMEX Price Used for Forecast	Attachment to Schedule 5A, PG 1, LN 21	
14	NYMEX Price Used for Update	Attachment to Schedule 5A, PG 1, LN 21	
15	Increase/(Decrease) NYMEX Price	LN 14 - LN 13	
16	Increase/(Decrease) in Pipeline Costs	LN 2 * LN 15	
17	Total Updated Pipeline Costs	LN 16 + LN 12	
18			
19	Total Pipeline	LN 17	
20	Total Storage	Schedule 6A, page 1	
21	Total Peaking	Schedule 6A, page 1	
22	Total Off-sytem Sales	Company Analysis	
23			
24	Subtotal	Sum LN 18 : LN 20	
25			
26	Hedging Expense & (Gain)/Loss Estimate		
27	NYMEX Options Contracts		
28	Number of contracts	Schedule 7	
29	Option Contract Price	Schedule 7	
30	Hedging Expense	Schedule 7	
31	NYMEX Option Strike Price	Schedule 7	
32	NYMEX Price Used for Forecast	Line 13	
33	NYMEX Price Used for Update	Line 14	
34	Option Hedging Gain (Credit)	LN 33 - LN 31 * LN28 * 10,000	
35	Total Option Cost	(LN 31 - LN 34)	
36			
37	Interruptible Cost Estimate	Company Analysis	
38	Variable Pipeline Costs Excld Hedges	LN 17	
39	Average Supply Cost ($/MMBtu)	LN 38 / LN 2	
40	Interruptible Cost - Maine	LN 39 * LN 7	
41	Interruptible Cost - New Hampshire	LN 39 * LN 8	
42			
43	Firm Sales Pipeline Commodity Excld Hedge	LN 38 - LN 40 - LN 41	
44	Total Storage	LN 20	
45	Total Peaking	LN 21	
46	Off-system Sales	LN 22	
47	Firm Sales Variable Costs Excld Hedge	Sum LN 43 : LN 46	
48	Plus Net Hedging Expense / (Gain)	LN 35	
49	Total Firm Sales Variable Costs	LN 47 + LN 48	

Northern Utilities
ALLOCATION OF COMMODITY COSTS BETWEEN ME & NH DIVISIONS

50 **Commodity Allocation Factors**
51 Firm Sales Sendout for Normal Winter, MMBtu

Line		Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Annual	Winter	Summer
53	Maine	644,172	976,164	1,197,978	1,069,256	942,424	562,934	312,106	210,832	186,643	187,340	204,626	399,324	6,893,799	5,392,927	1,500,872
54	New Hampshire	428,728	653,151	807,972	709,225	608,386	323,067	164,840	113,121	98,472	99,001	103,922	217,516	4,327,402	3,530,529	796,873
55	Total	1,072,900	1,629,315	2,005,950	1,778,481	1,550,809	886,001	476,946	323,953	285,116	286,341	308,548	616,840	11,221,201	8,923,456	2,297,745
56																
57	**Percentage of Total**															
58	Maine	60.04%	59.91%	59.72%	60.12%	60.77%	63.54%	65.44%	65.08%	65.46%	65.43%	66.32%	64.74%	61.44%	60.44%	65.32%
59	New Hampshire	39.96%	40.09%	40.28%	39.88%	39.23%	36.46%	34.56%	34.92%	34.54%	34.57%	33.68%	35.26%	38.56%	39.56%	34.68%
60	Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
61																
62	**Commodity Allocation by Jurisdiction**															
63	**Maine**															
64	Firm Sales Pipeline Commodity Excld Hedge	$ 1,183,966	$ 2,624,977	$ 2,928,765	$ 2,919,832	$ 2,230,231	$ 1,612,779	$ 833,314	$ 561,187	$ 498,771	$ 499,209	$ 530,797	$ 1,067,105	$ 17,490,933	$ 13,500,550	$ 3,990,383
65	Net Hedging Expense / (Gain)	$ 16,571	$ 28,399	$ 42,865	$ 44,550	$ 36,462	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 168,847	$ 168,847	$ -
66	Storage	$ 773,344	$ 1,224,969	$ 1,382,120	$ 1,324,914	$ 769,262	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,474,609	$ 5,474,609	$ -
67	Peaking	$ 8,227	$ 227,083	$ 2,313,420	$ 665,305	$ 249,161	$ 9,284	$ 9,541	$ 9,165	$ 9,526	$ 9,520	$ 9,292	$ 9,372	$ 3,528,896	$ 3,472,480	$ 56,416
68	Off-system Sales	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
69	Total Maine Commodity Costs	$ 1,982,108	$ 4,105,428	$ 6,667,170	$ 4,954,602	$ 3,285,116	$ 1,622,063	$ 842,854	$ 570,352	$ 508,297	$ 508,729	$ 540,089	$ 1,076,477	$ 26,663,284	$ 22,616,486	$ 4,046,799
70	Maine Inventory Finance Costs	$ 634	$ 1,074	$ 1,376	$ 1,226	$ 1,028	$ 526	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,865	$ 5,865	$ -
71	Total Maine Variable Costs	$ 1,982,742	$ 4,106,502	$ 6,668,546	$ 4,955,828	$ 3,286,144	$ 1,622,590	$ 842,854	$ 570,352	$ 508,297	$ 508,729	$ 540,089	$ 1,076,477	$ 26,669,150	$ 22,622,351	$ 4,046,799
72	**New Hampshire**															
73	Firm Sales Pipeline Commodity Excld Hedge	$ 787,987	$ 1,756,372	$ 1,975,295	$ 1,936,691	$ 1,439,735	$ 925,573	$ 440,118	$ 301,101	$ 263,150	$ 263,809	$ 269,572	$ 581,265	$ 10,940,669	$ 8,821,653	$ 2,119,016
74	Net Hedging Expense / (Gain)	$ 11,029	$ 19,001	$ 28,910	$ 29,550	$ 23,538	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 112,028	$ 112,028	$ -
75	Storage	$ 514,698	$ 819,627	$ 932,166	$ 878,800	$ 496,601	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,641,891	$ 3,641,891	$ -
76	Peaking	$ 5,476	$ 151,941	$ 1,560,278	$ 441,289	$ 160,847	$ 5,328	$ 5,039	$ 4,917	$ 5,026	$ 5,031	$ 4,719	$ 5,105	$ 2,354,996	$ 2,325,159	$ 29,837
77	Off-system Sales	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
78	Total New Hampshire Commodity Costs	$ 1,319,189	$ 2,746,942	$ 4,496,649	$ 3,286,330	$ 2,120,721	$ 930,901	$ 445,157	$ 306,019	$ 268,176	$ 268,840	$ 274,292	$ 586,370	$ 17,049,585	$ 14,900,731	$ 2,148,854
79	New Hampshire Inventory Finance Costs	$ 389	$ 648	$ 829	$ 725	$ 596	$ 267	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,454	$ 3,454	$ -
80	Total New Hampshire Variable Costs	$ 1,319,578	$ 2,747,590	$ 4,497,478	$ 3,287,055	$ 2,121,317	$ 931,167	$ 445,157	$ 306,019	$ 268,176	$ 268,840	$ 274,292	$ 586,370	$ 17,053,039	$ 14,904,185	$ 2,148,854
81	**Northern Utilities**															
82	Firm Sales Pipeline Commodity Excld Hedge	$ 1,971,953	$ 4,381,350	$ 4,904,060	$ 4,856,523	$ 3,669,966	$ 2,538,352	$ 1,273,432	$ 862,289	$ 761,921	$ 763,018	$ 800,369	$ 1,648,370	$ 28,431,602	$ 22,322,204	$ 6,109,399
83	Net Hedging Expense / (Gain)	$ 27,600	$ 47,400	$ 71,775	$ 74,100	$ 60,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 280,875	$ 280,875	$ -
84	Storage	$ 1,288,041	$ 2,044,595	$ 2,314,286	$ 2,203,714	$ 1,265,863	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,116,500	$ 9,116,500	$ -
85	Peaking	$ 13,703	$ 379,025	$ 3,873,697	$ 1,106,595	$ 410,008	$ 14,612	$ 14,580	$ 14,082	$ 14,551	$ 14,551	$ 14,012	$ 14,477	$ 5,883,892	$ 5,797,639	$ 86,253
86	Off-system Sales	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
87	Total Northern Commodity Costs	$ 3,301,297	$ 6,852,370	$ 11,163,819	$ 8,240,932	$ 5,405,837	$ 2,552,964	$ 1,288,012	$ 876,371	$ 776,473	$ 777,570	$ 814,381	$ 1,662,847	$ 43,712,869	$ 37,517,217	$ 6,195,652
88	Northern Inventory Finance Costs	$ 1,024	$ 1,722	$ 2,205	$ 1,950	$ 1,624	$ 793	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,319	$ 9,319	$ -
89	Total Northern Variable Costs	$ 3,302,320	$ 6,854,092	$ 11,166,024	$ 8,242,882	$ 5,407,461	$ 2,553,757	$ 1,288,012	$ 876,371	$ 776,473	$ 777,570	$ 814,381	$ 1,662,847	$ 43,722,189	$ 37,526,536	$ 6,195,652
90																

Northern Utilities
ALLOCATION OF COMMODITY COSTS BETWEEN ME & NH DIVISIONS

50	**Commodity Allocation Factors**	
51	Firm Sales Sendout for Normal Winter, MMBtu	
52		
53	Maine	Company Analysis
54	New Hampshire	Schedule 10B, LN 33 / 10
55	Total	LN 53 + LN 54
56		
57	**Percentage of Total**	
58	Maine	LN 53 / LN 55
59	New Hampshire	LN 54 / LN 55
60	Total	LN 58 + LN 59
61		
62	**Commodity Allocation by Jurisdiction**	
63	**Maine**	
64	Firm Sales Pipeline Commodity Excld Hedge	LN 43 * LN 58
65	Net Hedging Expense / (Gain)	LN 35 * LN 58
66	Storage	LN 44 * LN 58
67	Peaking	LN 45 * LN 58
68	Off-system Sales	LN 46 * LN 58
69	Total Maine Commodity Costs	Sum LN 64 : LN 68
70	Maine Inventory Finance Costs	LN 111
71	Total Maine Variable Costs	LN 69 + LN 70
72	**New Hampshire**	
73	Firm Sales Pipeline Commodity Excld Hedge	LN 43 * LN 59
74	Net Hedging Expense / (Gain)	LN 35 * LN 59
75	Storage	LN 44 * LN 59
76	Peaking	LN 45 * LN 59
77	Off-system Sales	LN 46 * LN 59
78	Total New Hampshire Commodity Costs	Sum LN 73 : LN 77
79	New Hampshire Inventory Finance Costs	LN 116
80	Total New Hampshire Variable Costs	LN 78 + LN 79
81	**Northern Utilities**	
82	Firm Sales Pipeline Commodity Excld Hedge	LN 64 + LN 73
83	Net Hedging Expense / (Gain)	LN 65 + LN 74
84	Storage	LN 66 + LN 75
85	Peaking	LN 67 + LN 76
86	Off-system Sales	LN 68 + LN 77
87	Total Northern Commodity Costs	LN 69 + LN 78
88	Northern Inventory Finance Costs	LN 70 + LN 79
89	Total Northern Variable Costs	LN 87 + LN 88
90		

Northern Utilities
ALLOCATION OF COMMODITY COSTS BETWEEN ME & NH DIVISIONS

Line	Col A	Col B	Col C	Col D	Col E	Col F	Col G	Col H	Col I	Col J	Col K	Col L	Col M	Col N	Col O	Col P
91	**Northern Utilities**															
92	**Simplified Market Based Allocator (MBA) Calculations**															
93	**ALLOCATION OF NORTHERN INVENTORY FINANCE CHARGE**															
94																
95	Col A	Col B	Col C	Col D	Col E	Col F	Col G	Col H	Col I	Col J	Col K	Col L	Col M	Col N	Col O	Col P
96																
97	**Inventory Finance Charge**	**Nov-17**	**Dec-17**	**Jan-18**	**Feb-18**	**Mar-18**	**Apr-18**	**May-18**	**Jun-18**	**Jul-18**	**Aug-18**	**Sep-18**	**Oct-18**	**Annual**		**Summer**
98	Storage	$ 1,023	$ 1,011	$ 835	$ 523	$ 212	$ 128	$ 288	$ 445	$ 604	$ 766	$ 923	$ 1,078	$ 7,836		$ 4,103
99	Peaking	$ 160	$ 164	$ 118	$ 69	$ 69	$ 68	$ 115	$ 163	$ 147	$ 117	$ 132	$ 162	$ 1,484		$ 836
100	Total	$ 1,182	$ 1,175	$ 953	$ 592	$ 281	$ 196	$ 403	$ 607	$ 751	$ 884	$ 1,055	$ 1,239	$ 9,319		$ 4,939
101																
102	**Inventory Finance Charge Allocation by Jurisdiction**															
103	Maine	$ 710	$ 704	$ 569	$ 356	$ 171	$ 125	$ 263	$ 395	$ 492	$ 578	$ 700	$ 802	$ 5,865		$ 3,231
104	New Hampshire	$ 473	$ 471	$ 384	$ 236	$ 110	$ 72	$ 139	$ 212	$ 259	$ 306	$ 355	$ 437	$ 3,454		$ 1,709
105	Total	$ 1,182	$ 1,175	$ 953	$ 592	$ 281	$ 196	$ 403	$ 607	$ 751	$ 884	$ 1,055	$ 1,239	$ 9,319		$ 4,939
106																
107	**Inventory Finance Charge Allocation by Month**															
108	**Maine**															
109	Firm Sales Normal Remaining Sendout	466,064	789,172	1,010,986	900,360	755,432	386,704	125,114	29,872	0	349	23,666	23,666	4,308,717	4,106,050	202,667
110	Monthly % Sendout of Total Winter	10.82%	18.32%	23.46%	20.90%	17.53%	8.97%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	0.00%
111	ME Allocated Inventory Finance Charge	$ 634	$ 1,074	$ 1,376	$ 1,226	$ 1,028	$ 526	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,865	$ 5,865	$ -
112																
113	**New Hampshire**															
114	Firm Sales Normal Remaining Sendout	333,176	554,415	709,235	620,043	509,649	228,231	66,104	17,569	0	264	8,371	118,780	2,954,749	2,743,662	211,087
115	Monthly % Sendout of Total Winter	11.28%	18.76%	24.00%	20.98%	17.25%	7.72%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	0.00%
116	NH Allocated Inventory Finance Charge	$ 389	$ 648	$ 829	$ 725	$ 596	$ 267	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,454	$ 3,454	$ -

Northern Utilities
ALLOCATION OF COMMODITY COSTS BETWEEN ME & NH DIVISIONS

91 **Northern Utilities**
92 **Simplified Market Based Allocator (MBA) Calculations**
93 **ALLOCATION OF NORTHERN INVENTORY FINANCE CHARGE**
94
95
96

LN		
97	**Inventory Finance Charge**	
98	Storage	"Schedule 14 - Carrying Costs"
99	Peaking	"Schedule 14 - Carrying Costs"
100	Total	Sum LN 98 : LN 199
101		
102	**Inventory Finance Charge Allocation by Jurisdiction**	
103	Maine	LN 100 * LN 58
104	New Hampshire	LN 100 * LN 59
105	Total	Sum LN 103 : LN 104
106		
107	**Inventory Finance Charge Allocation by Month**	
108	**Maine**	
109	Firm Sales Remaining Sendout	Company Analysis
110	Monthly % Sendout of Total Winter	LN 109 / LN 109 Col N
111	ME Allocated Inventory Finance Charge	LN 103 Col N * LN 110
112		
113	**New Hampshire**	
114	Firm Sales Remaining Sendout	NH Schedule 10B, LN 80 / 10
115	Monthly % Sendout of Total Winter	LN 114 / LN 114 Col N
116	NH Allocated Inventory Finance Charge	LN 104 Col N* LN 115

Northern Utilities - NEW HAMPSHIRE DIVISION
Supporting Detail to Proposed Tariff Sheets
Average Cost of Gas Calculation

		Winter	Summer	Annual	
1	Demand	$ 9,128,178	$ 963,258	$ 10,091,436	Schedule 1A, LN 82
2	Commodity	$ 14,904,185	$ 2,148,854	$ 17,053,039	Schedule 1B, LN 43
3	Total	$ 24,032,363	$ 3,112,112	$ 27,144,475	LN 1 + LN 2
4					
5	Forecasted Firm Sales (Therms)	34,865,979	7,869,571	42,735,550	Schedule 10B, LN 11
6	Forecasted Residential Sales (Therms)	16,234,589	3,398,435	19,633,024	Schedule 10B, LN 3
7	Average Residential Rate:	**Winter**	**Summer**	**Annual**	
8	Average Demand Rate	$0.2618	$0.1224		LN 1 / LN 5
9	Average Commodity Rate	$0.4275	$0.2731		LN 2 / LN 5
10	Average Rate	$0.6893	$0.3955		LN 3 / LN 5
11					
12	**Residential Reallocation:**	**Winter**	**Summer**	**Annual**	
13	Demand Costs Allocated To Residential per SMBA	$ 4,936,703	$ 468,510	$ 5,405,212	Schedule 10A, LN 168
14	Demand Costs Allocated To Residential per Avg Res. Rate	$ 4,250,339	$ 415,968	$ 4,666,307	LN 8 * LN 6
15	**Demand Reallocation:**	$ 686,364	$ 52,541	$ 738,905	LN 13 - LN 14
16	**HLF Allocation**	$ 57,241	$ 13,376	$ 70,617	LN 15 * LN 20
17	**LLF Allocation**	$ 629,123	$ 39,165	$ 668,288	LN 15 * LN 21
18					
19	**SMBA Capacity Cost Allocation (%)**				
20	HLF	8.34%	25.46%		Schedule 10A, LN 173
21	LLF	91.66%	74.54%		Schedule 10A, LN 174
22					
23	Commodity Costs Allocated To Residential per SMBA	$ 6,935,445	$ 927,972	$ 7,863,417	Schedule 10C, LN 138
24	Commodity Costs Allocated To Residential per Avg Res. Rate	$ 6,939,811	$ 928,113	$ 7,867,924	LN 9 * LN 6
25	**Commodity Reallocation:**	$ (4,366)	$ (141)	$ (4,507)	LN 23 - LN 24
26	**HLF Allocation**	$ (584)	$ (55)	$ (640)	LN 25 * LN 30
27	**LLF Allocation**	$ (3,782)	$ (85)	$ (3,868)	LN 25 * LN 31
28					
29	**SMBA Commodity Cost Allocation (%)**				
30	HLF	13.38%	39.32%		Schedule 10C, LN 143
31	LLF	86.62%	60.68%		Schedule 10C, LN 144

Northern Utilities, Inc.
Short-Term Debt Limit
($ in thousands)

NU Short-Term Debt Limit Calculation (11/1/17 - 10/31/2018)			
Fuel Financing Purposes			
NU ME winter gas costs		36,268	
NU NH winter gas costs		24,764	
	Total	61,032	
30% of total winter gas costs		18,310	(a)
Non-Fuel Financing Purposes			
Estimated net utility plant @ 12/31/17 before plant acquisition adjustment		383,048	
15% of Net Utility Plant		57,457	(b)
Short-Term Debt Limit			
Short Term Debt Limit		**75,767**	(a) + (b)

Northern Utilities - New Hampshire Division
PNGTS Refund

	Total Refund May 1, 2015 Balance A	Year 1 Refund Total B	Year 2 Refund Total C	Interest D	Year 3 Balance E	Year 3 Summer Refund* F	Estimated Year 3 Interest G	Year 3 Winter Refund - Total H = E - F	Year 3 Winter Refund - Marketer** I	Year 3 Winter Refund - Sales J = G - H
Winter Contract	$10,060,893	$5,906,236	$2,693,256	$291,548	$1,752,950	$92,159	$48,587	$1,709,378	$337,672	$1,371,706
Annual Contract	$359,416	$210,995	$96,214	$10,415	$62,623	$36,031	$1,736	$28,327	$12,063	$16,264
Total	$10,420,309	$6,117,231	$2,789,470	$301,964	$1,815,573	$99,402	$50,323	$1,737,705	$349,735	$1,387,970

*: Provided in 2016- 2017 Annual COG filing.
**: Provided in Schedule 5B, Page 6.