

N.H.P.U.C No. 12
NORTHERN UTILITIES, INC.

Anticipated Cost of Gas

New Hampshire Division
Period Covered: November 1, 2019 - April 31, 2020

Column A	Column B	Column C
1 <u>ANTICIPATED DIRECT COST OF GAS</u>		
2 Purchased Gas for Sales Service:		
3 Demand Costs:	\$ 1,399,977	
4 Supply Costs:	\$ 4,289,717	
5		
6 Storage & Peaking Gas for Sales Service:		
7 Demand, Capacity:	\$ 12,012,257	
8 Commodity Costs:	\$ 9,816,975	
9		
10 Inventory Finance Charge	\$ 2,734	
11		
12 Capacity Release	\$ (6,057,829)	
13		
14 Re-entry Rate & Conversion Rate Revenues	\$ (10,000)	
15		
16 Total Anticipated Direct Cost of Gas		\$ 21,453,831
17		
18 <u>ANTICIPATED INDIRECT COST OF GAS</u>		
19 Adjustments:		
20 Prior Period Under/(Over) Collection	\$ (1,406,949)	
21 Interest	\$ (29,113)	
22 Refunds	\$ -	
23 <u>Interruptible Margins</u>	\$ -	
24 Total Adjustments		\$ (1,436,062)
25		
26 Working Capital:		
27 Total Anticipated Direct Cost of Gas	\$ 21,453,831	
28 Working Capital Allowance Percentage (10.02 [lag days]/365* prime rate)	0.2880%	
29 Working Capital Allowance	\$ 61,778	
30		
31 Plus: Working Capital Reconciliation (Acct 173)	\$ (35,633)	
32		
33 Total Working Capital Allowance		\$ 26,145
34		
35 Bad Debt:		
36 Bad Debt Allowance	\$ 153,235	
37 Plus: Bad Debt Reconciliation (Acct 173)	\$ (2,792)	
38 Total Bad Debt Allowance		\$ 150,444
39		
40 Local Production and Storage Capacity		\$ 476,106
41		
42 Miscellaneous Overhead-80.55% Allocated to Winter Season		\$ 467,545
43		
44 Total Anticipated Indirect Cost of Gas		\$ (315,822)
45		
46 Total Cost of Gas		\$ 21,138,010

(*) Prime Rate is 5.25%

**N.H.P.U.C No. 12
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Summary

Anticipated Cost of Gas

New Hampshire Division
Period Covered: November 1, 2019 - April 31, 2020

Column A	Column D
1 <u>ANTICIPATED DIRECT COST OF GAS</u>	
2 Purchased Gas for Sales Service:	
3 Demand Costs:	Schedule 5-CAK, LN 71
4 Supply Costs:	Schedule 9-CAK, LN 14
5	
6 Storage & Peaking Gas for Sales Service:	
7 Demand, Capacity:	Schedule 5-CAK, LN 73 + Schedule 5-CAK, LN 74
8 Commodity Costs:	Schedule 9-CAK, LN 15 + Schedule 9-CAK, LN 16
9	
10 Inventory Finance Charge	Schedule 9-CAK, LN 17
11	
12 Capacity Release	-(Schedule 5-CAK, LN 76)
13	
14 Re-entry Rate & Conversion Rate Revenues	Schedule 5-CAK, LN 78
15	
16 Total Anticipated Direct Cost of Gas	Sum (LN 3 : LN 14)
17	
18 <u>ANTICIPATED INDIRECT COST OF GAS</u>	
19 Adjustments:	
20 Prior Period Under/(Over) Collection	Schedule 13-CAK, PG 1
21 Interest	Schedule 15-CAK, LN 115: Total
22 Refunds	
23 <u>Interruptible Margins</u>	-(Schedule 5-CAK, LN 77)
24 Total Adjustments	Sum (LN 20 : LN 23)
25	
26 Working Capital:	
27 Total Anticipated Direct Cost of Gas	LN 16
28 Working Capital Allowance Percentage (10.02 [lag days]/365* primTariff - NHPUC No. 12 , Section 6.1	
29 Working Capital Allowance	LN 27 * LN 28
30	
31 Plus: Working Capital Reconciliation (Acct 173)	Schedule 13-CAK, Attachment A
32	
33 Total Working Capital Allowance	Sum (LN 29 : LN 31)
34	
35 Bad Debt:	
36 Bad Debt Allowance	Schedule 14-CAK, LN 16
37 Plus: Bad Debt Reconciliation (Acct 173)	Schedule 13-CAK, Attachment B
38 Total Bad Debt Allowance	LN 36 + LN 37
39	
40 Local Production and Storage Capacity	Schedule 5-CAK, LN 83
41	
42 Miscellaneous Overhead-80.55% Allocated to Winter Season	Schedule 5-CAK, LN 82
43	
44 Total Anticipated Indirect Cost of Gas	Sum (LN 24 : LN 42)
45	
46 Total Cost of Gas	LN 44 + LN 16
(*) Prime Rate is 5.25%	

48 CALCULATION OF FIRM SALES COST OF GAS RATE
49 Period Covered: May 1, 2020 - October 31, 2020

51	Column A	Column B	Column C
52			
53	Total Anticipated Direct Cost of Gas	\$ 21,453,831	
54	Projected Prorated Sales (11/01/19 - 04/30/20)	36,062,011	
55	Direct Cost of Gas Rate		\$ 0.5949 per therm
56			
57	Demand Cost of Gas Rate	\$ 7,344,405	\$ 0.2037 per therm
58	Commodity Cost of Gas Rate	\$ 14,106,692	\$ 0.3912 per therm
59	Total Direct Cost of Gas Rate	\$ 21,451,097	\$ 0.5949 per therm
60			
61	Total Anticipated Indirect Cost of Gas	\$ (315,822)	
62	Projected Prorated Sales (11/01/19 - 04/30/20)	36,062,011	
63	Indirect Cost of Gas		\$ (0.0088) per therm
64			
65			
66	TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 05/01/20		\$ 0.5861 per therm
67			
68	RESIDENTIAL COST OF GAS RATE - 11/01/19	COGwr	\$ 0.5861 per therm
69		Maximum (COG+25%)	\$ 0.7326
70			
71			
72	COM/IND LOW WINTER USE COST OF GAS RATE - 11/01/19	COGwl	\$ 0.4950 per therm
73		Maximum (COG+25%)	\$ 0.6188
74			
75	C&I HLF Demand Costs Allocated per SMBA	\$ 505,175	
76	PLUS: Residential Demand Reallocation to C&I HLF	\$ 30,878	
77	C&I HLF Total Adjusted Demand Costs	\$ 536,053	
78	C&I HLF Projected Prorated Sales (11/01/19 - 04/30/20)	3,762,682	
79	Demand Cost of Gas Rate	\$ 0.1425	
80			
81	C&I HLF Commodity Costs Allocated per SMBA	\$ 1,352,376	
82	PLUS: Residential Commodity Reallocation to C&I HLF	\$ 6,954	
83	C&I HLF Total Adjusted Commodity Costs	\$ 1,359,330	
84	C&I HLF Projected Prorated Sales (11/01/19 - 05/30/20)	3,762,682	
85	Commodity Cost of Gas Rate	\$ 0.3613	
86			
87	Indirect Cost of Gas	\$ (0.0088)	
88			
89	Total C&I HLF Cost of Gas Rate	\$ 0.4950	
90			
91			
92	COM/IND HIGH WINTER USE COST OF GAS RATE - 11/01/19	COGwh	\$ 0.6082 per therm
93		Maximum (COG+25%)	\$ 0.7603
94			
95	C&I LLF Demand Costs Allocated per SMBA	\$ 3,196,065	
96	PLUS: Residential Demand Reallocation to C&I LLF	\$ 195,354	
97	C&I LLF Total Adjusted Demand Costs	\$ 3,391,419	
98	C&I LLF Projected Prorated Sales (11/01/19 - 04/30/20)	15,521,733	
99	Demand Cost of Gas Rate	\$ 0.2185	
100			
101	C&I LLF Commodity Costs Allocated per SMBA	\$ 6,154,139	
102	PLUS: Residential Commodity Reallocation to C&I LLF	\$ 31,647	
103	C&I LLF Total Adjusted Commodity Costs	\$ 6,185,785	
104	C&I LLF Projected Prorated Sales (11/01/19 - 04/30/20)	15,521,733	
105	Commodity Cost of Gas Rate	\$ 0.3985	
106			
107	Indirect Cost of Gas	\$ (0.0088)	
108			
109	Total C&I LLF Cost of Gas Rate	\$ 0.6082	

48	CALCULATION OF FIRM SALES COST OF GAS RATE	
49	Period Covered: May 1, 2020 - October 31, 2020	
50		
51	Column A	Column D
52		
53	Total Anticipated Direct Cost of Gas	LN 16
54	Projected Prorated Sales (11/01/19 - 04/30/20)	Schedule 6-CAK, LN 11
55	Direct Cost of Gas Rate	LN 53 / LN 54
56		
57	Demand Cost of Gas Rate	Column B : SUM (LN 3 , LN 7 , LN 12) : COLUMN C: LN 5
58	Commodity Cost of Gas Rate	Column B : SUM (LN 4 , LN 8) : COLUMN C: LN 58 / LN 5
59	Total Direct Cost of Gas Rate	SUM (LN 57 : LN 58)
60		
61	Total Anticipated Indirect Cost of Gas	Column B : LN 44
62	Projected Prorated Sales (11/01/19 - 04/30/20)	Column B : LN 54
63	Indirect Cost of Gas	LN 61 / LN 62
64		
65		
66	TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 05/01/20	LN 59 + LN 63
67		
68	RESIDENTIAL COST OF GAS RATE - 11/01/19	LN 66
69		LN 68 * 1.25
70		
71		
72	COM/IND LOW WINTER USE COST OF GAS RATE - 11/01/19	LN 89
73		LN 72 * 1.25
74		
75	C&I HLF Demand Costs Allocated per SMBA	Schedule 7-CAK, LN 170
76	PLUS: Residential Demand Reallocation to C&I HLF	Schedule 12-CAK, LN 16
77	C&I HLF Total Adjusted Demand Costs	Sum (LN 75 : LN 76)
78	C&I HLF Projected Prorated Sales (11/01/19 - 04/30/20)	Schedule 6-CAK, LN 14
79	Demand Cost of Gas Rate	LN 77 / LN 78
80		
81	C&I HLF Commodity Costs Allocated per SMBA	Schedule 11-CAK, LN 83
82	PLUS: Residential Commodity Reallocation to C&I HLF	Schedule 12-CAK, LN 26
83	C&I HLF Total Adjusted Commodity Costs	Sum (LN 81 : LN 82)
84	C&I HLF Projected Prorated Sales (11/01/19 - 05/30/20)	LN 78
85	Commodity Cost of Gas Rate	LN 83 / LN 84
86		
87	Indirect Cost of Gas	LN 63
88		
89	Total C&I HLF Cost of Gas Rate	Sum (LN 79, LN 85, LN 87)
90		
91		
92	COM/IND HIGH WINTER USE COST OF GAS RATE - 11/01/19	LN 109
93		LN 92 * 1.25
94		
95	C&I LLF Demand Costs Allocated per SMBA	Schedule 7-CAK, LN 171
96	PLUS: Residential Demand Reallocation to C&I LLF	Schedule 12-CAK, LN 17
97	C&I LLF Total Adjusted Demand Costs	Sum (LN 95 : LN 96)
98	C&I LLF Projected Prorated Sales (11/01/19 - 04/30/20)	Schedule 6-CAK, LN 15
99	Demand Cost of Gas Rate	LN 97 / LN 98
100		
101	C&I LLF Commodity Costs Allocated per SMBA	Schedule 11-CAK, LN 84
102	PLUS: Residential Commodity Reallocation to C&I LLF	Schedule 12-CAK, LN 27
103	C&I LLF Total Adjusted Commodity Costs	Sum (LN 101 : LN 102)
104	C&I LLF Projected Prorated Sales (11/01/19 - 04/30/20)	LN 98
105	Commodity Cost of Gas Rate	LN 103 / LN 104
106		
107	Indirect Cost of Gas	LN 63
108		
109	Total C&I LLF Cost of Gas Rate	Sum (LN 99, LN 105, LN 107)

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Summary Schedule

New Hampshire Division
Period Covered: May 1, 2020 - October 31, 2020

Column A	Column B	Column C
110 <u>ANTICIPATED DIRECT COST OF GAS</u>		
111 Purchased Gas:		
112 Demand Costs:	\$ 374,176	
113 Supply Costs:	\$ 1,901,121	
114		
115 Storage & Peaking Gas:		
116 Demand, Capacity:	\$ 351,629	
117 Commodity Costs:	\$ 15,556	
118		
119 Inventory Finance Charge	\$ -	
120		
121 Capacity Release	\$ -	
122		
123 Re-entry Rate & Conversion Rate Revenues	\$ -	
124		
125 Total Anticipated Direct Cost of Gas		\$ 2,642,482
126		
127 <u>ANTICIPATED INDIRECT COST OF GAS</u>		
128 Adjustments:		
129 Prior Period Under/(Over) Collection	\$ (339,771)	
130 Interest	\$ (18,232)	
131 Refunds	\$ -	
132 Interruptible Margins	\$ -	
133 Total Adjustments		\$ (358,003)
134		
135 Working Capital:		
136 Total Anticipated Direct Cost of Gas	\$ 2,642,482	
137 Working Capital Allowance Percentage (10.02 [lag days]/365* prime rate)	<u>0.288%</u>	
138 Working Capital Allowance	\$ 7,609	
139 Plus: Working Capital Reconciliation (Acct. 173)	<u>\$ (8,605)</u>	
140		
141 Total Working Capital Allowance		\$ (996)
142		
143 Bad Debt:		
144 Projected Bad Debt	\$ 15,143	
145 Plus: Bad Debt Reconciliation (Acct 173)	<u>\$ (674)</u>	
146 Total Bad Debt Expense		\$ 14,469
147		
148 Local Production and Storage Capacity		\$ -
149		
150 Miscellaneous Overhead-19.45% Allocated to Summer Season		\$ 112,910
151		
152 Total Anticipated Indirect Cost of Gas		\$ (231,620)
153		
154 Total Cost of Gas		\$ 2,410,862
155		

(*) Prime Rate is 5.00%

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New Hampshire Division
Period Covered: May 1, 2020 - October 31, 2020

Column A	Column D
110 <u>ANTICIPATED DIRECT COST OF GAS</u>	
111 Purchased Gas:	
112 Demand Costs:	Schedule 5-CAK, LN 71
113 Supply Costs:	Schedule 9-CAK, LN 14
114	
115 Storage & Peaking Gas:	
116 Demand, Capacity:	Schedule 5-CAK, LN 73
117 Commodity Costs:	Schedule 9-CAK, LN 15 + Schedule 9-CAK, LN 16
118	
119 Inventory Finance Charge	-(Schedule 9-CAK, LN 20)
120	
121 Capacity Release	-(Schedule 5-CAK, LN 76)
122	
123 Re-entry Rate & Conversion Rate Revenues	
124	
125 Total Anticipated Direct Cost of Gas	Sum (LN 112 : LN 123)
126	
127 <u>ANTICIPATED INDIRECT COST OF GAS</u>	
128 Adjustments:	
129 Prior Period Under/(Over) Collection	Schedule 13-CAK, PG 1
130 Interest	Schedule 15-CAK, LN 95: Total
131 Refunds	Company Analysis
132 Interruptible Margins	-(Schedule 5-CAK, LN 77)
133 Total Adjustments	Sum (LN 129 : LN 132)
134	
135 Working Capital:	
136 Total Anticipated Direct Cost of Gas	LN 125
137 Working Capital Allowance Percentage (10.02 [lag days]/365* primTariff - NHPUC No. 12 , Section 6.1	
138 Working Capital Allowance	LN 136 * LN 137
139 Plus: Working Capital Reconciliation (Acct. 173)	Schedule 13-CAK, Attachment A
140	
141 Total Working Capital Allowance	Sum (LN 138 : LN 139)
142	
143 Bad Debt:	
144 Projected Bad Debt	Schedule 14-CAK, LN 17
145 Plus: Bad Debt Reconciliation (Acct 173)	Schedule 13-CAK, Attachment B
146 Total Bad Debt Expense	Sum (LN 144 : LN 145)
147	
148 Local Production and Storage Capacity	Schedule 5-CAK, LN 83
149	
150 Miscellaneous Overhead-19.45% Allocated to Summer Season	Schedule 5-CAK, LN 82
151	
152 Total Anticipated Indirect Cost of Gas	Sum (LN 133 : LN 150)
153	
154 Total Cost of Gas	LN 152 + LN 125
155	

(*) Prime Rate is 5.00%

NORTHERN UTILITIES, INC.

156
157 CALCULATION OF FIRM SALES COST OF GAS RATE
158 Period Covered: May 1, 2020 - October 31, 2020
159

160 Column A	Column B	Column C
161		
162 Total Anticipated Direct Cost of Gas	\$ 2,642,482	
163 Projected Prorated Sales (05/01/20 - 10/31/20)	8,708,801	
164 Direct Cost of Gas Rate		\$ 0.3034 per therm
165		
166 Demand Cost of Gas Rate	\$ 725,806	\$ 0.0833 per therm
167 Commodity Cost of Gas Rate	\$ 1,916,677	\$ 0.2201 per therm
168 Total Direct Cost of Gas Rate	\$ 2,642,482	\$ 0.3034 per therm
169		
170 Total Anticipated Indirect Cost of Gas	\$ (231,620)	
171 Projected Prorated Sales (05/01/20 - 10/31/20)	8,708,801	
172 Indirect Cost of Gas		\$ (0.0266) per therm
173		
174		
175 TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 05/01/20		\$ 0.2768 per therm

176	RESIDENTIAL COST OF GAS RATE - 05/01/20	COGwr	\$ 0.2768 per therm
177			
178	Maximum (COG+25%)		\$ 0.3460

179	COM/IND LOW WINTER USE COST OF GAS RATE - 05/01/20	COGwl	\$ 0.2443 per therm
180			
181	Maximum (COG+25%)		\$ 0.3054

182	C&I HLF Demand Costs Allocated per SMBA	\$ 124,606
183	PLUS: Residential Demand Reallocation to C&I HLF	\$ 12,788
184	C&I HLF Total Adjusted Demand Costs	\$ 137,394
185	C&I HLF Projected Prorated Sales (05/01/20 - 10/31/20)	2,702,383
186	Demand Cost of Gas Rate	\$ 0.0508
187		
188	C&I HLF Commodity Costs Allocated per SMBA	\$ 594,754
189	PLUS: Residential Commodity Reallocation to C&I HLF	\$ (27)
190	C&I HLF Total Adjusted Commodity Costs	\$ 594,727
191	C&I HLF Projected Prorated Sales (05/01/20 - 10/31/20)	2,702,383
192	Commodity Cost of Gas Rate	\$ 0.2201
193		
194	Indirect Cost of Gas	\$ (0.0266)
195		
196	Total C&I HLF Cost of Gas Rate	\$ 0.2443
197		

198	COM/IND HIGH WINTER USE COST OF GAS RATE - 05/01/20	COGwh	\$ 0.3116 per therm
199			
200	Maximum (COG+25%)		\$ 0.3895

201	C&I LLF Demand Costs Allocated per SMBA	\$ 271,219
202	PLUS: Residential Demand Reallocation to C&I LLF	\$ 27,835
203	C&I LLF Total Adjusted Demand Costs	\$ 299,054
204	C&I LLF Projected Prorated Sales (05/01/20 - 10/31/20)	2,532,740
205	Demand Cost of Gas Rate	\$ 0.1181
206		
207	C&I LLF Commodity Costs Allocated per SMBA	\$ 557,418
208	PLUS: Residential Commodity Reallocation to C&I LLF	\$ (25)
209	C&I LLF Total Adjusted Commodity Costs	\$ 557,393
210	C&I LLF Projected Prorated Sales (05/01/20 - 10/31/20)	2,532,740
211	Commodity Cost of Gas Rate	\$ 0.2201
212		
213	Indirect Cost of Gas	\$ (0.0266)
214		
215	Total C&I LLF Cost of Gas Rate	\$ 0.3116
216		
217		
218		

NORTHERN UTILITIES, INC.

156		
157	CALCULATION OF FIRM SALES COST OF GAS RATE	
158	Period Covered: May 1, 2020 - October 31, 2020	
159		
160	Column A	Column D
161		
162	Total Anticipated Direct Cost of Gas	LN 125
163	Projected Prorated Sales (05/01/20 - 10/31/20)	Schedule 6-CAK, LN 11
164	Direct Cost of Gas Rate	LN 162 / LN 163
165		
166	Demand Cost of Gas Rate	Column B : SUM (LN 112 , LN 116 , LN 121 , LN 123) : C
167	Commodity Cost of Gas Rate	Column B : SUM (LN 113 , LN 117 , LN 119) : COLUMN C
168	Total Direct Cost of Gas Rate	SUM (LN 166 : LN 167)
169		
170	Total Anticipated Indirect Cost of Gas	Column B : LN 152
171	Projected Prorated Sales (05/01/20 - 10/31/20)	Column B : LN 163
172	Indirect Cost of Gas	LN 170 / LN 171
173		
174		
175	TOTAL PERIOD AVERAGE COST OF GAS EFFECTIVE 05/01/20	LN 168 + LN 172
176		
177	RESIDENTIAL COST OF GAS RATE - 05/01/20	LN 175
178		LN 177 * 1.25
179		
180		
181	COM/IND LOW WINTER USE COST OF GAS RATE - 05/01/20	LN 198
182		LN 181 * 1.25
183		
184	C&I HLF Demand Costs Allocated per SMBA	Schedule 7-CAK, LN 170
185	PLUS: Residential Demand Reallocation to C&I HLF	Schedule 12-CAK, LN 16
186	C&I HLF Total Adjusted Demand Costs	Sum (LN 184 : LN 185)
187	C&I HLF Projected Prorated Sales (05/01/20 - 10/31/20)	Schedule 6-CAK, LN 14
188	Demand Cost of Gas Rate	LN 186 / LN 187
189		
190	C&I HLF Commodity Costs Allocated per SMBA	Schedule 11-CAK, LN 83
191	PLUS: Residential Commodity Reallocation to C&I HLF	Schedule 12-CAK, LN 26
192	C&I HLF Total Adjusted Commodity Costs	Sum (LN 190 : LN 191)
193	C&I HLF Projected Prorated Sales (05/01/20 - 10/31/20)	LN 187
194	Commodity Cost of Gas Rate	LN 192 / LN 193
195		
196	Indirect Cost of Gas	LN 172
197		
198	Total C&I HLF Cost of Gas Rate	Sum (LN 188, LN 194, LN 196)
199		
200		
201	COM/IND HIGH WINTER USE COST OF GAS RATE - 05/01/20	LN 218
202		LN 201 * 1.25
203		
204	C&I LLF Demand Costs Allocated per SMBA	Schedule 7-CAK, LN 171
205	PLUS: Residential Demand Reallocation to C&I LLF	Schedule 12-CAK, LN 17
206	C&I LLF Total Adjusted Demand Costs	Sum (LN 204 : LN 205)
207	C&I LLF Projected Prorated Sales (05/01/20 - 10/31/20)	Schedule 6-CAK, LN 15
208	Demand Cost of Gas Rate	LN 206 / LN 207
209		
210	C&I LLF Commodity Costs Allocated per SMBA	Schedule 11-CAK, LN 84
211	PLUS: Residential Commodity Reallocation to C&I LLF	Schedule 12-CAK, LN 27
212	C&I LLF Total Adjusted Commodity Costs	Sum (LN 210 : LN 211)
213	C&I LLF Projected Prorated Sales (05/01/20 - 10/31/20)	LN 207
214	Commodity Cost of Gas Rate	LN 212 / LN 213
215		
216	Indirect Cost of Gas	LN 172
217		
218	Total C&I LLF Cost of Gas Rate	Sum (LN 208, LN 214, LN 216)

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New Hampshire Division
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	Column A	Column B	Column C
219	<u>ANTICIPATED DIRECT COST OF GAS</u>		
220	Purchased Gas for Sales Service:		
221	Demand Costs:	\$ 1,774,154	
222	Supply Costs:	\$ 6,190,838	
223			
224	Storage & Peaking Gas for Sales Service:		
225	Demand, Capacity:	\$ 12,363,886	
226	Commodity Costs:	\$ 9,832,531	
227			
228	Inventory Finance Charge	\$ 2,734	
229			
230	Capacity Release	\$ (6,057,829)	
231			
232	Re-entry Rate & Conversion Rate Revenues	\$ (10,000)	
233			
234	Total Anticipated Direct Cost of Gas		\$ 24,096,313
235			
236	<u>ANTICIPATED INDIRECT COST OF GAS</u>		
237	Adjustments:		
238	Prior Period Under/(Over) Collection	\$ (1,746,720)	
239	Interest	\$ (47,346)	
240	Refunds	\$ -	
241	<u>Interruptible Margins</u>	\$ -	
242	Total Adjustments		\$ (1,794,066)
243			
244	Working Capital:		
245	Total Anticipated Direct Cost of Gas	\$ 24,096,313	
246	Working Capital Percentage	<u>0.2880%</u>	
247	Working Capital Allowance	\$ 69,387	
248			
249	Plus: Working Capital Reconciliation (Acct 173)	\$ (44,238)	
250			
251	Total Working Capital Allowance		\$ 25,149
252			
253	Bad Debt:		
254	Bad Debt Allowance	\$ 168,378	
255	Plus: Bad Debt Reconciliation (Acct 173)	\$ (3,466)	
256	Total Bad Debt Allowance		\$ 164,913
257			
258	Local Production and Storage Capacity		\$ 476,106
259			
260	Miscellaneous Overhead		\$ 580,455
261			
262	Total Anticipated Indirect Cost of Gas		\$ (547,443)
263			
264	Total Cost of Gas		<u>\$ 23,548,871</u>

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Column A	Column D
219 <u>ANTICIPATED DIRECT COST OF GAS</u>	
220 Purchased Gas for Sales Service:	
221 Demand Costs:	LN 3 + LN 112
222 Supply Costs:	LN 4 + LN 113
223	
224 Storage & Peaking Gas for Sales Service:	
225 Demand, Capacity:	LN 7 + LN 116
226 Commodity Costs:	LN 8 + LN 117
227	
228 Inventory Finance Charge	LN 10 + LN 119
229	
230 Capacity Release	LN 12 + LN 121
231	
232 Re-entry Rate & Conversion Rate Revenues	LN 14 + LN 123
233	
234 Total Anticipated Direct Cost of Gas	LN 16 + LN 125
235	
236 <u>ANTICIPATED INDIRECT COST OF GAS</u>	
237 Adjustments:	
238 Prior Period Under/(Over) Collection	LN 20 + LN 129
239 Interest	LN 21 + LN 130
240 Refunds	LN 22 + LN 131
241 <u>Interruptible Margins</u>	LN 23 + LN 132
242 Total Adjustments	LN 24 + LN 133
243	
244 Working Capital:	
245 Total Anticipated Direct Cost of Gas	LN 27 + LN 136
246 Working Capital Percentage	LN 28 + LN 137
247 Working Capital Allowance	LN 29 + LN 138
248	
249 Plus: Working Capital Reconciliation (Acct 173)	LN 31 + LN 139
250	
251 Total Working Capital Allowance	LN 33 + LN 141
252	
253 Bad Debt:	
254 Bad Debt Allowance	LN 36 + LN 144
255 Plus: Bad Debt Reconciliation (Acct 173)	LN 37 + LN 145
256 Total Bad Debt Allowance	LN 38 + LN 146
257	
258 Local Production and Storage Capacity	LN 40 + LN 148
259	
260 Miscellaneous Overhead	LN 42 + LN 150
261	
262 Total Anticipated Indirect Cost of Gas	LN 44 + LN 152
263	
264 Total Cost of Gas	LN 46 + LN 154

Northern Utilities New Hampshire Division
 Cost of Gas Rate Comparison - Residential Rate Classes
 (rates per therm)

Proposed Rates	2018-2019 Actual Cost of Gas Rates						Average	Variance
November 2019 - April 2020	Nov-18	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	Winter 18-19	
\$0.5861	\$0.8271	\$0.8953	\$0.8618	\$0.8618	\$0.7650	\$0.7650	\$0.8293	(\$0.2432)
May 2020 - October 2020	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Average Summer 2019	
\$0.2768	\$0.3670	\$0.3670	\$0.2646	\$0.2646	\$0.2646	\$0.2646	\$0.2987	(\$0.0219)

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical Residential Heating Bill - 759 therms/year Comparison of Winter 2019-2020 vs. Winter 2018-2019

			Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
1																	
2	Typical Usage: therms (*)		57	99	134	149	109	79	627	46	22	15	12	13	23	131	759
3	Winter 2019 - 2020																
4	Customer Charge	units @ \$ 22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$133.20								
5	First 50 units @	\$0.6920	\$34.60	\$34.60	\$34.60	\$34.60	\$34.60	\$34.60	\$207.60								
6	Over 50 units @	\$0.6920	\$4.99	\$33.99	\$58.08	\$68.61	\$41.04	\$19.80	\$226.51								
7	COG 1	\$0.5861	\$33.53						\$33.53								
8	COG 2	\$0.5861		\$58.09					\$58.09								
9	COG 3	\$0.5861			\$78.50				\$78.50								
10	COG 4	\$0.5861				\$87.42			\$87.42								
11	COG 5	\$0.5861					\$64.07		\$64.07								
12	COG 6	\$0.5861						\$46.08	\$46.08								
13	LDAC	\$0.0706	\$4.04	\$7.00	\$9.46	\$10.53	\$7.72	\$5.55	\$44.29								
14	Summer 2020																
15	Customer Charge	units @ \$ 22.20								\$ 22.20	\$22.20	\$22.20	\$22.20	\$ 22.20	\$22.20	\$133.20	
16	First 50 units @	\$0.6099								\$28.14	\$13.56	\$9.18	\$7.55	\$7.76	\$13.93	\$80.12	
17	Over 50 units @	\$0.6099								\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
20	COG 1	\$0.2768								\$12.77							\$12.77
21	COG 2	\$0.2768									\$6.16						\$6.16
22	COG 3	\$0.2768										\$4.17					\$4.17
23	COG 4	\$0.2768											\$3.43				\$3.43
24	COG 5	\$0.2768												\$3.52			\$3.52
25	COG 6	\$0.2768													\$6.32		\$6.32
26	Summer Period 2020 Weighted Avg. COG	\$0.2768															
27	LDAC	\$ 0.0706								\$3.26	\$1.57	\$1.06	\$0.87	\$0.90	\$1.61	\$9.27	
28	TOTAL		\$99.35	\$155.88	\$202.83	\$223.36	\$169.62	\$128.23	\$979.28	\$66.37	\$43.49	\$36.61	\$34.06	\$34.38	\$44.06	\$258.96	\$1,238.23
	Base Rate Change Winter 19-20 vs. Winter 18-19	\$ Change	\$2.33	\$3.42	\$4.32	\$4.72	\$3.68	\$2.88	\$21.35								
		% Change	2.10%	1.87%	1.84%	1.82%	1.99%	2.07%	1.92%								
	COG Change Winter 19-20 vs. Winter 18-19	\$ Change	-\$13.79	-\$30.65	-\$36.93	-\$41.12	-\$19.56	-\$14.06	-\$156.10								
		% Change	-12.45%	-16.75%	-15.70%	-15.84%	-10.55%	-10.10%	-14.02%								
	LDAC Change Winter 19-20 vs. Winter 18-19	\$ Change	\$0.09	\$0.15	\$0.20	\$0.22	\$0.16	\$0.12	\$0.94								
		% Change	0.08%	0.08%	0.09%	0.09%	0.09%	0.08%	0.08%								
27																	
28	Typical Usage: therms		57	99	134	149	109	79	627	46	22	15	12	13	23	131	759
29	Winter 2018 - 2019																
30	Customer Charge	units @ \$ 21.36	\$21.36	\$21.36	\$21.36	\$21.36	\$21.36	\$21.36	\$128.16								
31	First 50 units @	\$0.6660	\$33.30	\$33.30	\$33.30	\$33.30	\$33.30	\$33.30	\$199.80								
32	Over 50 units @	\$0.6660	\$4.80	\$32.71	\$55.90	\$66.03	\$39.50	\$19.06	\$218.00								
33	COG 1	\$0.8271	\$47.32						\$47.32								
34	COG 2	\$0.8953		\$88.74					\$88.74								
35	COG 3	\$0.8618			\$115.42				\$115.42								
36	COG 4	\$0.8618				\$128.54			\$128.54								
37	COG 5	\$0.7650					\$83.62		\$83.62								
38	COG 6	\$0.7650						\$60.14	\$60.14								
39	Winter Period 18-19 Weighted Avg. COG	\$0.8349															
40	LDAC	\$ 0.0691	\$3.95	\$6.85	\$9.25	\$10.31	\$7.55	\$5.43	\$43.35								
41	Summer 2019																
42	Customer Charge	units @ \$ 22.20								\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$133.20	
43	First 50 units @	\$0.6099								\$28.14	\$13.56	\$9.18	\$7.55	\$7.76	\$13.93	\$80.12	
44	Over 50 units @	\$0.6099								\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
45	COG 1	\$0.3670								\$16.93							\$16.93
46	COG 2	\$0.3670									\$8.16						\$8.16
47	COG 3	\$0.2646										\$3.98					\$3.98
48	COG 4	\$0.2646											\$3.28				\$3.28
49	COG 5	\$0.2646												\$3.37			\$3.37
50	COG 6	\$0.2646													\$6.04		\$6.04
51	Summer Period 2019 Weighted Avg. COG	\$0.3179															
52	LDAC	\$ 0.0675								\$3.11	\$1.50	\$1.02	\$0.84	\$0.86	\$1.54	\$8.87	
53	TOTAL		\$110.73	\$182.97	\$235.24	\$259.53	\$185.33	\$139.29	\$1,113.09	\$70.38	\$45.42	\$36.38	\$33.87	\$34.18	\$43.71	\$263.95	\$1,377.03
54	Change		(\$11.37)	(\$27.08)	(\$32.40)	(\$36.18)	(\$15.71)	(\$11.06)	(\$133.81)	(\$4.02)	(\$1.94)	\$0.23	\$0.19	\$0.19	\$0.35	(\$4.99)	(\$138.80)
55	% Chg		-10.27%	-14.80%	-13.77%	-13.94%	-8.48%	-7.94%	-12.0%	-5.71%	-4.26%	0.63%	0.56%	0.57%	0.80%	-1.89%	-10.08%

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

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical G-40 Commercial & Industrial Bill - 2,066 therms/year

Comparison of Winter 2019-2020 vs. Winter 2018-2019

Northern Utilities, Inc.
New Hampshire Division
Schedule 3-SED
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			Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
1			145	265	390	407	327	237	1,771	112	58	30	26	31	38	295	2,066
2	Typical Usage: therms (*)																
3	Winter 2019 - 2020																
4	Customer Charge	units @	\$ 75.09						\$450.54								
5	First	75 units @	\$0.1865						\$83.93								
6	Over	75 units @	\$0.1865						\$246.37								
7	COG 1		\$88.19						\$88.19								
8	COG 2			\$161.17					\$161.17								
9	COG 3				\$237.20				\$237.20								
10	COG 4					\$247.54			\$247.54								
11	COG 5						\$198.88		\$198.88								
12	COG 6							\$144.14	\$144.14								
13	LDAC		\$0.0359					\$8.51	\$63.58								
14	Summer 2020																
15	Customer Charge	units @	\$ 75.09							\$ 75.09	\$75.09	\$75.09	\$75.09	\$ 75.09	\$75.09	\$450.54	
16	First	75 units @	\$0.1865							\$13.99	\$10.82	\$5.60				\$30.40	
17	Over	75 units @	\$0.1865							\$6.90	\$0.00	\$0.00				\$6.90	
18	COG 1		\$0.3116							\$34.90						\$34.90	
19	COG 2		\$0.3116								\$18.07					\$18.07	
20	COG 3		\$0.3116									\$9.35				\$9.35	
21	COG 4		\$0.3116										\$8.10			\$8.10	
22	COG 5		\$0.3116											\$9.66		\$9.66	
23	COG 6		\$0.3116												\$11.84	\$11.84	
24	Summer Period 2020 Weighted Avg. COG		\$0.3116														
25	LDAC		\$ 0.0359							\$4.02	\$2.08	\$1.08	\$0.93	\$1.11	\$1.36	\$10.59	
26	TOTAL								\$1,921.53	\$134.90	\$106.06	\$91.11	\$84.13	\$85.86	\$88.30	\$590.35	\$2,511.89
	Base Rate Change Winter 19-20 vs. Winter 18-19	\$ Change	\$3.85	\$4.69	\$5.56	\$5.68	\$5.12	\$4.49	\$29.38								
		% Change	2%	1%	1%	1%	1%	1%	1%								
	COG Change Winter 19-20 vs. Winter 18-19	\$ Change	-\$33.96	-\$80.14	-\$104.87	-\$109.44	-\$56.28	-\$40.79	-\$425.47								
		% Change	-15%	-22%	-21%	-21%	-14%	-13%	-18%								
	LDAC Change Winter 19-20 vs. Winter 18-19	\$ Change	-\$0.54	-\$0.98	-\$1.44	-\$1.51	-\$1.21	-\$0.88	-\$6.55								
		% Change	-0.2%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%	-0.3%								
27			Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
28	Typical Usage: therms		145	265	390	407	327	237	1,771	112	58	30	26	31	38	295	2,066
29	Winter 2018 - 2019																
30	Customer Charge	units @	\$ 72.26						\$433.56								
31	First	75 units @	\$0.1795						\$80.78								
32	Over	75 units @	\$0.1795						\$237.12								
33	COG 1		\$122.15						\$122.15								
34	COG 2			\$241.31					\$241.31								
35	COG 3				\$342.07				\$342.07								
36	COG 4					\$356.98			\$356.98								
37	COG 5						\$255.16		\$255.16								
38	COG 6							\$184.93	\$184.93								
39	Winter Period 18-19 Weighted Avg. COG		\$0.8484														
40	LDAC		\$ 0.0396						\$70.13								
41	Summer 2019																
42	Customer Charge	units @	\$ 75.09							\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$450.54	
43	First	75 units @	\$0.1865							\$13.99	\$10.82	\$5.60	\$4.85	\$5.78	\$7.09	\$48.12	
44	Over	75 units @	\$0.1865							\$6.90	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$6.90	
45	COG 1		\$0.3958							\$44.33						\$44.33	
46	COG 2		\$0.3958								\$22.96					\$22.96	
47	COG 3		\$0.2934									\$8.80				\$8.80	
48	COG 4		\$0.2934										\$7.63			\$7.63	
49	COG 5		\$0.2934											\$9.10		\$9.10	
50	COG 6		\$0.2934												\$11.15	\$11.15	
51	Summer Period 2019 Weighted Avg. COG		\$0.3524														
52	LDAC		\$ 0.0380							\$4.26	\$2.20	\$1.14	\$0.99	\$1.18	\$1.44	\$11.21	
53	TOTAL								\$2,324.18	\$144.56	\$111.07	\$90.63	\$88.56	\$91.14	\$94.77	\$620.73	\$2,944.91
54	Change								(\$402.65)	(\$9.67)	(\$5.01)	\$0.48	(\$4.43)	(\$5.28)	(\$6.48)	(\$30.38)	(\$433.02)
55	% Chg								-17.32%	-6.69%	-4.51%	0.53%	-5.00%	-5.80%	-6.83%	-4.89%	-14.70%

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

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical G-41 Commercial & Industrial Bill - 20,667 therms/year

Comparison of Winter 2019-2020 vs. Winter 2018-2019

Northern Utilities, Inc.
New Hampshire Division
Schedule 3-SED
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			Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
1			1,665	2,567	3,605	3,735	3,064	2,162	16,798	1,219	755	443	412	451	589	3,869	20,667
2	Typical Usage: therms (*)																
3	Winter 2019 - 2020																
4	Customer Charge	units @ \$ 222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84								
5	All	units @ \$0.2425	\$403.76	\$622.50	\$874.21	\$905.74	\$743.02	\$524.29	\$4,073.52								
6	COG 1	\$0.6082	\$1,012.65						\$1,012.65								
7	COG 2	\$0.6082		\$1,561.25					\$1,561.25								
8	COG 3	\$0.6082			\$2,192.56				\$2,192.56								
9	COG 4	\$0.6082				\$2,271.63			\$2,271.63								
10	COG 5	\$0.6082					\$1,863.52		\$1,863.52								
11	COG 6	\$0.6082						\$1,314.93	\$1,314.93								
12	LDAC	\$0.0359	\$59.77	\$92.16	\$129.42	\$134.09	\$110.00	\$77.62	\$603.05								
13	Summer 2020																
14	Customer Charge	units @ \$ 222.64								\$ 222.64	\$222.64	\$222.64	\$222.64	\$ 222.64	\$222.64	\$1,335.84	
15	All	units @ \$0.1895								\$231.00	\$143.07	\$83.95	\$78.07	\$85.46	\$111.62	\$733.18	
16	COG 1	\$0.3116								\$379.84						\$379.84	
17	COG 2	\$0.3116									\$235.26					\$235.26	
18	COG 3	\$0.3116										\$138.04				\$138.04	
19	COG 4	\$0.3116											\$128.38			\$128.38	
20	COG 5	\$0.3116												\$140.53		\$140.53	
21	COG 6	\$0.3116													\$183.53	\$183.53	
22	Summer Period 2020 Weighted Avg. COG	\$0.3116															
23	LDAC	\$ 0.0359								\$43.76	\$27.10	\$15.90	\$14.79	\$16.19	\$21.15	\$138.90	
24	TOTAL		\$1,698.83	\$2,498.54	\$3,418.83	\$3,534.09	\$2,939.18	\$2,139.47	\$16,228.95	\$877.24	\$628.08	\$460.53	\$443.88	\$464.83	\$538.93	\$3,413.49	\$19,642.44
Base Rate Change Winter 19-20 vs. Winter 18-19			\$23.53	\$31.74	\$41.19	\$42.37	\$36.26	\$28.05	\$203.14								
% Change			1.14%	0.98%	0.94%	0.94%	1.05%	1.13%	1.01%								
COG Change Winter 19-20 vs. Winter 18-19			-\$389.94	-\$776.26	-\$969.38	-\$1,004.34	-\$527.31	-\$372.08	-\$4,039.32								
% Change			-18.83%	-23.87%	-22.23%	-22.27%	-15.32%	-14.93%	-20.07%								
LDAC Change Winter 19-20 vs. Winter 18-19			-\$6.16	-\$9.50	-\$13.34	-\$13.82	-\$11.34	-\$8.00	-\$62.15								
% Change			-0.297%	-0.292%	-0.306%	-0.306%	-0.329%	-0.321%	-0.309%								
25			Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
26	Typical Usage: therms		1,665	2,567	3,605	3,735	3,064	2,162	16,798	1,219	755	443	412	451	589	3,869	20,667
27	Winter 2018 - 2019																
28	Customer Charge	units @ \$ 214.26	\$214.26	\$214.26	\$214.26	\$214.26	\$214.26	\$214.26	\$1,285.56								
29	All	units @ \$0.2334	\$388.61	\$599.14	\$841.41	\$871.75	\$715.14	\$504.61	\$3,920.65								
30	COG 1	\$0.8424	\$1,402.60						\$1,402.60								
31	COG 2	\$0.9106		\$2,337.51					\$2,337.51								
32	COG 3	\$0.8771			\$3,161.95				\$3,161.95								
33	COG 4	\$0.8771				\$3,275.97			\$3,275.97								
34	COG 5	\$0.7803					\$2,390.84		\$2,390.84								
35	COG 6	\$0.7803						\$1,687.01	\$1,687.01								
36	Winter Period 18-19 Weighted Avg. COG	\$0.8487															
37	LDAC	\$ 0.0396	\$65.93	\$101.65	\$142.76	\$147.91	\$121.33	\$85.62	\$665.20								
38	Summer 2019																
39	Customer Charge	units @ \$ 222.64								\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84	
40	All	units @ \$0.1895								\$231.00	\$143.07	\$83.95	\$78.07	\$85.46	\$111.62	\$733.18	
41	COG 1	\$0.3958								\$482.48						\$482.48	
42	COG 2	\$0.3958									\$298.83					\$298.83	
43	COG 3	\$0.2934										\$129.98				\$129.98	
44	COG 4	\$0.2934											\$120.88			\$120.88	
45	COG 5	\$0.2934												\$132.32		\$132.32	
46	COG 6	\$0.2934													\$172.81	\$172.81	
47	Summer Period 2019 Weighted Avg. COG	\$0.3456															
48	LDAC	\$ 0.0380								\$46.32	\$28.69	\$16.83	\$15.66	\$17.14	\$22.38	\$147.02	
49	TOTAL		\$2,071.40	\$3,252.56	\$4,360.37	\$4,509.88	\$3,441.57	\$2,491.49	\$20,127.28	\$982.44	\$693.23	\$453.40	\$437.25	\$457.57	\$529.45	\$3,553.34	\$23,680.62
50	Change		(\$372.57)	(\$754.02)	(\$941.54)	(\$975.79)	(\$502.39)	(\$352.03)	(\$3,898.34)	(\$105.20)	(\$65.16)	\$7.13	\$6.63	\$7.26	\$9.48	(\$139.85)	(\$4,038.18)
51	% Chg		-17.99%	-23.18%	-21.59%	-21.64%	-14.60%	-14.13%	-19.37%	-10.71%	-9.40%	1.57%	1.52%	1.59%	1.79%	-3.94%	-17.05%

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

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical G-51 Commercial & Industrial Bill - 17,593 therms/year
Comparison of Winter 2019-2020 vs. Winter 2018-2019

		Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
1	Typical Usage: therms (*)	1,369	1,582	1,899	1,882	1,798	1,517	10,047	1,393	1,305	1,186	1,207	1,171	1,284	7,546	17,593
3	Winter 2019 - 2020															
4	Customer Charge units @ \$ 222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84								
5	First 1,300 units @ \$0.1712	\$222.56	\$222.56	\$222.56	\$222.56	\$222.56	\$222.56	\$1,335.36								
6	Over 1,300 units @ \$0.1399	\$9.65	\$39.45	\$83.80	\$81.42	\$69.67	\$30.36	\$314.36								
7	COG 1 \$0.4950	\$677.66						\$677.66								
8	COG 2 \$0.4950		\$783.09					\$783.09								
9	COG 3 \$0.4950			\$940.01				\$940.01								
10	COG 4 \$0.4950				\$931.59			\$931.59								
11	COG 5 \$0.4950					\$890.01		\$890.01								
12	COG 6 \$0.4950						\$750.92	\$750.92								
13	LDAC \$0.0359	\$49.15	\$56.79	\$68.17	\$67.56	\$64.55	\$54.46	\$360.69								
14	Summer 2020															
15	Customer Charge units @ \$ 222.64								\$ 222.64	\$222.64	\$222.64	\$222.64	\$ 222.64	\$222.64	\$1,335.84	
16	First 1,000 units @ \$0.1337								\$133.70	\$133.70	\$133.70				\$401.10	
17	Over 1,000 units @ \$0.1087								\$42.72	\$33.15	\$20.22				\$96.09	
18	COG 1 \$0.2443								\$340.31						\$340.31	
19	COG 2 \$0.2443									\$318.81					\$318.81	
20	COG 3 \$0.2443										\$289.74				\$289.74	
21	COG 4 \$0.2443											\$294.87			\$294.87	
22	COG 5 \$0.2443												\$286.08		\$286.08	
23	COG 6 \$0.2443													\$313.68	\$313.68	
24	Summer Period 2020 Weighted Avg. COG \$0.2443															
25	LDAC \$ 0.0359								\$50.01	\$46.85	\$42.58	\$43.33	\$42.04	\$46.10	\$270.90	
26	TOTAL	\$1,181.66	\$1,324.54	\$1,537.18	\$1,525.78	\$1,469.43	\$1,280.93	\$8,319.51	\$789.38	\$755.15	\$708.88	\$560.84	\$550.75	\$582.42	\$3,947.42	\$12,266.93
	Base Rate Change Winter 19-20 vs. Winter 18-19 \$ Change	\$17.07	\$18.19	\$19.87	\$19.78	\$19.34	\$17.85	\$112.11								
	% Change	1.15%	1.02%	0.98%	0.98%	1.10%	1.17%	1.06%								
	COG Change Winter 19-20 vs. Winter 18-19 \$ Change	-\$315.42	-\$472.39	-\$503.42	-\$498.92	-\$302.60	-\$255.31	-\$2,348.06								
	% Change	-21.24%	-26.47%	-24.83%	-24.80%	-17.20%	-16.75%	-22.17%								
	LDAC Change Winter 19-20 vs. Winter 18-19 \$ Change	-\$5.07	-\$5.85	-\$7.03	-\$6.96	-\$6.65	-\$5.61	-\$37.17								
	% Change	-0.34%	-0.33%	-0.35%	-0.35%	-0.38%	-0.37%	-0.35%								
27		Nov	Dec	Jan	Feb	Mar	Apr	Winter	May	June	July	August	Sept	October	Summer	Annual
28	Typical Usage: therms	1,369	1,582	1,899	1,882	1,798	1,517	10,047	1,393	1,305	1,186	1,207	1,171	1,284	7,546	17,593
29	Winter 2018 - 2019															
30	Customer Charge units @ \$ 214.26	\$214.26	\$214.26	\$214.26	\$214.26	\$214.26	\$214.26	\$1,285.56								
31	First 1,300 units @ \$0.1648	\$214.24	\$214.24	\$214.24	\$214.24	\$214.24	\$214.24	\$1,285.44								
32	Over 1,300 units @ \$0.1346	\$9.29	\$37.96	\$80.63	\$78.34	\$67.03	\$29.21	\$302.45								
33	COG 1 \$0.7254	\$993.07						\$993.07								
34	COG 2 \$0.7936		\$1,255.48					\$1,255.48								
35	COG 3 \$0.7601			\$1,443.43				\$1,443.43								
36	COG 4 \$0.7601				\$1,430.51			\$1,430.51								
37	COG 5 \$0.6633					\$1,192.61		\$1,192.61								
38	COG 6 \$0.6633						\$1,006.23	\$1,006.23								
39	Winter Period 18-19 Weighted Avg. COG \$0.7287															
40	LDAC \$ 0.0396	\$54.21	\$62.65	\$75.20	\$74.53	\$71.20	\$60.07	\$397.86								
41	Summer 2019															
42	Customer Charge units @ \$ 222.64								\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84	
43	First 1,000 units @ \$0.1337								\$133.70	\$133.70	\$133.70	\$133.70	\$133.70	\$133.70	\$802.20	
44	Over 1,000 units @ \$0.1087								\$42.72	\$33.15	\$20.22	\$22.50	\$18.59	\$30.87	\$168.05	
45	COG 1 \$0.3269								\$455.37						\$455.37	
46	COG 2 \$0.3269									\$426.60					\$426.60	
47	COG 3 \$0.2245										\$266.26				\$266.26	
48	COG 4 \$0.2245											\$270.97			\$270.97	
49	COG 5 \$0.2245												\$262.89		\$262.89	
50	COG 6 \$0.2245													\$288.26	\$288.26	
51	Summer Period 2019 Weighted Avg. COG \$0.2611															
52	LDAC \$ 0.0380								\$52.93	\$49.59	\$45.07	\$45.87	\$44.50	\$48.79	\$286.75	
53	TOTAL	\$1,485.07	\$1,784.58	\$2,027.76	\$2,011.87	\$1,759.35	\$1,524.01	\$10,592.63	\$907.36	\$865.69	\$687.88	\$695.68	\$682.32	\$724.26	\$4,563.19	\$15,155.82
54	Change	(\$303.42)	(\$460.04)	(\$490.58)	(\$486.10)	(\$289.92)	(\$243.07)	(\$2,273.13)	(\$117.99)	(\$110.53)	\$20.99	(\$134.84)	(\$131.56)	(\$141.84)	(\$615.77)	(\$2,888.90)
55	% Chg	-20.43%	-25.78%	-24.19%	-24.16%	-16.48%	-15.95%	-21.46%	-13.00%	-12.77%	3.05%	-19.38%	-19.28%	-19.58%	-13.49%	-19.06%

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

NORTHERN UTILITIES, INC. -- NEW HAMPSHIRE DIVISION
Impact of Rate Changes on Residential Heating Bills by Usage Level
Forecast Winter 2019-2020 vs. Actual Winter 2018-2019

Northern Utilities, Inc.
New Hampshire Division
Schedule 3-SED
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<u>Residential Heating</u>		
	<u>Winter 2018- 2019</u>	<u>Winter 2019- 2020</u>
Customer Charge	\$21.36	\$22.20
First 50 Therms	\$0.6660	\$0.6920
Over 50 therms	\$0.6660	\$0.6920
LDAC	\$0.0691	\$0.0706
CGA	\$0.8349	\$0.5861

Usage (Therms)	Winter 2018-2019 Bill Amount	Winter 2019-2020 Bill Amount	Total Bill		Base Rate		CGA		LDAC		
5	\$29.21	\$28.94	(\$0.27)	-0.9%	\$0.13	0.4%	(\$1.24)	-4.2%	\$0.01	0.0%	
10	\$37.06	\$35.69	(\$1.37)	-3.7%	\$0.26	0.7%	(\$2.49)	-6.7%	\$0.02	0.1%	
20	\$52.76	\$49.17	(\$3.59)	-6.8%	\$0.52	1.0%	(\$4.98)	-9.4%	\$0.03	0.1%	
25	\$60.61	\$55.92	(\$4.69)	-7.7%	\$0.65	1.1%	(\$6.22)	-10.3%	\$0.04	0.1%	
30	\$68.46	\$62.66	(\$5.80)	-8.5%	\$0.78	1.1%	(\$7.46)	-10.9%	\$0.05	0.1%	
45	\$92.01	\$82.89	(\$9.12)	-9.9%	\$1.17	1.3%	(\$11.20)	-12.2%	\$0.07	0.1%	
50	\$99.86	\$89.64	(\$10.23)	-10.2%	\$1.30	1.3%	(\$12.44)	-12.5%	\$0.08	0.1%	
75	\$139.11	\$123.35	(\$15.76)	-11.3%	\$1.95	1.4%	(\$18.66)	-13.4%	\$0.11	0.1%	
Monthly*	125	\$217.61	\$190.79	(\$26.83)	-12.3%	\$3.25	1.5%	(\$31.10)	-14.3%	\$0.19	0.1%
	150	\$256.86	\$224.51	(\$32.36)	-12.6%	\$3.90	1.5%	(\$37.32)	-14.5%	\$0.23	0.1%
	200	\$335.37	\$291.94	(\$43.43)	-12.9%	\$5.20	1.6%	(\$49.77)	-14.8%	\$0.30	0.1%

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

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical Residential Heating Bill - 131 therms/Summer **Comparison of Summer 2020 vs. Summer 2019**

			May	June	July	August	Sept	October	Summer
1									
2	Typical Usage: therms(*)		46	22	15	12	13	23	131
3	Summer 2020								
4	Customer Charge	units @ \$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$133.20
5	First	50 units @ \$0.6099	\$28.14	\$13.56	\$9.18	\$7.55	\$7.76	\$13.93	\$80.12
6	Over	50 units @ \$0.6099	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
7		COG 1 \$0.2768	\$12.77						\$12.77
8		COG 2 \$0.2768		\$6.16					\$6.16
9		COG 3 \$0.2768			\$4.17				\$4.17
10		COG 4 \$0.2768				\$3.43			\$3.43
11		COG 5 \$0.2768					\$3.52		\$3.52
12		COG 6 \$0.2768						\$6.32	\$6.32
13	Summer Period 2020 Avg. COG	\$0.2768 *							
14	LDAC	\$0.0706	\$3.26	\$1.57	\$1.06	\$0.87	\$0.90	\$1.61	\$9.27
15	TOTAL		\$66.37	\$43.49	\$36.61	\$34.06	\$34.38	\$44.06	\$258.96
	Base Rate Change Winter 19-20 vs. Winter 18-19	\$ Change	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
		% Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	COG Change Winter 19-20 vs. Winter 18-19	\$ Change	-\$4.16	-\$2.01	\$0.18	\$0.15	\$0.16	\$0.28	-\$5.40
		% Change	-5.91%	-4.42%	0.50%	0.45%	0.45%	0.64%	-2.05%
	LDAC Change Winter 19-20 vs. Winter 18-19	\$ Change	\$0.14	\$0.07	\$0.05	\$0.04	\$0.04	\$0.07	\$0.41
		% Change	0.20%	0.15%	0.13%	0.11%	0.12%	0.16%	0.15%
16									
17	Typical Usage: therms		46	22	15	12	13	23	131
18	Summer 2019								
19	Customer Charge	units @ \$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$22.20	\$133.20
20	First	50 units @ \$0.6099	\$28.14	\$13.56	\$9.18	\$7.55	\$7.76	\$13.93	\$80.12
21	Over	50 units @ \$0.6099	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22		COG 1 \$0.3670	\$16.93						\$16.93
23		COG 2 \$0.3670		\$8.16					\$8.16
24		COG 3 \$0.2646			\$3.98				\$3.98
25		COG 4 \$0.2646				\$3.28			\$3.28
26		COG 5 \$0.2646					\$3.37		\$3.37
27		COG 6 \$0.2646						\$6.04	\$6.04
28	Summer Period 2019 Avg. COG	\$0.3179 *							
29	LDAC	\$0.0675	\$3.11	\$1.50	\$1.02	\$0.84	\$0.86	\$1.54	\$8.87
30	TOTAL		\$70.38	\$45.42	\$36.38	\$33.87	\$34.18	\$43.71	\$263.95
31	Change		-\$4.02	-\$1.94	\$0.23	\$0.19	\$0.19	\$0.35	-\$4.99
32	% Chg		-5.71%	-4.26%	0.63%	0.56%	0.57%	0.80%	-1.89%

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

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical G-40 Commercial & Industrial Bill - 295 therms/Summer

Comparison of Summer 2020 vs. Summer 2019

			May	June	July	August	Sept	October	Summer
1									
2	Typical Usage: therms(*)		112	58	30	26	31	38	<u>295</u>
3	Summer 2020								
4	Customer Charge	units @ \$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$450.54
5	First	75 units @ \$0.1865	\$13.99	\$10.82	\$5.60	\$4.85	\$5.78	\$7.09	\$48.12
6	Over	75 units @ \$0.1865	\$6.90	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$6.90
7		COG 1 \$0.3116	\$34.90						\$34.90
8		COG 2 \$0.3116		\$18.07					\$18.07
9		COG 3 \$0.3116			\$9.35				\$9.35
10		COG 4 \$0.3116				\$8.10			\$8.10
11		COG 5 \$0.3116					\$9.66		\$9.66
12		COG 6 \$0.3116						\$11.84	\$11.84
13	Summer Period 2020 Avg. COG \$0.3116*								
14	LDAC	\$0.0359	\$4.02	\$2.08	\$1.08	\$0.93	\$1.11	\$1.36	\$10.59
15	TOTAL		\$134.90	\$106.06	\$91.11	\$88.97	\$91.64	\$95.38	\$608.07
	Base Rate Change Winter 19-20 vs. Winter 18-19	\$ Change	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
		% Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	COG Change Winter 19-20 vs. Winter 18-19	\$ Change	-\$9.43	-\$4.88	\$0.55	\$0.47	\$0.56	\$0.69	-\$12.04
		% Change	-6.52%	-4.40%	0.60%	0.53%	0.62%	0.73%	-1.94%
	LDAC Change Winter 19-20 vs. Winter 18-19	\$ Change	-\$0.24	-\$0.12	-\$0.06	-\$0.05	-\$0.07	-\$0.08	-\$0.62
		% Change	-0.16%	-0.11%	-0.07%	-0.06%	-0.07%	-0.08%	-0.10%
16									
17	Typical Usage: therms		112	58	30	26	31	38	<u>295</u>
18	Summer 2019								
19	Customer Charge	units @ \$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$75.09	\$450.54
20	First	75 units @ \$0.1865	\$13.99	\$10.82	\$5.60	\$4.85	\$5.78	\$7.09	\$48.12
21	Over	75 units @ \$0.1865	\$6.90	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$6.90
22		COG 1 \$0.3958	\$44.33						\$44.33
23		COG 2 \$0.3958		\$22.96					\$22.96
24		COG 3 \$0.2934			\$8.80				\$8.80
25		COG 4 \$0.2934				\$7.63			\$7.63
26		COG 5 \$0.2934					\$9.10		\$9.10
27		COG 6 \$0.2934						\$11.15	\$11.15
28	Summer Period 2019 Avg. COG \$0.3524*								
29	LDAC	\$0.0380	\$4.26	\$2.20	\$1.14	\$0.99	\$1.18	\$1.44	\$11.21
30	TOTAL		\$144.56	\$111.07	\$90.63	\$88.56	\$91.14	\$94.77	\$620.73
31	Change		-\$9.67	-\$5.01	\$0.48	\$0.42	\$0.50	\$0.61	-\$12.66
32	% Chg		-6.69%	-4.51%	0.53%	0.47%	0.55%	0.65%	-2.04%

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

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical G-41 Commercial & Industrial Bill - 3,869 therms/Summer

Comparison of Summer 2020 vs. Summer 2019

			May	June	July	August	Sept	October	Summer
1									
2	Typical Usage: therms(1)		1,219	755	443	412	451	589	<u>3,869</u>
3	Summer 2020								
4	Customer Charge	units @	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84
5	All	units @	\$0.1895	\$231.00	\$143.07	\$83.95	\$78.07	\$85.46	\$111.62
6		COG 1	\$0.3116	\$379.84					\$379.84
7		COG 2	\$0.3116		\$235.26				\$235.26
8		COG 3	\$0.3116			\$138.04			\$138.04
9		COG 4	\$0.3116				\$128.38		\$128.38
10		COG 5	\$0.3116					\$140.53	\$140.53
11		COG 6	\$0.3116						\$183.53
12	Summer Period 2020 Avg. COG		\$0.3116*						
13	LDAC		\$0.0359	\$43.76	\$27.10	\$15.90	\$14.79	\$16.19	\$21.15
14	TOTAL			\$877.24	\$628.08	\$460.53	\$443.88	\$464.83	\$538.93

Base Rate Change Winter 19-20 vs. Winter 18-19	\$ Change	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
	% Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
COG Change Winter 19-20 vs. Winter 18-19	\$ Change	-\$102.64	-\$63.57	\$8.06	\$7.50	\$8.21	\$10.72	-\$131.72	-\$131.72
	% Change	-10.45%	-9.17%	1.78%	1.71%	1.79%	2.02%	-3.71%	-3.71%
LDAC Change Winter 19-20 vs. Winter 18-19	\$ Change	-\$2.56	-\$1.59	-\$0.93	-\$0.87	-\$0.95	-\$1.24	-\$8.12	-\$8.12
	% Change	-0.26%	-0.23%	-0.21%	-0.20%	-0.21%	-0.23%	-0.23%	-0.23%

			May	June	July	August	Sept	October	Summer
15									
16	Typical Usage: therms		1,219	755	443	412	451	589	<u>3,869</u>
17	Summer 2019								
18	Customer Charge	units @	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84
19	All	units @	\$0.1895	\$231.00	\$143.07	\$83.95	\$78.07	\$85.46	\$111.62
20		COG 1	\$0.3958	\$482.48					\$482.48
21		COG 2	\$0.3958		\$298.83				\$298.83
22		COG 3	\$0.2934			\$129.98			\$129.98
23		COG 4	\$0.2934				\$120.88		\$120.88
24		COG 5	\$0.2934					\$132.32	\$132.32
25		COG 6	\$0.2934						\$172.81
26	Summer Period 2019 Avg. COG		\$0.3456*						
27	LDAC		\$0.0380	\$46.32	\$28.69	\$16.83	\$15.66	\$17.14	\$22.38
28	TOTAL			\$982.44	\$693.23	\$453.40	\$437.25	\$457.57	\$529.45
29	Change			-\$105.20	-\$65.16	\$7.13	\$6.63	\$7.26	\$9.48
30	% Chg			-10.71%	-9.40%	1.57%	1.52%	1.59%	1.79%

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

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION

Typical G-51 Commercial & Industrial Bill - 7,546 therms/Summer

Comparison of Summer 2020 vs. Summer 2019

			May	June	July	August	Sept	October	Summer
1									
2	Typical Usage: therms(1)		1,393	1,305	1,186	1,207	1,171	1,284	<u>7,546</u>
3	Summer 2020								
4	Customer Charge	units @ \$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84
5	First	1,000 units @ \$0.1337	\$133.70	\$133.70	\$133.70	\$133.70	\$133.70	\$133.70	\$802.20
6	Over	1,000 units @ \$0.1087	\$42.72	\$33.15	\$20.22	\$22.50	\$18.59	\$30.87	\$168.05
7		COG 1 \$0.2443	\$340.31						\$340.31
8		COG 2 \$0.2443		\$318.81					\$318.81
9		COG 3 \$0.2443			\$289.74				\$289.74
10		COG 4 \$0.2443				\$294.87			\$294.87
11		COG 5 \$0.2443					\$286.08		\$286.08
12		COG 6 \$0.2443						\$313.68	\$313.68
13	Summer Period 2020 Avg. COG	\$0.2443 *							
14	LDAC	\$0.0359	\$50.01	\$46.85	\$42.58	\$43.33	\$42.04	\$46.10	\$270.90
15	TOTAL		\$789.38	\$755.15	\$708.88	\$717.04	\$703.04	\$746.99	\$4,420.48
	Base Rate Change Winter 19-20 vs. Winter 18-19	\$ Change	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
		% Change	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	COG Change Winter 19-20 vs. Winter 18-19	\$ Change	-\$115.06	-\$107.79	\$23.48	\$23.90	\$23.19	\$25.42	-\$126.86
		% Change	-12.68%	-12.45%	3.41%	3.44%	3.40%	3.51%	-2.78%
	LDAC Change Winter 19-20 vs. Winter 18-19	\$ Change	-\$2.93	-\$2.74	-\$2.49	-\$2.53	-\$2.46	-\$2.70	-\$15.85
		% Change	-0.32%	-0.32%	-0.36%	-0.36%	-0.36%	-0.37%	-0.35%
16									
17	Typical Usage: therms		1,393	1,305	1,186	1,207	1,171	1,284	<u>7,546</u>
18	Summer 2019								
19	Customer Charge	units @ \$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$222.64	\$1,335.84
20	First	1,000 units @ \$0.1337	\$133.70	\$133.70	\$133.70	\$133.70	\$133.70	\$133.70	\$802.20
21	Over	1,000 units @ \$0.1087	\$42.72	\$33.15	\$20.22	\$22.50	\$18.59	\$30.87	\$168.05
22		COG 1 \$0.3269	\$455.37						\$455.37
23		COG 2 \$0.3269		\$426.60					\$426.60
24		COG 3 \$0.2245			\$266.26				\$266.26
25		COG 4 \$0.2245				\$270.97			\$270.97
26		COG 5 \$0.2245					\$262.89		\$262.89
27		COG 6 \$0.2245						\$288.26	\$288.26
28	Summer Period 2019 Avg. COG	\$0.2611 *							
29	LDAC	\$0.0380	\$52.93	\$49.59	\$45.07	\$45.87	\$44.50	\$48.79	\$286.75
30	TOTAL		\$907.36	\$865.69	\$687.88	\$695.68	\$682.32	\$724.26	\$4,563.19
31	Change		-\$117.99	-\$110.53	\$20.99	\$21.36	\$20.73	\$22.73	-\$142.71
32	% Chg		-13.00%	-12.77%	3.05%	3.07%	3.04%	3.14%	-3.13%

*-Note- Weighted by usage.

NORTHERN UTILITIES, INC. -- NEW HAMPSHIRE DIVISION
Impact of Rate Changes on Residential Heating Bills by Usage Level
Forecast Summer 2020 vs. Actual Summer 2019

Residential Heating		
	<u>Summer 2019</u>	<u>Summer 2020</u>
Customer Charge	\$22.20	\$22.20
First 50 Therms	\$0.6099	\$0.6099
Over 50 therms	\$0.6099	\$0.6099
LDAC	\$0.0675	\$0.0706
CGA	\$0.3179	\$0.2768

Usage (Therms)	Summer 2019 Bill Amount	Summer 2020 Bill Amount	Total Bill		Base Rate		COG		LDAC		
5	\$27.18	\$26.99	(\$0.19)	-0.7%	\$0.00	0.0%	(\$0.21)	-0.8%	\$0.02	0.1%	
10	\$32.15	\$31.77	(\$0.38)	-1.2%	\$0.00	0.0%	(\$0.41)	-1.3%	\$0.03	0.1%	
20	\$42.11	\$41.35	(\$0.76)	-1.8%	\$0.00	0.0%	(\$0.82)	-1.9%	\$0.06	0.1%	
Monthly*	25	\$47.08	\$46.13	(\$0.95)	-2.0%	\$0.00	0.0%	(\$1.03)	-2.2%	\$0.08	0.2%
	30	\$52.06	\$50.92	(\$1.14)	-2.2%	\$0.00	0.0%	(\$1.23)	-2.4%	\$0.09	0.2%
	45	\$66.99	\$65.28	(\$1.71)	-2.6%	\$0.00	0.0%	(\$1.85)	-2.8%	\$0.14	0.2%
	50	\$71.96	\$70.07	(\$1.90)	-2.6%	\$0.00	0.0%	(\$2.05)	-2.8%	\$0.16	0.2%
	75	\$96.85	\$94.00	(\$2.85)	-2.9%	\$0.00	0.0%	(\$3.08)	-3.2%	\$0.23	0.2%
	125	\$146.61	\$141.86	(\$4.75)	-3.2%	\$0.00	0.0%	(\$5.14)	-3.5%	\$0.39	0.3%
	150	\$171.49	\$165.80	(\$5.70)	-3.3%	\$0.00	0.0%	(\$6.16)	-3.6%	\$0.46	0.3%
	200	\$221.26	\$213.66	(\$7.60)	-3.4%	\$0.00	0.0%	(\$8.22)	-3.7%	\$0.62	0.3%

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

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	\$ 5,511,017
Storage Demand	\$ 22,025,730
<u>On-system Peaking Demand</u>	<u>\$ 3,799,190</u>
Subtotal Demand	\$ 31,335,937

Capacity Release (Credit)	\$ -
<u>Asset Management (Credit)</u>	<u>\$ (14,460,600)</u>
Total Net Demand Costs	\$ 16,875,337

Off-System Peaking Demand \$ 9,621,667 PR Allocation on Page 5

Total Demand Costs \$ 26,497,003

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	897,469	935,387	719,170	792,048	1,201,648	1,200,554	617,471	460,782	415,584	414,920	503,718	918,508	9,077,260
Rank	5	3	7	6	1	2	8	10	11	12	9	4	
% Max Month	74.69%	77.84%	59.85%	65.91%	100.00%	99.91%	51.39%	38.35%	34.58%	34.53%	41.92%	76.44%	
PR	1.75%	0.47%	1.21%	1.01%	0.09%	11.03%	1.18%	0.38%	0.01%	2.88%	0.40%	0.44%	20.84%
CumPR	8.81%	9.72%	6.05%	7.06%	20.84%	20.75%	4.84%	3.26%	2.88%	2.88%	3.66%	9.25%	100.00%
Product and Pipeline Demand Costs	\$ 485,706	\$ 535,632	\$ 333,303	\$ 389,009	\$ 1,148,707	\$ 1,143,687	\$ 266,673	\$ 179,582	\$ 158,853	\$ 158,576	\$ 201,461	\$ 509,828	\$ 5,511,017

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	897,469	935,387	719,170	792,048	1,201,648	1,200,554	617,471	460,782	415,584	414,920	503,718	918,508	9,077,260
% 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	508,933	837,770	1,166,539	1,039,403	559,143	534	-	-	-	-	-	-	4,112,322
Rank	5	3	1	2	4	6	7	7	7	7	7	7	
% Max Month	43.63%	71.82%	100.00%	89.10%	47.93%	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
PR	8.72%	7.96%	10.90%	8.64%	1.08%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	37.30%
CumPR	8.72%	17.76%	37.30%	26.40%	9.80%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Storage Demand Costs	\$ 1,921,522	\$ 3,912,139	\$ 8,216,172	\$ 5,815,685	\$ 2,158,532	\$ 1,679	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 22,025,730
Plus Injection Fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL	\$ 1,921,522	\$ 3,912,139	\$ 8,216,172	\$ 5,815,685	\$ 2,158,532	\$ 1,679	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 22,025,730

Allocation of All Peaking Demand Costs Excluding Off-System Peaking

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Annual
Design Year Peaking Volumes	240,498	575,279	517,410	480,234	318,768	1,755	1,860	1,800	1,860	1,860	1,800	1,860	2,144,982
Rank	5	1	2	3	4	12	9	11	8	7	10	6	
% Max Month	41.81%	100.00%	89.94%	83.48%	55.41%	0.31%	0.32%	0.31%	0.32%	0.32%	0.31%	0.32%	
PR	8.30%	10.06%	3.23%	9.36%	3.40%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	34.37%
CumPR	8.32%	34.37%	24.31%	21.08%	11.73%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	0.03%	100.00%
Peaking Demand Costs	\$ 316,234	\$ 1,305,832	\$ 923,661	\$ 800,905	\$ 445,459	\$ 966	\$ 1,037	\$ 993	\$ 1,037	\$ 1,037	\$ 993	\$ 1,037	\$ 3,799,190

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

Pipeline Demand	Schedule 20-FXW, PG 1, LN 1
Storage Demand	Schedule 20-FXW, PG 1, LN 2 & 3
<u>On-system Peaking Demand</u>	(Schedule 20-FXW, PG 1, LN 4 + 5) - LN 12
Subtotal Demand	Sum LN 3 : LN 5
Capacity Release (Credit)	Schedule FXW-20, PG 6
<u>Asset Management (Credit)</u>	Schedule FXW-20, PG 6
Total Net Demand Costs	Sum LN 6 : LN 9
Off-System Peaking Demand	Schedule FXW-20, PG 5
Total Demand Costs	LN 10 + LN 12

Proportional Responsibility (PR) Allocators

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

Design Year Pipeline Sendout Rank	Company Analysis LN 20 Ranking
% Max Month	LN 20 / LN 20 MAX
PR	The difference between LN 22 for the month and LN 22 for next highest rank
CumPR	Cumulative Values, LN 23
Product and Pipeline Demand Costs	LN 24 * LN 3

Allocation of Storage Injection Fees to Months

Storage Injection Volume	Company Analysis
Design Year Pipeline Sendout	LN 20
% of Deliveries Injected	LN 29 / Sum (LN 29 : LN 30)
Injection Fees	LN 31 * LN 25

Allocation of Storage Demand Costs to Months

Design Year Storage Rank	Company Analysis LN 36 Ranking
% Max Month	LN 36 / LN 36 MAX
PR	The difference between LN 38 for the month and LN 38 for next highest rank
CumPR	Cumulative Values, LN 39
Storage Demand Costs	LN 40 * LN 4
Plus Injection Fees	LN 32
TOTAL	LN 41 + LN 42

Allocation of All Peaking Demand Costs Excluding Off-System Peaking

Design Year Peaking Volumes Rank	Company Analysis LN 47 Ranking
% Max Month	LN 47 / LN 47 MAX
PR	The difference between LN 49 for the month and LN 49 for next highest rank
CumPR	Cumulative Values, LN 50
Peaking Demand Costs	LN 51 * LN 5

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

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual
Pipeline & Product Demand	\$ 485,706	\$ 535,632	\$ 333,303	\$ 389,009	\$ 1,148,707	\$ 1,143,687	\$ 266,673	\$ 179,582	\$ 158,853	\$ 158,576	\$ 201,461	\$ 509,828	\$ 5,511,017
Storage Incl Inj Fees	\$ 1,921,522	\$ 3,912,139	\$ 8,216,172	\$ 5,815,685	\$ 2,158,532	\$ 1,679	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 22,025,730
On-system Peaking	\$ 316,234	\$ 1,305,832	\$ 923,661	\$ 800,905	\$ 445,459	\$ 966	\$ 1,037	\$ 993	\$ 1,037	\$ 1,037	\$ 993	\$ 1,037	\$ 3,799,190
Less: Injection Fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Less: Capacity Release	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Less: Asset Mgmt	\$ (2,410,100)	\$ (2,410,100)	\$ (2,410,100)	\$ (2,410,100)	\$ (2,410,100)	\$ (2,410,100)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (14,460,600)
Total Demand	\$ 313,361	\$ 3,343,504	\$ 7,063,037	\$ 4,595,500	\$ 1,342,598	\$ (1,263,767)	\$ 267,710	\$ 180,574	\$ 159,890	\$ 159,613	\$ 202,454	\$ 510,864	\$ 16,875,337

Capacity Cost Allocator based on Design Year Firm Sendout

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual
Therms													
Maine	960,112	1,365,980	1,583,298	1,436,577	1,221,723	721,846	362,986	271,098	241,871	237,181	302,659	531,221	9,236,552
New Hampshire	686,786	1,001,728	1,178,292	1,060,490	892,611	480,997	256,345	191,484	175,573	179,599	202,859	389,146	6,695,910
Total	1,646,898	2,367,707	2,761,590	2,497,068	2,114,334	1,202,842	619,331	462,582	417,444	416,780	505,518	920,368	15,932,462

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual
Percentage of Total													
Maine	58.30%	57.69%	57.33%	57.53%	57.78%	60.01%	58.61%	58.61%	57.94%	56.91%	59.87%	57.72%	57.39%
New Hampshire	41.70%	42.31%	42.67%	42.47%	42.22%	39.99%	41.39%	41.39%	42.06%	43.09%	40.13%	42.28%	42.61%
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	\$182,684	\$1,928,937	\$4,049,439	\$2,643,817	\$775,792	(\$758,408)	\$156,903	\$105,826	\$92,642	\$90,832	\$121,211	\$294,863	\$9,684,539
New Hampshire	\$130,677	\$1,414,567	\$3,013,598	\$1,951,683	\$566,806	(\$505,360)	\$110,807	\$74,748	\$67,248	\$68,780	\$81,243	\$216,002	\$7,190,799
Total	\$ 313,361	\$ 3,343,504	\$ 7,063,037	\$ 4,595,500	\$ 1,342,598	\$ (1,263,767)	\$ 267,710	\$ 180,574	\$ 159,890	\$ 159,613	\$ 202,454	\$ 510,864	\$ 16,875,337

Detailed Allocation of Demand Costs by Division

Maine	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	
Pipeline & Product Demand	\$ 283,158	\$ 309,017	\$ 191,092	\$ 223,799	\$ 663,756	\$ 686,346	\$ 156,295	\$ 105,245	\$ 92,041	\$ 90,242	\$ 120,617	\$ 294,264	\$ 3,215,873	58.35%
Storage Incl Injection Fees	\$ 1,120,213	\$ 2,256,995	\$ 4,710,564	\$ 3,345,797	\$ 1,247,262	\$ 1,008	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,681,838	57.58%
On-system Peaking	\$ 184,359	\$ 753,362	\$ 529,561	\$ 460,765	\$ 257,399	\$ 580	\$ 608	\$ 582	\$ 601	\$ 590	\$ 594	\$ 598	\$ 2,189,599	57.63%
Less: Injection Fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%
Capacity Release (Credit)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%
Asset Management (Credit)	\$ (1,405,045)	\$ (1,390,437)	\$ (1,381,779)	\$ (1,386,544)	\$ (1,392,625)	\$ (1,446,341)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (8,402,771)	58.11%
Total Allocated Demand	\$ 182,684	\$ 1,928,937	\$ 4,049,439	\$ 2,643,817	\$ 775,792	\$ (758,408)	\$ 156,903	\$ 105,826	\$ 92,642	\$ 90,832	\$ 121,211	\$ 294,863	\$ 9,684,539	57.39%

New Hampshire	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	
Pipeline & Product Demand	\$ 202,548	\$ 226,615	\$ 142,211	\$ 165,210	\$ 484,951	\$ 457,341	\$ 110,378	\$ 74,337	\$ 66,812	\$ 68,334	\$ 80,844	\$ 215,563	\$ 2,295,144	41.65%
Storage Incl Injection Fees	\$ 801,309	\$ 1,655,145	\$ 3,505,608	\$ 2,469,888	\$ 911,270	\$ 672	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,343,892	42.42%
On-system Peaking	\$ 131,875	\$ 552,470	\$ 394,100	\$ 340,140	\$ 188,060	\$ 386	\$ 429	\$ 411	\$ 436	\$ 447	\$ 398	\$ 438	\$ 1,609,591	42.37%
Less: Injection Fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%
Capacity Release	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.00%
Asset Management	\$ (1,005,055)	\$ (1,019,663)	\$ (1,028,321)	\$ (1,023,556)	\$ (1,017,475)	\$ (963,759)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (6,057,829)	41.89%
Total Allocated Demand	\$ 130,677	\$ 1,414,567	\$ 3,013,598	\$ 1,951,683	\$ 566,806	\$ (505,360)	\$ 110,807	\$ 74,748	\$ 67,248	\$ 68,780	\$ 81,243	\$ 216,002	\$ 7,190,799	42.61%

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

53		
54	Pipeline & Product Demand	LN 25
55	Storage	LN 43
56	Peaking	LN 52
57	Less: Injection Fees	-(LN 32)
58	Less: Capacity Release	-(LN 8 / 5)
59	Less: Asset Management	-(LN 9 / 6)
60	Total Demand	Sum (LN 54 : LN 59)
61		
62	Capacity Cost Allocator based on Design Year Firm Sendout	
63		
64	Therms	
65	Maine	Company Analysis
66	New Hampshire	Company Analysis
67	Total	LN 65 + LN 66
68		
69	Percentage of Total	
70	Maine	LN 65 / LN 67
71	New Hampshire	LN 66 / LN 67
72	Total	LN 70 + LN 71
73		
74	Allocation of Demand Costs by Division	
75	Maine	LN 60 * LN 70
76	New Hampshire	LN 60 * LN 71
77	Total	LN 75 + LN 76
78		
79	Detailed Allocation of Demand Costs by Division	
80	Maine	
81	Pipeline & Product Demand	LN 54 * LN 70
82	Storage	LN 55 * LN 70
83	Peaking	LN 56 * LN 70
84	Injection Fees	LN 57 * LN 70
85	Capacity Release (Credit)	LN 58 * LN 70
86	Asset Management (Credit)	LN 59 * LN 70
87	Total Allocated Demand	Sum (LN 81 : LN 86)
88		
89	New Hampshire	
90	Pipeline & Product Demand	LN 54 * LN 71
91	Storage	LN 55 * LN 71
92	Peaking	LN 56 * LN 71
93	Injection Fees	LN 57 * LN 71
94	Capacity Release	LN 58 * LN 71
95	Asset Management (Credit)	LN 59 * LN 71
96	Total Allocated Demand	Sum (LN 90 : LN 95)

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

97 **Off-System Peaking Demand Costs** \$ 9,621,667

98
99 **Allocation of Off-system Peaking Demand Costs to Months**

	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Annual
Design Year Peaking Volumes	-	19,272	358,471	185,382	34,775	-	-	-	-	-	-	-	597,900
Rank	5	4	1	2	3	5	5	5	5	5	5	5	
% Max Month	0.00%	5.38%	100.00%	51.71%	9.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
PR	0.00%	1.34%	48.29%	21.01%	1.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	72.08%
CumPR	0.00%	1.34%	72.08%	23.79%	2.79%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Peaking Demand Costs	\$ -	\$ 129,317	\$ 6,935,088	\$ 2,289,233	\$ 268,029	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,621,667

108 **Capacity Cost Allocator based on Design Year Sales**

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual
Therms													
Maine	815,479	1,141,442	1,329,977	1,169,281	1,025,076	592,993	272,616	205,017	185,697	182,226	207,439	421,889	7,549,132
New Hampshire	565,845	769,602	909,721	788,114	671,781	369,133	141,241	100,542	87,034	90,729	107,020	254,810	4,855,571
Total	1,381,324	1,911,044	2,239,698	1,957,395	1,696,857	962,126	413,856	305,559	272,731	272,955	314,459	676,699	12,404,703

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual
Percentage of Total													
Maine	59.04%	59.73%	59.38%	59.74%	60.41%	61.63%	65.87%	67.10%	68.09%	66.76%	65.97%	62.35%	59.50%
New Hampshire	40.96%	40.27%	40.62%	40.26%	39.59%	38.37%	34.13%	32.90%	31.91%	33.24%	34.03%	37.65%	40.50%
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%

120 **Allocation of Off-System Peaking Demand Costs by Division**

Maine	\$0	\$77,239	\$4,118,192	\$1,367,509	\$161,917	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,724,858
New Hampshire	\$0	\$52,077	\$2,816,896	\$921,724	\$106,112	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,896,809
Total	\$ -	\$ 129,317	\$ 6,935,088	\$ 2,289,233	\$ 268,029	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,621,667

Total Weighted Average MPR Factor

Maine	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	
Total Pipeline, Storage & On-system	\$ 182,684	\$ 1,928,937	\$ 4,049,439	\$ 2,643,817	\$ 775,792	\$ (758,408)	\$ 156,903	\$ 105,826	\$ 92,642	\$ 90,832	\$ 121,211	\$ 294,863	\$ 9,684,539	57.39%
Total Off-system Peaking	\$0	\$77,239	\$4,118,192	\$1,367,509	\$161,917	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 5,724,858	59.50%
Total Demand Cost Allocation	\$ 182,684	\$ 2,006,176	\$ 8,167,631	\$ 4,011,326	\$ 937,709	\$ (758,408)	\$ 156,903	\$ 105,826	\$ 92,642	\$ 90,832	\$ 121,211	\$ 294,863	\$ 15,409,396	58.16%
New Hampshire	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	
Total Pipeline, Storage & On-system	\$ 130,677	\$ 1,414,567	\$ 3,013,598	\$ 1,951,683	\$ 566,806	\$ (505,360)	\$ 110,807	\$ 74,748	\$ 67,248	\$ 68,780	\$ 81,243	\$ 216,002	\$ 7,190,799	42.61%
Total Off-system Peaking	\$0	\$52,077	\$2,816,896	\$921,724	\$106,112	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$ 3,896,809	40.50%
Total Demand Cost Allocation	\$ 130,677	\$ 1,466,644	\$ 5,830,494	\$ 2,873,406	\$ 672,918	\$ (505,360)	\$ 110,807	\$ 74,748	\$ 67,248	\$ 68,780	\$ 81,243	\$ 216,002	\$ 11,087,608	41.84%
Total Northern	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	
Total Pipeline, Storage & On-system	\$ 313,361	\$ 3,343,504	\$ 7,063,037	\$ 4,595,500	\$ 1,342,598	\$ (1,263,767)	\$ 267,710	\$ 180,574	\$ 159,890	\$ 159,613	\$ 202,454	\$ 510,864	\$ 16,875,337	
Total Off-system Peaking	\$ -	\$ 129,317	\$ 6,935,088	\$ 2,289,233	\$ 268,029	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,621,667	
Total Demand Cost Allocation	\$ 313,361	\$ 3,472,820	\$ 13,998,125	\$ 6,884,733	\$ 1,610,627	\$ (1,263,767)	\$ 267,710	\$ 180,574	\$ 159,890	\$ 159,613	\$ 202,454	\$ 510,864	\$ 26,497,004	

97	Off-System Peaking Demand Costs	LN 12
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98

99

Allocation of Off-system Peaking Demand Costs to Months

100		
101	Design Year Peaking Volumes	Company Analysis
102	Rank	LN 101 Ranking
103	% Max Month	LN 101 / LN 101 MAX
104	PR	The difference between LN 103 for the month and LN 103 for next highest rank
105	CumPR	Cumulative Values, LN 104
106	Peaking Demand Costs	LN 105 * LN 97

107

Capacity Cost Allocator based on Design Year Sales

108		
109		
110	Therms	
111	Maine	Company Analysis
112	New Hampshire	Company Analysis
113	Total	LN 111 + LN 112

114

115	Percentage of Total	
116	Maine	LN 111 / LN 113
117	New Hampshire	LN 112 / LN 113
118	Total	LN 116 + LN 117

119

Allocation of Off-System Peaking Demand Costs by Division

120		
121	Maine	LN 106 * LN 116
122	New Hampshire	LN 106 * LN 117
123	Total	LN 121 + LN 122

Total Weighted Average MPR Factor

124	Maine	
125	Total Pipeline, Storage & On-system	LN 87
126	Total Off-system Peaking	LN 121
127	Total Demand Cost Allocation	LN 125 + LN 126

128

129	New Hampshire	
130	Total Pipeline, Storage & On-system	LN 96
131	Total Off-system Peaking	LN 122
132	Total Demand Cost Allocation	LN 130 + Ln 131

133

134	Total Northern	
135	Total Pipeline, Storage & On-system	LN 125 + LN 130
136	Total Off-system Peaking	LN 126 + LN 131
137	Total Demand Cost Allocation	LN 127 + LN 132

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

NH Division Total Annual Demand Cost Allocation		
1	Resource	Costs
2	Pipeline & Product Demand	\$ 2,295,144
3	Storage	\$ 9,343,892
4	On-system Peaking	\$ 1,609,591
5	Total Gross Demand Cost	\$ 13,248,628
6		
7	Capacity Assignment Demand Revenue Estimate	\$ 3,007,397
8	NH Total Pipeline, Storage & Peaking Demand Cost	\$ 13,248,628
9	Capacity Assignment as % of Total Gross Demand Cost	22.70%
10		
11		Costs
12	Pipeline & Product Demand	\$ 520,991
13	Storage	\$ 2,121,034
14	On-system Peaking	\$ 365,372
15	Total Capacity Assignment Credit	\$ 3,007,397
16		
17	NH Net Annual Demand Cost (Less Capacity Assignment)	
18		Costs
19	Pipeline & Product Demand	\$ 1,774,154
20	Storage	\$ 7,222,857
21	On-system Peaking	\$ 1,244,219
22	Total Net Demand Cost (Less Capacity Assignment)	\$ 10,241,230
23		
24	DEVELOPMENT OF BASE AND REMAINING PIPELINE DEMAND COSTS	
25		MMBtu/day
26	Pipeline MDQ	12,120
27	Less 22.70% NH Transp. Capacity Assignment	(2,751)
28	Net Pipeline MDQ	9,369
29		
30	Net Pipeline MDQ	9,369
31	Less: Firm Sales Base Use	3,461
32	Remaining Pipeline MDQ	5,908
33		
34		Unit Cost
35	Pipeline Unit Cost	\$189.36
36		
37		Costs
38	Pipeline & Product Demand	\$ 1,774,154
39	Less: Base Pipeline Use	\$ 655,434
40	Remaining Pipeline Use	\$ 1,118,719

1	Resource	
2	Pipeline & Product Demand	Schedule 4-CAK, LN 90 + Schedule 4-CAK, LN 93
3	Storage	Schedule 4-CAK, LN 91
4	On-system Peaking	Schedule 4-CAK, LN 92
5	Total Gross Demand Cost	Sum (LN 2 : LN 4)
6		
7	Capacity Assignment Demand Revenue Estimate	Schedule 21-FXW, 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		
12	Pipeline & Product Demand	LN 2 * LN 9
13	Storage	LN 3 * LN 9
14	On-system Peaking	LN 4 * LN 9
15	Total Capacity Assignment Credit	Sum (LN 12 : LN 14)
16		
17	NH Net Annual Demand Cost (Less Capacity Assignment)	
18		
19	Pipeline & Product Demand	LN 2 - LN 12
20	Storage	LN 3 - LN 13
21	On-system Peaking	LN 4 - LN 14
22	Total Net Demand Cost (Less Capacity Assignment)	LN 5 - LN 15
23		
24	DEVELOPMENT OF BASE AND REMAINING PIPELINE DEMAND (	
25		
26	Pipeline MDQ	Company Analysis
27	Less 22.70% NH Transp. Capacity Assignment	-(LN 26) * LN 9
28	Net Pipeline MDQ	Sum (LN 26 : LN 27)
29		
30	Net Pipeline MDQ	LN 28
31	Less: Firm Sales Base Use	Schedule 6-CAK, LN 48 / 10
32	Remaining Pipeline MDQ	LN 30 - LN 31
33		
34		
35	Pipeline Unit Cost	LN 19 / LN 30
36		
37		
38	Pipeline & Product Demand	LN 19
39	Less: Base Pipeline Use	LN 35 * LN 31
40	Remaining Pipeline Use	LN 38 - LN 39

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

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

	Nov	Dec	Jan	Feb	Mar	Apr
All Months						
Remaining Load for All Months	3,601,733	5,796,629	7,295,417	6,028,009	5,125,928	2,423,339
Rank	5	3	1	2	4	6
% Max Month	49.37%	79.46%	100.00%	82.63%	70.26%	33.22%
PR	3.23%	3.06%	17.37%	1.59%	5.22%	2.42%
CumPR	8.07%	16.36%	35.32%	17.95%	13.30%	4.84%
Peak Months Only						
Remaining Load for Peak Months Only	3,601,733	5,796,629	7,295,417	6,028,009	5,125,928	2,423,339
Rank	5	3	1	2	4	6
% Max Month	49.37%	79.46%	100.00%	82.63%	70.26%	33.22%
PR	3.23%	3.06%	17.37%	1.59%	5.22%	5.54%
CumPR	8.77%	17.05%	36.01%	18.64%	13.99%	5.54%

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	8.07%	16.36%	35.32%	17.95%	13.30%	4.84%
Storage & Peaking	8.07%	16.36%	35.32%	17.95%	13.30%	4.84%
Capacity Release	8.77%	17.05%	36.01%	18.64%	13.99%	5.54%
Off-system Peaking	8.20%	17.39%	35.57%	19.07%	14.31%	5.46%
Interr. Margins & Off Sys Sales	8.77%	17.05%	36.01%	18.64%	13.99%	5.54%

DEMAND COSTS ALLOCATED TO MONTHS

	Nov	Dec	Jan	Feb	Mar	Apr
Pipeline - Base	\$ 54,620	\$ 54,620	\$ 54,620	\$ 54,620	\$ 54,620	\$ 54,620
Pipeline - Remaining	\$ 90,332	\$ 183,047	\$ 395,139	\$ 200,787	\$ 148,764	\$ 54,191
Total Pipeline	\$ 144,951	\$ 237,666	\$ 449,758	\$ 255,407	\$ 203,383	\$ 108,811
Storage & On-system Peaking	\$ 683,680	\$ 1,385,398	\$ 2,990,625	\$ 1,519,669	\$ 1,125,926	\$ 410,151
Off-system Peaking	\$319,693	\$677,675	\$1,386,107	\$742,928	\$557,469	\$212,936
Less Credits to Demand Cost						
Cap Rel Margins & Asset Mgt Credits	\$ 531,073	\$ 1,033,122	\$ 2,181,592	\$ 1,129,187	\$ 847,481	\$ 335,374
Interruptible Margins	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Conversion Rate and Re-entry Rate Credits	\$ 877	\$ 1,705	\$ 3,601	\$ 1,864	\$ 1,399	\$ 554
Total Direct Demand Costs	\$ 616,375	\$ 1,265,913	\$ 2,641,297	\$ 1,386,953	\$ 1,037,898	\$ 395,970
Indirect Demand Costs/(Credits)						
Miscellaneous Overhead						
Local Production & Storage						
Subtotal						

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

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

All Months	May	Jun	Jul	Aug	Sep	Oct	Annual	Winter	Summer
Remaining Load for All Months	757,604	228,222	0	8,547	109,164	1,365,260	32,739,853	30,271,056	2,468,797
Rank	8	9	12	11	10	7			
% Max Month	10.38%	3.13%	0.00%	0.12%	1.50%	18.71%			
PR	0.91%	0.18%	0.00%	0.01%	0.14%	1.19%	35.32%		
CumPR	1.24%	0.33%	0.00%	0.01%	0.15%	2.43%	100.00%	95.85%	4.15%

Peak Months Only	Annual	Winter	Summer
Remaining Load for Peak Months Only	30,271,056	30,271,056	
Rank			
% Max Month			
PR	36.01%		
CumPR	100.00%	100.00%	0.00%

57 **DEMAND COST PR ALLOCATORS**

	May	Jun	Jul	Aug	Sep	Oct	Annual	Winter	Summer
Pipeline - Base	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	100.00%	50.00%	50.00%
Pipeline - Remaining	1.24%	0.33%	0.00%	0.01%	0.15%	2.43%	100.00%	95.85%	4.15%
Storage & Peaking	1.24%	0.33%	0.00%	0.01%	0.15%	2.43%	100.00%	95.85%	4.15%
Capacity Release	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	0.00%
Off-system Peaking	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	0.00%
Interr. Margins & Off Sys Sales	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%	0.00%

67 **DEMAND COSTS ALLOCATED TO MONTHS**

	May	Jun	Jul	Aug	Sep	Oct	Annual	Winter	Summer	Winter	Summer
Pipeline - Base	\$ 54,620	\$ 54,620	\$ 54,620	\$ 54,620	\$ 54,620	\$ 54,620	\$ 655,434	\$ 327,717	\$ 327,717	50.00%	50.00%
Pipeline - Remaining	\$ 13,838	\$ 3,691	\$ -	\$ 119	\$ 1,662	\$ 27,150	\$ 1,118,719	\$ 1,072,260	\$ 46,459	95.85%	4.15%
Total Pipeline	\$ 68,457	\$ 58,310	\$ 54,620	\$ 54,739	\$ 56,282	\$ 81,769	\$ 1,774,154	\$ 1,399,977	\$ 374,176	78.91%	21.09%
Storage & On-system Peaking	\$ 104,733	\$ 27,933	\$ -	\$ 902	\$ 12,579	\$ 205,482	\$ 8,467,077	\$ 8,115,448	\$ 351,629	95.85%	4.15%
Off-system Peaking	\$0	\$0	\$0	\$0	\$0	\$0	\$ 3,896,809	\$ 3,896,809	\$ -	100.00%	0.00%
Less Credits to Demand Cost											
Cap Rel Margins & Asset Mgt Credits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$6,057,829	\$ 6,057,829	\$ -	100.00%	0.00%
Interruptible Margins	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
Conversion Rate and Re-entry Rate Credits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,000	\$ 10,000	\$ -		
Total Direct Demand Costs	\$ 173,190	\$ 86,243	\$ 54,620	\$ 55,640	\$ 68,861	\$ 287,252	\$ 8,070,211	\$ 7,344,405	\$ 725,806	91.01%	8.99%
Indirect Demand Costs/(Credits)											
Miscellaneous Overhead							\$ 580,455	\$ 467,545	\$ 112,910	80.55%	19.45%
Local Production & Storage							\$ 476,106	\$ 476,106	\$ -	100.00%	0.00%
Subtotal							\$ 1,056,561	\$ 943,651	\$ 112,910	89.31%	10.69%

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

41 **NH DIVISION MONTHLY PROPORTIONAL RESPONSIBILITY (PR /ALLOCATORS)**

42 (Based on NH Firm Sales Sendout for Remaining Temperature Sensitive Load)

43

44	All Months	
45	Remaining Load for All Months	Schedule 6-CAK, LN 80
46	Rank	Rank LN 45
47	% Max Month	LN 45 / MAX Month LN 45
48	PR	The difference between LN 47 for the month and LN 47 for next highest rank
49	CumPR	Cumulative Values, LN 48

50

51	Peak Months Only	
52	Remaining Load for Peak Months Only	LN 45
53	Rank	Rank LN 52
54	% Max Month	LN 52 / MAX Month LN 52
55	PR	The difference between LN 54 for the month and LN 54 for next highest rank
56	CumPR	Cumulative Values, LN 55

57

58 **DEMAND COST PR ALLOCATORS**

59		
60	Pipeline - Base	1/12
61	Pipeline - Remaining	LN 49
62	Storage & Peaking	LN 49
63	Capacity Release	LN 56
64	Off-system Peaking	LN 56
65	Interr. Margins & Off Sys Sales	LN 56

66

67 **DEMAND COSTS ALLOCATED TO MONTHS**

68		
69	Pipeline - Base	LN 39 * LN 60
70	Pipeline - Remaining	LN 40 * LN 61
71	Total Pipeline	LN 69 + LN 70
72		
73	Storage & On-system Peaking	LN 62 * (Sum LN 20 : LN 21)
74	Off-system Peaking	Schedule 4-CAK, LN 122,* LN 64
75	Less Credits to Demand Cost	
76	Cap Rel Margins & Asset Mgt Credits	Schedule 4-CAK, LN 95 * LN 63
77	Interruptible Margins	
78	Conversion Rate and Re-entry Rate Credits	
79	Total Direct Demand Costs	LN 71 + LN 73 + LN 74 - (Sum LN 75 : LN 78)

80

81	Indirect Demand Costs/(Credits)	
82	Miscellaneous Overhead	Company Analysis
83	Local Production & Storage	Company Analysis
84	Subtotal	LN 82 + LN 83

Northern Utilities - NEW HAMPSHIRE DIVISION
2019 - 2020 Period

Forecasted Normal Sales By Class- Therms																
Line No.	Calendar Month Firm Sales Volumes															
	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	Summer	
1	Normal Winter															
2	Res Heat	2,109,996	3,123,820	3,805,363	3,197,556	2,818,832	1,569,191	704,019	487,116	409,369	415,944	441,328	937,714	20,020,248	16,624,758	3,395,489
3	Res General	19,398	28,718	34,984	29,396	25,915	14,426	16,212	11,217	9,427	9,578	10,163	21,593	231,026	152,838	78,189
4	Total Residential	2,129,394	3,152,538	3,840,347	3,226,953	2,844,747	1,583,618	720,231	498,332	418,796	425,522	451,490	959,307	20,251,274	16,777,596	3,473,678
5	G50 Low Annual-Low Winter	128,749	190,611	232,198	195,111	172,001	95,750	148,910	103,032	86,587	87,978	93,347	198,340	1,732,614	1,014,420	718,193
6	G40 Low Annual-High Winter	1,080,282	1,599,342	1,948,281	1,637,094	1,443,194	803,399	259,808	179,763	151,072	153,498	162,865	346,049	9,764,647	8,511,593	1,253,054
7	G51 Med Annual-Low Winter	183,510	271,683	330,958	278,096	245,158	136,475	175,736	121,593	102,186	103,827	110,164	234,071	2,293,459	1,445,880	847,578
8	G41 Med Annual-High Winter	791,896	1,172,390	1,428,178	1,200,064	1,057,926	588,928	208,384	144,182	121,170	123,116	130,629	277,555	7,244,417	6,239,382	1,005,036
9	G52 High Annual-Low Winter	165,297	244,720	298,112	250,496	220,827	122,930	235,664	163,058	137,033	139,234	147,731	313,892	2,438,993	1,302,382	1,136,611
10	G42 High Annual-High Winter	97,824	144,827	176,425	148,245	130,687	72,751	56,946	39,401	33,113	33,644	35,698	75,849	1,045,409	770,758	274,650
11	Total C&I	2,447,557	3,623,574	4,414,151	3,709,107	3,269,793	1,820,233	1,085,448	751,029	631,160	641,297	680,434	1,445,756	24,519,538	19,284,415	5,235,123
12	Total Sales	4,576,952	6,776,112	8,254,498	6,936,059	6,114,540	3,403,851	1,805,678	1,249,361	1,049,956	1,066,818	1,131,924	2,405,063	44,770,812	36,062,011	8,708,801
13																
14	Residential Heat & Non Heat	2,129,394	3,152,538	3,840,347	3,226,953	2,844,747	1,583,618	720,231	498,332	418,796	425,522	451,490	959,307	20,251,274	16,777,596	3,473,678
15	SALES HLF CLASSES	477,556	707,014	861,268	723,703	637,986	355,155	560,311	387,683	325,806	331,039	351,241	746,303	6,465,065	3,762,682	2,702,383
16	SALES LLF CLASSES	1,970,002	2,916,559	3,552,883	2,985,404	2,631,807	1,465,078	525,137	363,346	305,354	310,258	329,192	699,453	18,054,473	15,521,733	2,532,740
17	Total Firm Sales	4,576,952	6,776,112	8,254,498	6,936,059	6,114,540	3,403,851	1,805,678	1,249,361	1,049,956	1,066,818	1,131,924	2,405,063	44,770,812	36,062,011	8,708,801
18																
19	ESTIMATED SENDOUT BY CLASS - Therms															
20	Calendar Month Sendout Volumes (Includes Loss & Unaccounted For)															
21	Normal Winter	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	SUMMER
22	Res Heat	2,139,114	3,166,928	3,857,877	3,241,683	2,857,732	1,590,846	713,734	493,838	415,019	421,684	447,418	950,655	20,296,527	16,854,180	3,442,347
23	Res General	19,666	29,115	35,467	29,802	26,272	14,625	16,435	11,372	9,557	9,710	10,303	21,891	234,215	154,947	79,268
24	G50 Low Annual-Low Winter	130,526	193,242	235,402	197,803	174,375	97,071	150,965	104,454	87,782	89,192	94,635	201,077	1,756,524	1,028,419	728,104
25	G40 Low Annual-High Winter	1,095,190	1,621,413	1,975,167	1,659,686	1,463,110	814,486	263,393	182,243	153,156	155,616	165,113	350,825	9,899,399	8,629,053	1,270,346
26	G51 Med Annual-Low Winter	186,042	275,433	335,525	281,934	248,541	138,358	178,162	123,271	103,596	105,260	111,684	237,301	2,325,108	1,465,833	859,275
27	G41 Med Annual-High Winter	802,824	1,188,569	1,447,887	1,216,625	1,072,526	597,055	211,259	146,172	122,842	124,815	132,432	281,386	7,344,390	6,325,485	1,018,905
28	G52 High Annual-Low Winter	167,578	248,097	302,226	253,953	223,874	124,627	238,917	165,308	138,924	141,155	149,769	318,224	2,472,651	1,320,355	1,152,296
29	G42 High Annual-High Winter	99,174	146,825	178,859	150,291	132,490	73,755	57,732	39,945	33,570	34,109	36,190	76,895	1,059,835	781,395	278,440
30	Subtotal															
31	Residential	2,158,780	3,196,043	3,893,344	3,271,485	2,884,004	1,605,471	730,170	505,209	424,575	431,394	457,721	972,546	20,530,742	17,009,127	3,521,615
32	SALES HLF CLASSES	484,146	716,771	873,153	733,690	646,791	360,056	568,043	393,033	330,303	335,607	356,089	756,602	6,554,283	3,814,607	2,739,676
33	SALES LLF CLASSES	1,997,188	2,956,808	3,601,913	3,026,602	2,668,126	1,485,296	532,384	368,360	309,568	314,539	333,735	709,106	18,303,624	15,735,933	2,567,692
34	Total Firm Sales	4,640,114	6,869,622	8,368,410	7,031,777	6,198,921	3,450,824	1,830,597	1,266,602	1,064,446	1,081,540	1,147,544	2,438,253	45,388,649	36,559,667	8,828,982

Northern Utilities - NEW HAMPSHIRE DIVISION
2019 - 2020 Period

Forecasted Normal Sales By Class- Therms		
Line No.	Calendar Month Firm Sales Volumes	
	Firm Sales	
1	Res Heat	(Schedule 17-FXW, Page 1) * 10
2	Res General	(Schedule 17-FXW, Page 1) * 10
3	Total Residential	Sum LN 1 : LN 2
4	G50 Low Annual-Low Winter	(Schedule 17-FXW, Page 1) * 10
5	G40 Low Annual-High Winter	(Schedule 17-FXW, Page 1) * 10
6	G51 Med Annual-Low Winter	(Schedule 17-FXW, Page 1) * 10
7	G41 Med Annual-High Winter	(Schedule 17-FXW, Page 1) * 10
8	G52 High Annual-Low Winter	(Schedule 17-FXW, Page 1) * 10
9	G42 High Annual-High Winter	(Schedule 17-FXW, Page 1) * 10
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)	Unaccounted For)
20	Normal Winter	
21	Res Heat	LN 1 x Adj factor (Schedule 17-FXW, Page 3)
22	Res General	LN 2 x Adj factor (Schedule 17-FXW, Page 3)
23	G50 Low Annual-Low Winter	LN 4 x Adj factor (Schedule 17-FXW, Page 3)
24	G40 Low Annual-High Winter	LN 5 x Adj factor (Schedule 17-FXW, Page 3)
25	G51 Med Annual-Low Winter	LN 6 x Adj factor (Schedule 17-FXW, Page 3)
26	G41 Med Annual-High Winter	LN 7 x Adj factor (Schedule 17-FXW, Page 3)
27	G52 High Annual-Low Winter	LN 8 x Adj factor (Schedule 17-FXW, Page 3)
28	G42 High Annual-High Winter	LN 9 x Adj factor (Schedule 17-FXW, Page 3)
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		13,495														
37	Res General		311														
38	G50 Low Annual-Low Winter		2,854														
39	G40 Low Annual-High Winter		4,980														
40	G51 Med Annual-Low Winter		3,369														
41	G41 Med Annual-High Winter		3,994														
42	G52 High Annual-Low Winter		4,517														
43	G42 High Annual-High Winter		1,092														
44	Subtotal																
45	Residential		13,806														
46	SALES HLF CLASSES		10,740														
47	SALES LLF CLASSES		10,066														
48	Total Firm Sales		34,613														
49	BASE SENDOUT BY CLASS - Therms																
50	Days per Month	30	31	31	29	31	30	31	30	31	31	30	31				
51		Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	SUMMER	
52	Res Heat	404,856	418,351	418,351	391,361	418,351	404,856	418,351	404,856	415,019	418,351	404,856	418,351	4,935,909	2,456,126	2,479,784	
53	Res General	9,323	9,633	9,633	9,012	9,633	9,323	9,633	9,323	9,557	9,633	9,323	9,633	113,660	56,558	57,103	
54	G50 Low Annual-Low Winter	85,633	88,487	88,487	82,778	88,487	85,633	88,487	85,633	87,782	88,487	85,633	88,487	1,044,014	519,505	524,509	
55	G40 Low Annual-High Winter	149,406	154,386	154,386	144,426	154,386	149,406	154,386	149,406	153,156	154,386	149,406	154,386	1,821,523	906,396	915,127	
56	G51 Med Annual-Low Winter	101,060	104,428	104,428	97,691	104,428	101,060	104,428	101,060	103,596	104,428	101,060	104,428	1,232,096	613,095	619,001	
57	G41 Med Annual-High Winter	119,834	123,828	123,828	115,839	123,828	119,834	123,828	119,834	122,842	123,828	119,834	123,828	1,460,986	726,992	733,994	
58	G52 High Annual-Low Winter	135,522	140,039	140,039	131,005	140,039	124,627	140,039	135,522	138,924	140,039	135,522	140,039	1,641,358	811,272	830,086	
59	G42 High Annual-High Winter	32,747	33,839	33,839	31,656	33,839	32,747	33,839	32,747	33,570	33,839	32,747	33,839	399,250	198,668	200,582	
60	Subtotal																
61	Residential	414,179	427,985	427,985	400,373	427,985	414,179	427,985	414,179	424,575	427,985	414,179	427,985	5,049,570	2,512,683	2,536,886	
62	SALES HLF CLASSES	322,214	332,955	332,955	311,474	332,955	311,319	332,955	322,214	330,303	332,955	322,214	332,955	3,917,468	1,943,872	1,973,596	
63	SALES LLF CLASSES	301,987	312,054	312,054	291,921	312,054	301,987	312,054	301,987	309,568	312,054	301,987	312,054	3,681,759	1,832,056	1,849,703	
64	Total Firm Sales	1,038,380	1,072,993	1,072,993	1,003,768	1,072,993	1,027,485	1,072,993	1,038,380	1,064,446	1,072,993	1,038,380	1,072,993	12,648,797	6,288,612	6,360,185	
65	REMAINING SENDOUT BY CLASS - Therms																
66		Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	SUMMER	
67	Res Heat	1,734,258	2,748,577	3,439,526	2,850,322	2,439,381	1,185,990	295,383	88,982	-	3,333	42,562	532,304	15,360,618	14,398,054	962,564	
68	Res General	10,343	19,481	25,833	20,790	16,639	5,303	6,802	2,049	-	77	980	12,257	120,554	98,389	22,165	
69	G50 Low Annual-Low Winter	44,893	104,755	146,915	115,025	85,888	11,439	62,478	18,821	-	705	9,002	112,590	712,510	508,914	203,596	
70	G40 Low Annual-High Winter	945,784	1,467,027	1,820,781	1,515,260	1,308,724	665,080	109,007	32,837	-	1,230	15,707	196,439	8,077,876	7,722,657	355,220	
71	G51 Med Annual-Low Winter	84,982	171,004	231,097	184,243	144,113	37,299	73,733	22,212	-	832	10,624	132,873	1,093,012	852,738	240,274	
72	G41 Med Annual-High Winter	682,990	1,064,741	1,324,058	1,100,786	948,697	477,221	87,431	26,338	-	986	12,598	157,557	5,883,404	5,598,493	284,911	
73	G52 High Annual-Low Winter	32,056	108,057	162,186	122,948	83,835	-	98,877	29,786	-	1,116	14,247	178,184	831,293	509,083	322,210	
74	G42 High Annual-High Winter	66,426	112,986	145,020	118,635	98,651	41,007	23,893	7,197	-	270	3,443	43,056	660,585	582,727	77,859	
75	Subtotal																
76	Residential	1,744,601	2,768,059	3,465,359	2,871,112	2,456,019	1,191,293	302,185	91,031	-	3,409	43,542	544,561	15,481,172	14,496,443	984,729	
77	SALES HLF CLASSES	161,931	383,816	540,199	422,216	313,836	48,737	235,088	70,818	-	2,652	33,874	423,647	2,636,815	1,870,735	766,080	
78	SALES LLF CLASSES	1,695,200	2,644,754	3,289,859	2,734,681	2,356,073	1,183,309	220,330	66,373	-	2,486	31,748	397,052	14,621,865	13,903,877	717,989	
79	Total Firm Sales	3,601,733	5,796,629	7,295,417	6,028,009	5,125,928	2,423,339	757,604	228,222	-	8,547	109,164	1,365,260	32,739,853	30,271,056	2,468,797	
80																	

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 - NEW HAMPSHIRE DIVISION
Allocation of Demand Costs to Customer Classes

Base Capacity Costs

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	SUMMER
BASE SENDOUT BY CLASS															
Total Therms															
Res Heat	404,856	418,351	418,351	391,361	418,351	404,856	418,351	404,856	415,019	418,351	404,856	418,351	4,935,909	2,456,126	2,479,784
Res General	9,323	9,633	9,633	9,012	9,633	9,323	9,633	9,323	9,557	9,633	9,323	9,633	113,660	56,558	57,103
G50 Low Annual-Low Winter	85,633	88,487	88,487	82,778	88,487	85,633	88,487	85,633	87,782	88,487	85,633	88,487	1,044,014	519,505	524,509
G40 Low Annual-High Winter	149,406	154,386	154,386	144,426	154,386	149,406	154,386	149,406	153,156	154,386	149,406	154,386	1,821,523	906,396	915,127
G51 Med Annual-Low Winter	101,060	104,428	104,428	97,691	104,428	101,060	104,428	101,060	103,596	104,428	101,060	104,428	1,232,096	613,095	619,001
G41 Med Annual-High Winter	119,834	123,828	123,828	115,839	123,828	119,834	123,828	119,834	122,842	123,828	119,834	123,828	1,460,986	726,992	733,994
G52 High Annual-Low Winter	135,522	140,039	140,039	131,005	140,039	124,627	140,039	135,522	138,924	140,039	135,522	140,039	1,641,358	811,272	830,086
G42 High Annual-High Winter	32,747	33,839	33,839	31,656	33,839	32,747	33,839	32,747	33,570	33,839	32,747	33,839	399,250	198,668	200,582
Total Firm Sales	1,038,380	1,072,993	1,072,993	1,003,768	1,072,993	1,027,485	1,072,993	1,038,380	1,064,446	1,072,993	1,038,380	1,072,993	12,648,797	6,288,612	6,360,185
% of Total															
Res Heat	38.99%	38.99%	38.99%	38.99%	38.99%	39.40%	38.99%	38.99%	38.99%	38.99%	38.99%	38.99%	38.99%	38.99%	
Res General	0.90%	0.90%	0.90%	0.90%	0.90%	0.91%	0.90%	0.90%	0.90%	0.90%	0.90%	0.90%	0.90%	0.90%	
G50 Low Annual-Low Winter	8.25%	8.25%	8.25%	8.25%	8.25%	8.33%	8.25%	8.25%	8.25%	8.25%	8.25%	8.25%	8.25%	8.25%	
G40 Low Annual-High Winter	14.39%	14.39%	14.39%	14.39%	14.39%	14.54%	14.39%	14.39%	14.39%	14.39%	14.39%	14.39%	14.39%	14.39%	
G51 Med Annual-Low Winter	9.73%	9.73%	9.73%	9.73%	9.73%	9.84%	9.73%	9.73%	9.73%	9.73%	9.73%	9.73%	9.73%	9.73%	
G41 Med Annual-High Winter	11.54%	11.54%	11.54%	11.54%	11.54%	11.66%	11.54%	11.54%	11.54%	11.54%	11.54%	11.54%	11.54%	11.54%	
G52 High Annual-Low Winter	13.05%	13.05%	13.05%	13.05%	13.05%	12.13%	13.05%	13.05%	13.05%	13.05%	13.05%	13.05%	13.05%	13.05%	
G42 High Annual-High Winter	3.15%	3.15%	3.15%	3.15%	3.15%	3.19%	3.15%	3.15%	3.15%	3.15%	3.15%	3.15%	3.15%	3.15%	
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															
TOTAL PIPELINE BASE DEMAND COST	\$ 54,620	\$ 54,620	\$ 54,620	\$ 54,620	\$ 54,620	\$ 54,620	\$ 54,620	\$ 54,620	\$ 54,620	\$ 54,620	\$ 54,620	\$ 54,620	\$ 655,434	\$ 327,717	\$ 327,717
Res Heat	\$ 21,296	\$ 21,296	\$ 21,296	\$ 21,296	\$ 21,296	\$ 21,522	\$ 21,296	\$ 21,296	\$ 21,296	\$ 21,296	\$ 21,296	\$ 21,296	\$ 255,774	\$ 128,000	\$ 127,774
Res General	\$ 490	\$ 490	\$ 490	\$ 490	\$ 490	\$ 496	\$ 490	\$ 490	\$ 490	\$ 490	\$ 490	\$ 490	\$ 5,890	\$ 2,947	\$ 2,942
G50 Low Annual-Low Winter	\$ 4,504	\$ 4,504	\$ 4,504	\$ 4,504	\$ 4,504	\$ 4,552	\$ 4,504	\$ 4,504	\$ 4,504	\$ 4,504	\$ 4,504	\$ 4,504	\$ 54,100	\$ 27,074	\$ 27,026
G40 Low Annual-High Winter	\$ 7,859	\$ 7,859	\$ 7,859	\$ 7,859	\$ 7,859	\$ 7,942	\$ 7,859	\$ 7,859	\$ 7,859	\$ 7,859	\$ 7,859	\$ 7,859	\$ 94,390	\$ 47,236	\$ 47,153
G51 Med Annual-Low Winter	\$ 5,316	\$ 5,316	\$ 5,316	\$ 5,316	\$ 5,316	\$ 5,372	\$ 5,316	\$ 5,316	\$ 5,316	\$ 5,316	\$ 5,316	\$ 5,316	\$ 63,846	\$ 31,951	\$ 31,895
G41 Med Annual-High Winter	\$ 6,303	\$ 6,303	\$ 6,303	\$ 6,303	\$ 6,303	\$ 6,370	\$ 6,303	\$ 6,303	\$ 6,303	\$ 6,303	\$ 6,303	\$ 6,303	\$ 75,707	\$ 37,887	\$ 37,820
G52 High Annual-Low Winter	\$ 7,129	\$ 7,129	\$ 7,129	\$ 7,129	\$ 7,129	\$ 6,625	\$ 7,129	\$ 7,129	\$ 7,129	\$ 7,129	\$ 7,129	\$ 7,129	\$ 85,039	\$ 42,268	\$ 42,771
G42 High Annual-High Winter	\$ 1,723	\$ 1,723	\$ 1,723	\$ 1,723	\$ 1,723	\$ 1,741	\$ 1,723	\$ 1,723	\$ 1,723	\$ 1,723	\$ 1,723	\$ 1,723	\$ 20,689	\$ 10,354	\$ 10,335
Residential	\$ 21,786	\$ 21,786	\$ 21,786	\$ 21,786	\$ 21,786	\$ 22,017	\$ 21,786	\$ 21,786	\$ 21,786	\$ 21,786	\$ 21,786	\$ 21,786	\$ 261,664	\$ 130,948	\$ 130,716
SALES HLF CLASSES	\$ 16,949	\$ 16,949	\$ 16,949	\$ 16,949	\$ 16,949	\$ 16,549	\$ 16,949	\$ 16,949	\$ 16,949	\$ 16,949	\$ 16,949	\$ 16,949	\$ 202,985	\$ 101,293	\$ 101,692
SALES LLF CLASSES	\$ 15,885	\$ 15,885	\$ 15,885	\$ 15,885	\$ 15,885	\$ 16,053	\$ 15,885	\$ 15,885	\$ 15,885	\$ 15,885	\$ 15,885	\$ 15,885	\$ 190,785	\$ 95,477	\$ 95,308

**Northern Utilities - NEW HAMPSHIRE
Allocation of Demand Costs to Customers**

Base Capacity Costs

1	BASE SENDOUT BY CLASS	
2	Total Therms	
3	Res Heat	Schedule 6-CAK, LN 52
4	Res General	Schedule 6-CAK, LN 53
5	G50 Low Annual-Low Winter	Schedule 6-CAK, LN 54
6	G40 Low Annual-High Winter	Schedule 6-CAK, LN 55
7	G51 Med Annual-Low Winter	Schedule 6-CAK, LN 56
8	G41 Med Annual-High Winter	Schedule 6-CAK, LN 57
9	G52 High Annual-Low Winter	Schedule 6-CAK, LN 58
10	G42 High Annual-High Winter	Schedule 6-CAK, 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 5-CAK, LN 69
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	23,692	1,350	22,342	49.64%
Res General	218	31	187	0.42%
G50 Low Annual-Low Winter	982	285	697	1.55%
G40 Low Annual-High Winter	11,301	498	10,803	24.00%
G51 Med Annual-Low Winter	1,300	337	963	2.14%
G41 Med Annual-High Winter	8,384	399	7,985	17.74%
G52 High Annual-Low Winter	1,383	452	931	2.07%
G42 High Annual-High Winter	1,210	109	1,101	2.45%
TOTAL	48,469	3,461	45,008	100.00%

REMAINING PIPELINE DEMAND

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	SUMMER
NH DIVISION TOTAL - REMAINING PIPELINE	\$ 90,332	\$ 183,047	\$ 395,139	\$ 200,787	\$ 148,764	\$ 54,191	\$ 13,838	\$ 3,691	\$ -	\$ 119	\$ 1,662	\$ 27,150	\$ 1,118,719	\$ 1,072,260	\$ 46,459
Res Heat	\$ 44,841	\$ 90,865	\$ 196,147	\$ 99,671	\$ 73,847	\$ 26,901	\$ 6,869	\$ 1,832	\$ -	\$ 59	\$ 825	\$ 13,477	\$ 555,334	\$ 532,271	\$ 23,062
Res General	\$ 375	\$ 760	\$ 1,640	\$ 833	\$ 617	\$ 225	\$ 57	\$ 15	\$ -	\$ 0	\$ 7	\$ 113	\$ 4,643	\$ 4,451	\$ 193
G50 Low Annual-Low Winter	\$ 1,399	\$ 2,835	\$ 6,120	\$ 3,110	\$ 2,304	\$ 839	\$ 214	\$ 57	\$ -	\$ 2	\$ 26	\$ 421	\$ 17,328	\$ 16,608	\$ 720
G40 Low Annual-High Winter	\$ 21,681	\$ 43,934	\$ 94,840	\$ 48,192	\$ 35,706	\$ 13,007	\$ 3,321	\$ 886	\$ -	\$ 29	\$ 399	\$ 6,516	\$ 268,511	\$ 257,360	\$ 11,151
G51 Med Annual-Low Winter	\$ 1,933	\$ 3,917	\$ 8,455	\$ 4,296	\$ 3,183	\$ 1,160	\$ 296	\$ 79	\$ -	\$ 3	\$ 36	\$ 581	\$ 23,937	\$ 22,943	\$ 994
G41 Med Annual-High Winter	\$ 16,026	\$ 32,475	\$ 70,103	\$ 35,622	\$ 26,393	\$ 9,614	\$ 2,455	\$ 655	\$ -	\$ 21	\$ 295	\$ 4,817	\$ 198,475	\$ 190,232	\$ 8,242
G52 High Annual-Low Winter	\$ 1,868	\$ 3,784	\$ 8,169	\$ 4,151	\$ 3,076	\$ 1,120	\$ 286	\$ 76	\$ -	\$ 2	\$ 34	\$ 561	\$ 23,129	\$ 22,169	\$ 961
G42 High Annual-High Winter	\$ 2,209	\$ 4,477	\$ 9,665	\$ 4,911	\$ 3,639	\$ 1,325	\$ 338	\$ 90	\$ -	\$ 3	\$ 41	\$ 664	\$ 27,363	\$ 26,226	\$ 1,136
TOTAL	\$ 90,332	\$ 183,047	\$ 395,139	\$ 200,787	\$ 148,764	\$ 54,191	\$ 13,838	\$ 3,691	\$ -	\$ 119	\$ 1,662	\$ 27,150	\$ 1,118,719	\$ 1,072,260	\$ 46,459
Residential	\$ 45,216	\$ 91,624	\$ 197,787	\$ 100,505	\$ 74,464	\$ 27,126	\$ 6,927	\$ 1,847	\$ -	\$ 60	\$ 832	\$ 13,590	\$ 559,977	\$ 536,722	\$ 23,255
SALES HLF CLASSES	\$ 5,200	\$ 10,536	\$ 22,744	\$ 11,557	\$ 8,563	\$ 3,119	\$ 797	\$ 212	\$ -	\$ 7	\$ 96	\$ 1,563	\$ 64,394	\$ 61,720	\$ 2,674
SALES LLF CLASSES	\$ 39,917	\$ 80,886	\$ 174,607	\$ 88,726	\$ 65,737	\$ 23,947	\$ 6,115	\$ 1,631	\$ -	\$ 53	\$ 734	\$ 11,997	\$ 494,348	\$ 473,819	\$ 20,530

STORAGE AND ON-SYSTEM PEAKING DEMAND

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	SUMMER
NH DIVISION TOTAL - PEAKING & STORAGE	\$ 683,680	\$ 1,385,398	\$ 2,990,625	\$ 1,519,669	\$ 1,125,926	\$ 410,151	\$ 104,733	\$ 27,933	\$ -	\$ 902	\$ 12,579	\$ 205,482	\$ 8,467,077	\$ 8,115,448	\$ 351,629
Res Heat	\$ 339,380	\$ 687,714	\$ 1,484,550	\$ 754,366	\$ 558,911	\$ 203,599	\$ 51,990	\$ 13,866	\$ -	\$ 448	\$ 6,244	\$ 102,002	\$ 4,203,069	\$ 4,028,520	\$ 174,549
Res General	\$ 2,838	\$ 5,750	\$ 12,413	\$ 6,308	\$ 4,673	\$ 1,702	\$ 435	\$ 116	\$ -	\$ 4	\$ 52	\$ 853	\$ 35,143	\$ 33,684	\$ 1,459
G50 Low Annual-Low Winter	\$ 10,589	\$ 21,458	\$ 46,321	\$ 23,538	\$ 17,439	\$ 6,353	\$ 1,622	\$ 433	\$ -	\$ 14	\$ 195	\$ 3,183	\$ 131,145	\$ 125,698	\$ 5,446
G40 Low Annual-High Winter	\$ 164,094	\$ 332,518	\$ 717,798	\$ 364,745	\$ 270,240	\$ 98,443	\$ 25,138	\$ 6,704	\$ -	\$ 216	\$ 3,019	\$ 49,319	\$ 2,032,235	\$ 1,947,839	\$ 84,397
G51 Med Annual-Low Winter	\$ 14,629	\$ 29,643	\$ 63,990	\$ 32,516	\$ 24,091	\$ 8,776	\$ 2,241	\$ 598	\$ -	\$ 19	\$ 269	\$ 4,397	\$ 181,169	\$ 173,645	\$ 7,524
G41 Med Annual-High Winter	\$ 121,293	\$ 245,787	\$ 530,574	\$ 269,608	\$ 199,753	\$ 72,766	\$ 18,581	\$ 4,956	\$ -	\$ 160	\$ 2,232	\$ 36,455	\$ 1,502,165	\$ 1,439,782	\$ 62,383
G52 High Annual-Low Winter	\$ 14,135	\$ 28,643	\$ 61,830	\$ 31,419	\$ 23,278	\$ 8,480	\$ 2,165	\$ 577	\$ -	\$ 19	\$ 260	\$ 4,248	\$ 175,054	\$ 167,784	\$ 7,270
G42 High Annual-High Winter	\$ 16,722	\$ 33,886	\$ 73,148	\$ 37,170	\$ 27,539	\$ 10,032	\$ 2,562	\$ 683	\$ -	\$ 22	\$ 308	\$ 5,026	\$ 207,097	\$ 198,496	\$ 8,601
TOTAL	\$ 683,680	\$ 1,385,398	\$ 2,990,625	\$ 1,519,669	\$ 1,125,926	\$ 410,151	\$ 104,733	\$ 27,933	\$ -	\$ 902	\$ 12,579	\$ 205,482	\$ 8,467,077	\$ 8,115,448	\$ 351,629
Residential	\$ 342,217	\$ 693,464	\$ 1,496,963	\$ 760,673	\$ 563,584	\$ 205,302	\$ 52,424	\$ 13,982	\$ -	\$ 451	\$ 6,297	\$ 102,855	\$ 4,238,212	\$ 4,062,203	\$ 176,009
SALES HLF CLASSES	\$ 39,353	\$ 79,744	\$ 172,141	\$ 87,473	\$ 64,809	\$ 23,608	\$ 6,028	\$ 1,608	\$ -	\$ 52	\$ 724	\$ 11,828	\$ 487,367	\$ 467,127	\$ 20,240
SALES LLF CLASSES	\$ 302,110	\$ 612,190	\$ 1,321,520	\$ 671,523	\$ 497,533	\$ 181,240	\$ 46,280	\$ 12,343	\$ -	\$ 399	\$ 5,559	\$ 90,800	\$ 3,741,497	\$ 3,586,117	\$ 155,381

OFF-SYSTEM PEAKING DEMAND

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	SUMMER
NH DIVISION - OFF-SYSTEM PEAKING	\$ 319,693	\$ 677,675	\$ 1,386,107	\$ 742,928	\$ 557,469	\$ 212,936	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,896,809	\$ 3,896,809	\$ -
Res Heat	\$ 158,696	\$ 336,399	\$ 688,066	\$ 368,790	\$ 276,728	\$ 105,702	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,934,381	\$ 1,934,381	\$ -
Res General	\$ 1,327	\$ 2,813	\$ 5,753	\$ 3,084	\$ 2,314	\$ 884	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 16,174	\$ 16,174	\$ -
G50 Low Annual-Low Winter	\$ 4,952	\$ 10,496	\$ 21,469	\$ 11,507	\$ 8,635	\$ 3,298	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 60,357	\$ 60,357	\$ -
G40 Low Annual-High Winter	\$ 76,732	\$ 162,653	\$ 332,688	\$ 178,315	\$ 133,802	\$ 51,108	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 935,297	\$ 935,297	\$ -
G51 Med Annual-Low Winter	\$ 6,840	\$ 14,500	\$ 29,658	\$ 15,896	\$ 11,928	\$ 4,556	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 83,379	\$ 83,379	\$ -
G41 Med Annual-High Winter	\$ 56,718	\$ 120,228	\$ 245,913	\$ 131,805	\$ 98,902	\$ 37,778	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 691,343	\$ 691,343	\$ -
G52 High Annual-Low Winter	\$ 6,610	\$ 14,011	\$ 28,657	\$ 15,360	\$ 11,525	\$ 4,402	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 80,565	\$ 80,565	\$ -
G42 High Annual-High Winter	\$ 7,819	\$ 16,575	\$ 33,903	\$ 18,171	\$ 13,635	\$ 5,208	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 95,312	\$ 95,312	\$ -
TOTAL	\$ 319,693	\$ 677,675	\$ 1,386,107	\$ 742,928	\$ 557,469	\$ 212,936	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,896,809	\$ 3,896,809	\$ -
Residential	\$ 160,023	\$ 339,212	\$ 693,819	\$ 371,874	\$ 279,042	\$ 106,586	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,950,556	\$ 1,950,556	\$ -
SALES HLF CLASSES	\$ 19,729	\$ 41,820	\$ 85,538	\$ 45,847	\$ 34,402	\$ 13,140	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 240,476	\$ 240,476	\$ -
SALES LLF CLASSES	\$ 299,965	\$ 635,856	\$ 1,300,569	\$ 697,081	\$ 523,067	\$ 199,796	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,656,334	\$ 3,656,334	\$ -

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		

REMAINING PIPELINE DEMAND

51		
52	NH DIVISION TOTAL - REMAINING PIPELINE DEMAND	Schedule 5-CAK, 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		

STORAGE AND ON-SYSTEM PEAKING DEMAND

69		
70	NH DIVISION TOTAL - PEAKING & STORAGE DEMAND	Schedule 5-CAK, LN 73
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		

Off-SYSTEM PEAKING DEMAND

87		
88	NH DIVISION - OFF-SYSTEM PEAKING	Schedule 5-CAK, LN 74
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		

105 **CAPACITY RELEASE MARGINS & ASSET MANAGEMENT CREDIT BY CLASS**

106		Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	SUMMER
107	NH DIVISION - MONTHLY CAP. RELEASE	\$ (531,073)	\$ (1,033,122)	\$ (2,181,592)	\$ (1,129,187)	\$ (847,481)	\$ (335,374)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (6,057,829)	\$ (6,057,829)	\$ -
108																
109	Res Heat	\$ (263,625)	\$ (512,843)	\$ (1,082,946)	\$ (560,530)	\$ (420,691)	\$ (166,480)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (3,007,115)	\$ (3,007,115)	\$ -
110	Res General	\$ (2,204)	\$ (4,288)	\$ (9,055)	\$ (4,687)	\$ (3,518)	\$ (1,392)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (25,144)	\$ (25,144)	\$ -
111	G50 Low Annual-Low Winter	\$ (8,226)	\$ (16,002)	\$ (33,790)	\$ (17,490)	\$ (13,126)	\$ (5,195)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (93,828)	\$ (93,828)	\$ -
112	G40 Low Annual-High Winter	\$ (127,466)	\$ (247,966)	\$ (523,617)	\$ (271,023)	\$ (203,409)	\$ (80,495)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (1,453,977)	\$ (1,453,977)	\$ -
113	G51 Med Annual-Low Winter	\$ (11,363)	\$ (22,106)	\$ (46,679)	\$ (24,161)	\$ (18,133)	\$ (7,176)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (129,618)	\$ (129,618)	\$ -
114	G41 Med Annual-High Winter	\$ (94,219)	\$ (183,289)	\$ (387,042)	\$ (200,332)	\$ (150,354)	\$ (59,500)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (1,074,734)	\$ (1,074,734)	\$ -
115	G52 High Annual-Low Winter	\$ (10,980)	\$ (21,359)	\$ (45,104)	\$ (23,346)	\$ (17,521)	\$ (6,934)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (125,244)	\$ (125,244)	\$ -
116	G42 High Annual-High Winter	\$ (12,990)	\$ (25,269)	\$ (53,360)	\$ (27,619)	\$ (20,729)	\$ (8,203)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (148,169)	\$ (148,169)	\$ -
117	TOTAL	\$ (531,073)	\$ (1,033,122)	\$ (2,181,592)	\$ (1,129,187)	\$ (847,481)	\$ (335,374)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (6,057,829)	\$ (6,057,829)	\$ -
118																
119	Residential	\$ (265,830)	\$ (517,131)	\$ (1,092,000)	\$ (565,217)	\$ (424,208)	\$ (167,872)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (3,032,258)	\$ (3,032,258)	\$ -
120	SALES HLF CLASSES	\$ (30,569)	\$ (59,467)	\$ (125,573)	\$ (64,996)	\$ (48,781)	\$ (19,304)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (348,690)	\$ (348,690)	\$ -
121	SALES LLF CLASSES	\$ (234,675)	\$ (456,524)	\$ (964,019)	\$ (498,974)	\$ (374,491)	\$ (148,198)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (2,676,880)	\$ (2,676,880)	\$ -
122																

123 **MISCELLANEOUS CREDITS BY CLASS (Includes Re-entry Rate & Conversion Rate Revenues and Interruptible Margins)**

124		Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	SUMMER
125	NH DIVISION - MISCELLANEOUS CREDIT	\$ (877)	\$ (1,705)	\$ (3,601)	\$ (1,864)	\$ (1,399)	\$ (554)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (10,000)	\$ (10,000)	\$ -
126																
127	Res Heat	\$ (435)	\$ (847)	\$ (1,788)	\$ (925)	\$ (694)	\$ (275)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (4,964)	\$ (4,964)	\$ -
128	Res General	\$ (4)	\$ (7)	\$ (15)	\$ (8)	\$ (6)	\$ (2)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (42)	\$ (42)	\$ -
129	G50 Low Annual-Low Winter	\$ (14)	\$ (26)	\$ (56)	\$ (29)	\$ (22)	\$ (9)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (155)	\$ (155)	\$ -
130	G40 Low Annual-High Winter	\$ (210)	\$ (409)	\$ (864)	\$ (447)	\$ (336)	\$ (133)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (2,400)	\$ (2,400)	\$ -
131	G51 Med Annual-Low Winter	\$ (19)	\$ (36)	\$ (77)	\$ (40)	\$ (30)	\$ (12)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (214)	\$ (214)	\$ -
132	G41 Med Annual-High Winter	\$ (156)	\$ (303)	\$ (639)	\$ (331)	\$ (248)	\$ (98)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (1,774)	\$ (1,774)	\$ -
133	G52 High Annual-Low Winter	\$ (18)	\$ (35)	\$ (74)	\$ (39)	\$ (29)	\$ (11)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (207)	\$ (207)	\$ -
134	G42 High Annual-High Winter	\$ (21)	\$ (42)	\$ (88)	\$ (46)	\$ (34)	\$ (14)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (245)	\$ (245)	\$ -
135	TOTAL	\$ (877)	\$ (1,705)	\$ (3,601)	\$ (1,864)	\$ (1,399)	\$ (554)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (10,000)	\$ (10,000)	\$ -
136																
137	Residential	\$ (439)	\$ (854)	\$ (1,803)	\$ (933)	\$ (700)	\$ (277)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (5,006)	\$ (5,006)	\$ -
138	SALES HLF CLASSES	\$ (54)	\$ (105)	\$ (222)	\$ (115)	\$ (86)	\$ (34)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (617)	\$ (617)	\$ -
139	SALES LLF CLASSES	\$ (823)	\$ (1,600)	\$ (3,379)	\$ (1,749)	\$ (1,313)	\$ (519)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (9,383)	\$ (9,383)	\$ -
140																

141 **TOTAL NON-BASE CAPACITY COSTS**

142		Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	SUMMER
143	Res Heat	\$ 278,856	\$ 601,288	\$ 1,284,030	\$ 661,372	\$ 488,101	\$ 169,447	\$ 58,859	\$ 15,698	\$ -	\$ 507	\$ 7,070	\$ 115,479	\$ 3,680,705	\$ 3,483,094	\$ 197,612
144	Res General	\$ 2,332	\$ 5,028	\$ 10,736	\$ 5,530	\$ 4,081	\$ 1,417	\$ 492	\$ 131	\$ -	\$ 4	\$ 59	\$ 966	\$ 30,776	\$ 29,123	\$ 1,652
145	G50 Low Annual-Low Winter	\$ 8,701	\$ 18,761	\$ 40,064	\$ 20,636	\$ 15,230	\$ 5,287	\$ 1,837	\$ 490	\$ -	\$ 16	\$ 221	\$ 3,603	\$ 114,846	\$ 108,680	\$ 6,166
146	G40 Low Annual-High Winter	\$ 134,830	\$ 290,730	\$ 620,844	\$ 319,781	\$ 236,003	\$ 81,930	\$ 28,459	\$ 7,590	\$ -	\$ 245	\$ 3,418	\$ 55,835	\$ 1,779,666	\$ 1,684,119	\$ 95,548
147	G51 Med Annual-Low Winter	\$ 12,020	\$ 25,918	\$ 55,347	\$ 28,508	\$ 21,039	\$ 7,304	\$ 2,537	\$ 677	\$ -	\$ 22	\$ 305	\$ 4,978	\$ 158,653	\$ 150,135	\$ 8,518
148	G41 Med Annual-High Winter	\$ 99,662	\$ 214,899	\$ 458,909	\$ 236,373	\$ 174,446	\$ 60,560	\$ 21,036	\$ 5,610	\$ -	\$ 181	\$ 2,527	\$ 41,272	\$ 1,315,474	\$ 1,244,848	\$ 70,626
149	G52 High Annual-Low Winter	\$ 11,614	\$ 25,043	\$ 53,479	\$ 27,546	\$ 20,329	\$ 7,057	\$ 2,451	\$ 654	\$ -	\$ 21	\$ 294	\$ 4,810	\$ 153,298	\$ 145,068	\$ 8,230
150	G42 High Annual-High Winter	\$ 13,740	\$ 29,627	\$ 63,268	\$ 32,588	\$ 24,050	\$ 8,349	\$ 2,900	\$ 773	\$ -	\$ 25	\$ 348	\$ 5,690	\$ 181,359	\$ 171,622	\$ 9,737
151	TOTAL	\$ 561,756	\$ 1,211,293	\$ 2,586,677	\$ 1,332,333	\$ 983,279	\$ 341,350	\$ 118,571	\$ 31,623	\$ -	\$ 1,021	\$ 14,242	\$ 232,632	\$ 7,414,776	\$ 7,016,688	\$ 398,088
152																
153	Residential	\$ 281,188	\$ 606,315	\$ 1,294,766	\$ 666,902	\$ 492,182	\$ 170,864	\$ 59,351	\$ 15,829	\$ -	\$ 511	\$ 7,129	\$ 116,444	\$ 3,711,481	\$ 3,512,217	\$ 199,264
154	SALES HLF CLASSES	\$ 32,335	\$ 69,722	\$ 148,890	\$ 76,689	\$ 56,598	\$ 19,648	\$ 6,825	\$ 1,820	\$ -	\$ 59	\$ 820	\$ 13,390	\$ 426,797	\$ 403,883	\$ 22,914
155	SALES LLF CLASSES	\$ 248,233	\$ 535,256	\$ 1,143,021	\$ 588,742	\$ 434,499	\$ 150,838	\$ 52,395	\$ 13,974	\$ -	\$ 451	\$ 6,293	\$ 102,797	\$ 3,276,499	\$ 3,100,588	\$ 175,910
156																

157 **TOTAL CAPACITY COSTS**

158		Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	SUMMER
159	Res Heat	\$ 300,152	\$ 622,583	\$ 1,305,326	\$ 682,668	\$ 509,397	\$ 190,968	\$ 80,154	\$ 36,994	\$ 21,296	\$ 21,803	\$ 28,365	\$ 136,775	\$ 3,936,480	\$ 3,611,094	\$ 325,386
160	Res General	\$ 2,822	\$ 5,518	\$ 11,227	\$ 6,020	\$ 4,572	\$ 1,912	\$ 983	\$ 622	\$ 490	\$ 495	\$ 549	\$ 1,456	\$ 36,665	\$ 32,071	\$ 4,595
161	G50 Low Annual-Low Winter	\$ 13,205	\$ 23,266	\$ 44,569	\$ 25,141	\$ 19,734	\$ 9,839	\$ 6,341	\$ 4,994	\$ 4,504	\$ 4,520	\$ 4,725	\$ 8,108	\$ 168,946	\$ 135,754	\$ 33,192
162	G40 Low Annual-High Winter	\$ 142,689	\$ 298,589	\$ 628,703	\$ 327,640	\$ 243,862	\$ 89,872	\$ 36,318	\$ 15,449	\$ 7,859	\$ 8,104	\$ 11,277	\$ 63,694	\$ 1,874,056	\$ 1,731,355	\$ 142,701
163	G51 Med Annual-Low Winter	\$ 17,336	\$ 31,234	\$ 60,663	\$ 33,824	\$ 26,355	\$ 12,676	\$ 7,853	\$ 5,992	\$ 5,316	\$ 5,338	\$ 5,621	\$ 10,293	\$ 222,499	\$ 182,086	\$ 40,413
164	G41 Med Annual-High Winter	\$ 105,966	\$ 221,202	\$ 465,212	\$ 242,676	\$ 180,749	\$ 66,930	\$ 27,339	\$ 11,914	\$ 6,303	\$ 6,484	\$ 8,830	\$ 47,575	\$ 1,391,181	\$ 1,282,735	\$ 108,446
165	G52 High Annual-Low Winter	\$ 18,743	\$ 32,172	\$ 60,607	\$ 34,674	\$ 27,458	\$ 13,682	\$ 9,580	\$ 7,782	\$ 7,129	\$ 7,150	\$ 7,423	\$ 11,938	\$ 238,337	\$ 187,335	\$ 51,002
166	G42 High Annual-High Winter	\$ 15,463	\$ 31,350	\$ 64,990	\$ 34,310	\$ 25,773	\$ 10,090	\$ 4,623	\$ 2,496	\$ 1,723	\$ 1,748	\$ 2,071	\$ 7,413	\$ 202,047	\$ 181,975	\$ 20,072
167	TOTAL	\$ 616,375	\$ 1,265,913	\$ 2,641,297	\$ 1,386,953	\$ 1,037,898	\$ 395,970	\$ 173,190	\$ 86,243	\$ 54,620	\$ 55,640	\$ 68,861	\$ 287,252	\$ 8,070,211	\$ 7,344,405	\$ 725,806
168																
169	Residential	\$ 302,974	\$ 628,101	\$ 1,316,552	\$ 688,688	\$ 513,968	\$ 192,881	\$ 81,137	\$ 37,615	\$ 21,786	\$ 22,297	\$ 28,915	\$ 138,230	\$ 3,973,145	\$ 3,643,165	\$ 329,980
170	SALES HLF CLASSES	\$ 49,284	\$ 86,671	\$ 165,839	\$ 93,638	\$ 73,547	\$ 36,197	\$ 23,774	\$ 18,769	\$ 16,949	\$ 17,007	\$ 17,768	\$ 30,339	\$ 629,782	\$ 505,175	\$ 124,606
171	SALES LLF CLASSES	\$ 264,118	\$ 551,140	\$ 1,158,906	\$ 604,626	\$ 450,384	\$ 166,892	\$ 68,280	\$ 29,859	\$ 15,885	\$ 16,336	\$ 22,178	\$ 118,682	\$ 3,467,284	\$ 3,196,065	\$ 271,219
172																
173	% ALLOCATION BETWEEN SALES HLF AND LLF															
174	SALES HLF CLASSES															
175	SALES LLF CLASSES															

105	CAPACITY RELEASE MARGINS & ASSET MANAGEMENT CREDIT BY CLASS	
106		
107	NH DIVISION - MONTHLY CAP. RELEASE	Schedule 5-CAK, LN 76
108		
109	Res Heat	LN 40 Col D * LN 107
110	Res General	LN 41 Col D * LN 107
111	G50 Low Annual-Low Winter	LN 42 Col D * LN 107
112	G40 Low Annual-High Winter	LN 43 Col D * LN 107
113	G51 Med Annual-Low Winter	LN 44 Col D * LN 107
114	G41 Med Annual-High Winter	LN 45 Col D * LN 107
115	G52 High Annual-Low Winter	LN 46 Col D * LN 107
116	G42 High Annual-High Winter	LN 47 Col D * LN 107
117	TOTAL	Sum LN 109 : LN 116
118		
119	Residential	LN 109 + LN 110
120	SALES HLF CLASSES	LN 111 + LN 113 + LN 115
121	SALES LLF CLASSES	LN 112 + LN 114 + LN 116
122		
123	MISCELLANEOUS CREDITS BY CLASS (Includes Re-entry Rate & Conversion Ra	
124		
125	NH DIVISION - MISCELLANEOUS CREDIT	Schedule 5-CAK, LN 77 + LN 78
126		
127	Res Heat	LN 40 Col D * LN 125
128	Res General	LN 41 Col D * LN 125
129	G50 Low Annual-Low Winter	LN 42 Col D * LN 125
130	G40 Low Annual-High Winter	LN 43 Col D * LN 125
131	G51 Med Annual-Low Winter	LN 44 Col D * LN 125
132	G41 Med Annual-High Winter	LN 45 Col D * LN 125
133	G52 High Annual-Low Winter	LN 46 Col D * LN 125
134	G42 High Annual-High Winter	LN 47 Col D * LN 125
135	TOTAL	Sum LN 127 : LN 134
136		
137	Residential	LN 127 + LN 128
138	SALES HLF CLASSES	LN 129 + LN 131 + LN 133
139	SALES LLF CLASSES	LN 130 + LN 132 + LN 134
140		
141	TOTAL NON-BASE CAPACITY COSTS	
142		
143	Res Heat	Sum of Ln 54, 72, 90, 109, 127
144	Res General	Sum of Ln 55, 73, 91, 110, 128
145	G50 Low Annual-Low Winter	Sum of Ln 56, 74, 92, 111, 129
146	G40 Low Annual-High Winter	Sum of Ln 57, 75, 93, 112, 130
147	G51 Med Annual-Low Winter	Sum of Ln 58, 76, 94, 113, 131
148	G41 Med Annual-High Winter	Sum of Ln 59, 77, 95, 114, 132
149	G52 High Annual-Low Winter	Sum of Ln 60, 78, 96, 115, 133
150	G42 High Annual-High Winter	Sum of Ln 61, 79, 97, 116, 134
151	TOTAL	Sum LN 143 : LN 150
152		
153	Residential	LN 143 + LN 144
154	SALES HLF CLASSES	LN 145 + LN 147 + LN 149
155	SALES LLF CLASSES	LN 146 + LN 148 + LN 150
156		
157	TOTAL CAPACITY COSTS	
158		
159	Res Heat	LN 143 + LN 26
160	Res General	LN 144 + LN 27
161	G50 Low Annual-Low Winter	LN 145 + LN 28
162	G40 Low Annual-High Winter	LN 146 + LN 29
163	G51 Med Annual-Low Winter	LN 147 + LN 30
164	G41 Med Annual-High Winter	LN 148 + LN 31
165	G52 High Annual-Low Winter	LN 149 + LN 32
166	G42 High Annual-High Winter	LN 150 + LN 33
167	TOTAL	Sum LN 159 : LN 166
168		
169	Residential	LN 159 + LN 160
170	SALES HLF CLASSES	LN 161 + LN 163 + LN 165
171	SALES LLF CLASSES	LN 162 + LN 164 + LN 166
172		
173	% ALLOCATION BETWEEN SALES HLF AND	
174	SALES HLF CLASSES	LN 170 / (LN170 + LN 171)
175	SALES LLF CLASSES	LN 171 / (LN 170 + LN 171)

Northern Utilities
ALLOCATION OF COMMODITY COSTS BETWEEN ME & NH DIVISIONS

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	Summer
Supply Volumes - MMBtu															
Total Pipeline	720,067	615,478	557,996	526,109	639,074	969,749	510,915	354,416	307,247	308,564	332,093	656,863	6,498,570	4,028,472	2,470,098
Total Storage	310,102	658,152	812,194	820,428	701,195	439	0	0	0	0	0	0	3,302,510	3,302,510	0
Total Peaking	226,755	507,430	778,384	478,795	290,810	3,369	1,860	1,800	1,860	1,860	1,800	1,860	2,296,584	2,285,544	11,040
Total Off-system Sales													0	0	0
Subtotal	1,256,924	1,781,060	2,148,574	1,825,332	1,631,079	973,557	512,775	356,216	309,107	310,424	333,893	658,723	12,097,664	9,616,526	2,481,138
Less Interruptible - Maine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Less Interruptible - New Hampshire	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Firm Supply	1,256,924	1,781,060	2,148,574	1,825,332	1,631,079	973,557	512,775	356,216	309,107	310,424	333,893	658,723	12,097,664	9,616,526	2,481,138
Total Firm Pipeline Sendout	720,067	615,478	557,996	526,109	639,074	969,749	510,915	354,416	307,247	308,564	332,093	656,863	6,498,570	4,028,472	2,470,098
Variable Costs															
Pipeline Costs Modeled in Sendout™	\$ 1,797,848	\$ 1,741,179	\$ 2,015,417	\$ 1,863,362	\$ 1,792,992	\$ 2,168,195	\$ 1,104,254	\$ 765,743	\$ 669,901	\$ 672,296	\$ 702,927	\$ 1,424,889	\$ 16,719,003	\$ 11,378,994	\$ 5,340,010
NYMEX Price Used for Forecast	\$2.324	\$2.485	\$2.588	\$2.556	\$2.473	\$2.277	\$2.261	\$2.297	\$2.336	\$2.345	\$2.329	\$2.354			
NYMEX Price Used for Update	\$2.324	\$2.485	\$2.588	\$2.556	\$2.473	\$2.277	\$2.261	\$2.297	\$2.336	\$2.345	\$2.329	\$2.354			
Increase/(Decrease) NYMEX Price	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00			
Increase/(Decrease) in Pipeline Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		\$ -	
Total Updated Pipeline Costs	\$ 1,797,848	\$ 1,741,179	\$ 2,015,417	\$ 1,863,362	\$ 1,792,992	\$ 2,168,195	\$ 1,104,254	\$ 765,743	\$ 669,901	\$ 672,296	\$ 702,927	\$ 1,424,889	\$ 16,719,003	\$ 11,378,994	\$ 5,340,010
Total Pipeline	\$ 1,797,848	\$ 1,741,179	\$ 2,015,417	\$ 1,863,362	\$ 1,792,992	\$ 2,168,195	\$ 1,104,254	\$ 765,743	\$ 669,901	\$ 672,296	\$ 702,927	\$ 1,424,889	\$ 16,719,003	\$ 11,378,994	\$ 5,340,010
Total Storage	\$ 746,845	\$ 1,581,831	\$ 1,937,758	\$ 1,958,771	\$ 1,670,592	\$ 939	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,896,736	\$ 7,896,736	\$ -
Total Peaking	\$ 1,883,387	\$ 4,365,259	\$ 5,145,230	\$ 4,083,606	\$ 2,162,601	\$ 13,695	\$ 7,468	\$ 7,196	\$ 7,418	\$ 7,413	\$ 7,149	\$ 7,381	\$ 17,697,803	\$ 17,653,779	\$ 44,024
Total Off-sytem Sales	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ 4,428,080	\$ 7,688,269	\$ 9,098,405	\$ 7,905,740	\$ 5,626,185	\$ 2,182,829	\$ 1,111,722	\$ 772,939	\$ 677,319	\$ 679,709	\$ 710,075	\$ 1,432,270	\$ 42,313,542	\$ 36,929,508	\$ 5,384,034
Interruptible Cost Estimate															
Variable Pipeline Costs	\$ 1,797,848	\$ 1,741,179	\$ 2,015,417	\$ 1,863,362	\$ 1,792,992	\$ 2,168,195	\$ 1,104,254	\$ 765,743	\$ 669,901	\$ 672,296	\$ 702,927	\$ 1,424,889	\$ 16,719,003	\$ 11,378,994	\$ 5,340,010
Average Supply Cost (\$/MMBtu)	\$ 2.497	\$ 2.829	\$ 3.612	\$ 3.542	\$ 2.806	\$ 2.236	\$ 2.161	\$ 2.161	\$ 2.180	\$ 2.179	\$ 2.117	\$ 2.169			
Interruptible Cost - Maine	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interruptible Cost - New Hampshire	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Firm Sales Pipeline Commodity	\$ 1,797,848	\$ 1,741,179	\$ 2,015,417	\$ 1,863,362	\$ 1,792,992	\$ 2,168,195	\$ 1,104,254	\$ 765,743	\$ 669,901	\$ 672,296	\$ 702,927	\$ 1,424,889	\$ 16,719,003	\$ 11,378,994	\$ 5,340,010
Total Storage	\$ 746,845	\$ 1,581,831	\$ 1,937,758	\$ 1,958,771	\$ 1,670,592	\$ 939	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,896,736	\$ 7,896,736	\$ -
Total Peaking	\$ 1,883,387	\$ 4,365,259	\$ 5,145,230	\$ 4,083,606	\$ 2,162,601	\$ 13,695	\$ 7,468	\$ 7,196	\$ 7,418	\$ 7,413	\$ 7,149	\$ 7,381	\$ 17,697,803	\$ 17,653,779	\$ 44,024
Off-system Sales	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Firm Sales Variable Costs	\$ 4,428,080	\$ 7,688,269	\$ 9,098,405	\$ 7,905,740	\$ 5,626,185	\$ 2,182,829	\$ 1,111,722	\$ 772,939	\$ 677,319	\$ 679,709	\$ 710,075	\$ 1,432,270	\$ 42,313,542	\$ 36,929,508	\$ 5,384,034

Northern Utilities
ALLOCATION OF COMMODITY COSTS BETWEEN ME & NH DIVISIONS

1	Supply Volumes - MMBtu	
2	Total Pipeline	Schedule 23-FXW, Page 2
3	Total Storage	Schedule 23-FXW, Page 2
4	Total Peaking	Schedule 23-FXW, Page 2
5	Total Off-system Sales	
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™	Schedule 23-FXW, Page 1
13	NYMEX Price Used for Forecast	Schedule FXW-30, PG 1, LN 16
14	NYMEX Price Used for Update	Schedule FXW-30, PG 1, LN 16
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 23-FXW, Page 1
21	Total Peaking	Schedule23-FXW, Page 1
22	Total Off-sytem Sales	
23		
24	Subtotal	Sum LN 19 : LN 22
25		
26	Interruptible Cost Estimate	Company Analysis
27	Variable Pipeline Costs Excl'd Hedges	LN 17
28	Average Supply Cost (\$/MMBtu)	LN 27 / LN 2
29	Interruptible Cost - Maine	LN 28 * LN 7
30	Interruptible Cost - New Hampshire	LN 28 * LN 8
31		
32	Firm Sales Pipeline Commodity	LN 17 - LN 29 - LN 30
33	Total Storage	LN 20
34	Total Peaking	LN 21
35	Off-system Sales	LN 22
36	Firm Sales Variable Costs Excl'd Hedge	Sum LN 32 : LN35

Northern Utilities
ALLOCATION OF COMMODITY COSTS BETWEEN ME & NH DIVISIONS

37 **Commodity Allocation Factors**

38 Firm Sales Sendout for Normal Winter, MMBtu

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	Summer
40 Maine	792,571	1,093,626	1,311,168	1,121,670	1,009,500	628,204	329,574	229,457	202,575	202,183	219,044	414,503	7,554,074	5,956,739	1,597,336
41 New Hampshire	464,011	686,962	836,841	703,178	619,892	345,082	183,060	126,660	106,445	108,154	114,754	243,825	4,538,865	3,655,967	882,898
42 Total	1,256,582	1,780,588	2,148,009	1,824,848	1,629,392	973,287	512,633	356,117	309,019	310,337	333,798	658,328	12,092,939	9,612,705	2,480,234
43															
44 Percentage of Total															
45 Maine	63.07%	61.42%	61.04%	61.47%	61.96%	64.54%	64.29%	64.43%	65.55%	65.15%	65.62%	62.96%	62.47%	61.97%	64.40%
46 New Hampshire	36.93%	38.58%	38.96%	38.53%	38.04%	35.46%	35.71%	35.57%	34.45%	34.85%	34.38%	37.04%	37.53%	38.03%	35.60%
47 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%

48 **Commodity Allocation by Jurisdiction**

49 **Maine**

51 Firm Sales Pipeline Commodity	\$ 1,133,966	\$ 1,069,421	\$ 1,230,233	\$ 1,145,344	\$ 1,110,859	\$ 1,399,453	\$ 709,929	\$ 493,391	\$ 439,147	\$ 437,998	\$ 461,272	\$ 897,152	\$ 10,528,165	\$ 7,089,276	\$ 3,438,889
52 Storage	\$ 471,062	\$ 971,551	\$ 1,182,828	\$ 1,203,988	\$ 1,035,025	\$ 606	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,865,060	\$ 4,865,060	\$ -
53 Peaking	\$ 1,187,919	\$ 2,681,114	\$ 3,140,705	\$ 2,510,050	\$ 1,339,853	\$ 8,839	\$ 4,801	\$ 4,636	\$ 4,863	\$ 4,830	\$ 4,691	\$ 4,647	\$ 10,896,948	\$ 10,868,480	\$ 28,468
54 Off-system Sales	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
55 Total Maine Commodity Costs	\$ 2,792,947	\$ 4,722,085	\$ 5,553,765	\$ 4,859,382	\$ 3,485,738	\$ 1,408,899	\$ 714,730	\$ 498,028	\$ 444,010	\$ 442,827	\$ 465,963	\$ 901,800	\$ 26,290,173	\$ 22,822,816	\$ 3,467,357
56 Maine Inventory Finance Costs	\$ 586	\$ 875	\$ 1,089	\$ 916	\$ 793	\$ 425	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,684	\$ 4,684	\$ -
57 Total Maine Variable Costs	\$ 2,793,533	\$ 4,722,961	\$ 5,554,854	\$ 4,860,297	\$ 3,486,530	\$ 1,409,323	\$ 714,730	\$ 498,028	\$ 444,010	\$ 442,827	\$ 465,963	\$ 901,800	\$ 26,294,857	\$ 22,827,499	\$ 3,467,357

58 **New Hampshire**

59 Firm Sales Pipeline Commodity	\$ 663,882	\$ 671,758	\$ 785,185	\$ 718,019	\$ 682,133	\$ 768,742	\$ 394,326	\$ 272,352	\$ 230,753	\$ 234,299	\$ 241,655	\$ 527,737	\$ 6,190,838	\$ 4,289,717	\$ 1,901,121
60 Storage	\$ 275,783	\$ 610,281	\$ 754,929	\$ 754,783	\$ 635,566	\$ 333	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,031,676	\$ 3,031,676	\$ -
61 Peaking	\$ 695,468	\$ 1,684,145	\$ 2,004,526	\$ 1,573,556	\$ 822,748	\$ 4,855	\$ 2,667	\$ 2,559	\$ 2,555	\$ 2,584	\$ 2,458	\$ 2,734	\$ 6,800,855	\$ 6,785,299	\$ 15,556
62 Off-system Sales	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
63 Total New Hampshire Commodity Costs	\$ 1,635,133	\$ 2,966,184	\$ 3,544,640	\$ 3,046,358	\$ 2,140,448	\$ 773,930	\$ 396,992	\$ 274,911	\$ 233,309	\$ 236,882	\$ 244,112	\$ 530,470	\$ 16,023,369	\$ 14,106,692	\$ 1,916,677
64 New Hampshire Inventory Finance Costs	\$ 325	\$ 523	\$ 659	\$ 544	\$ 463	\$ 219	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,734	\$ 2,734	\$ -
65 Total New Hampshire Variable Costs	\$ 1,635,459	\$ 2,966,707	\$ 3,545,299	\$ 3,046,902	\$ 2,140,910	\$ 774,149	\$ 396,992	\$ 274,911	\$ 233,309	\$ 236,882	\$ 244,112	\$ 530,470	\$ 16,026,102	\$ 14,109,426	\$ 1,916,677

66 **Northern Utilities**

67 Firm Sales Pipeline Commodity	\$ 1,797,848	\$ 1,741,179	\$ 2,015,417	\$ 1,863,362	\$ 1,792,992	\$ 2,168,195	\$ 1,104,254	\$ 765,743	\$ 669,901	\$ 672,296	\$ 702,927	\$ 1,424,889	\$ 16,719,003	\$ 11,378,994	\$ 5,340,010
68 Storage	\$ 746,845	\$ 1,581,831	\$ 1,937,758	\$ 1,958,771	\$ 1,670,592	\$ 939	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,896,736	\$ 7,896,736	\$ -
69 Peaking	\$ 1,883,387	\$ 4,365,259	\$ 5,145,230	\$ 4,083,606	\$ 2,162,601	\$ 13,695	\$ 7,468	\$ 7,196	\$ 7,418	\$ 7,413	\$ 7,149	\$ 7,381	\$ 17,697,803	\$ 17,653,779	\$ 44,024
70 Off-system Sales	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
71 Total Northern Commodity Costs	\$ 4,428,080	\$ 7,688,269	\$ 9,098,405	\$ 7,905,740	\$ 5,626,185	\$ 2,182,829	\$ 1,111,722	\$ 772,939	\$ 677,319	\$ 679,709	\$ 710,075	\$ 1,432,270	\$ 42,313,542	\$ 36,929,508	\$ 5,384,034
72 Northern Inventory Finance Costs	\$ 911	\$ 1,399	\$ 1,748	\$ 1,460	\$ 1,256	\$ 643	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,417	\$ 7,417	\$ -
73 Total Northern Variable Costs	\$ 4,428,992	\$ 7,689,668	\$ 9,100,153	\$ 7,907,200	\$ 5,627,441	\$ 2,183,472	\$ 1,111,722	\$ 772,939	\$ 677,319	\$ 679,709	\$ 710,075	\$ 1,432,270	\$ 42,320,959	\$ 36,936,925	\$ 5,384,034

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Northern Utilities
ALLOCATION OF COMMODITY COSTS BETWEEN ME & NH DIVISIONS

37 **Commodity Allocation Factors**

38 Firm Sales Sendout for Normal Winter, MMBtu

39		
40	Maine	Company Analysis
41	New Hampshire	Schedule 17-FXW, LN 33 / 10
42	Total	LN 40 + LN 41

43		
44	Percentage of Total	
45	Maine	LN 40 / LN 42
46	New Hampshire	LN 41 / LN 42
47	Total	LN 45 + LN 46

48
49 **Commodity Allocation by Jurisdiction**

50 **Maine**

51	Firm Sales Pipeline Commodity	LN 32 * LN 45
52	Storage	LN 33 * LN 45
53	Peaking	LN 34 * LN 45
54	Off-system Sales	LN 35 * LN 45
55	Total Maine Commodity Costs	Sum LN 51 : LN 54
56	Maine Inventory Finance Costs	LN 95
57	Total Maine Variable Costs	LN 55 + LN 56

58 **New Hampshire**

59	Firm Sales Pipeline Commodity Excl'd Hedge	LN 32 * LN 46
60	Storage	LN 33 * LN 46
61	Peaking	LN 34 * LN 46
62	Off-system Sales	LN 35 * LN 46
63	Total New Hampshire Commodity Costs	Sum LN 59 : LN 62
64	New Hampshire Inventory Finance Costs	LN 100
65	Total New Hampshire Variable Costs	LN 63 + LN 64

66 **Northern Utilities**

67	Firm Sales Pipeline Commodity Excl'd Hedge	LN 51 + LN 59
68	Storage	LN 52 + LN 60
69	Peaking	LN 53 + LN 61
70	Off-system Sales	LN 54 + LN 62
71	Total Northern Commodity Costs	LN 55 + LN 63
72	Northern Inventory Finance Costs	LN 56 + LN 64
73	Total Northern Variable Costs	LN 57 + LN 65

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Northern Utilities
ALLOCATION OF COMMODITY COSTS BETWEEN ME & NH DIVISIONS

75 **Northern Utilities**
76 **Simplified Market Based Allocator (MBA) Calculations**
77 **ALLOCATION OF NORTHERN INVENTORY FINANCE CHARGE**

	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
81 Inventory Finance Charge	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual		Winter	Summer
82 Storage	\$ 962	\$ 934	\$ 752	\$ 453	\$ 155	\$ 1	\$ 100	\$ 296	\$ 392	\$ 483	\$ 665	\$ 851	\$ 6,045			\$ 2,787
83 Peaking	\$ 167	\$ 145	\$ 117	\$ 105	\$ 103	\$ 100	\$ 104	\$ 109	\$ 109	\$ 103	\$ 103	\$ 108	\$ 1,373			\$ 636
84 Total	\$ 1,128	\$ 1,080	\$ 869	\$ 558	\$ 258	\$ 101	\$ 204	\$ 405	\$ 501	\$ 586	\$ 768	\$ 959	\$ 7,417			\$ 3,423
85																
86 Inventory Finance Charge Allocation by Jurisdiction																
87 Maine	\$ 712	\$ 663	\$ 530	\$ 343	\$ 160	\$ 65	\$ 131	\$ 261	\$ 328	\$ 382	\$ 504	\$ 604	\$ 4,684			\$ 2,210
88 New Hampshire	\$ 417	\$ 416	\$ 339	\$ 215	\$ 98	\$ 36	\$ 73	\$ 144	\$ 173	\$ 204	\$ 264	\$ 355	\$ 2,734			\$ 1,213
89 Total	\$ 1,128	\$ 1,080	\$ 869	\$ 558	\$ 258	\$ 101	\$ 204	\$ 405	\$ 501	\$ 586	\$ 768	\$ 959	\$ 7,417			\$ 3,423
90																
91 Inventory Finance Charge Allocation by Month																
92 Maine																
93 Firm Sales Normal Remaining Sendout	596,720	891,247	1,108,789	932,348	807,121	432,354	0	0	0	0	0	0	0	0	4,768,578	0
94 Monthly % Sendout of Total Winter	12.51%	18.69%	23.25%	19.55%	16.93%	9.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
95 ME Allocated Inventory Finance Charge	\$ 586	\$ 875	\$ 1,089	\$ 916	\$ 793	\$ 425	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,684	\$ -
96																
97 New Hampshire																
98 Firm Sales Normal Remaining Sendout	360,173	579,663	729,542	602,801	512,593	242,334	0	0	0	0	0	0	0	0	3,027,106	0
99 Monthly % Sendout of Total Winter	11.90%	19.15%	24.10%	19.91%	16.93%	8.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
100 NH Allocated Inventory Finance Charge	\$ 325	\$ 523	\$ 659	\$ 544	\$ 463	\$ 219	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,734	\$ -

Northern Utilities
ALLOCATION OF COMMODITY COSTS BETWEEN ME & NH DIVISIONS

75 **Northern Utilities**
76 **Simplified Market Based Allocator (MBA) Calculations**
77 **ALLOCATION OF NORTHERN INVENTORY FINANCE CHARGE**
78
79

80		
81	Inventory Finance Charge	
82	Storage	"Schedule 10-CAK - Carrying Costs"
83	Peaking	"Schedule 10-CAK - Carrying Costs"
84	Total	Sum LN 82 : LN 83
85		
86	Inventory Finance Charge Allocation by Jurisdiction	
87	Maine	LN 84 * LN 45
88	New Hampshire	LN 84 * LN 46
89	Total	Sum LN 87 : LN 88
90		
91	Inventory Finance Charge Allocation by Month	
92	Maine	
93	Firm Sales Remaining Sendout	Company Analysis
94	Monthly % Sendout of Total Winter	LN 93 / LN 93 Col N
95	ME Allocated Inventory Finance Charge	LN 87 Col N * LN 94
96		
97	New Hampshire	
98	Firm Sales Remaining Sendout	NH Schedule 6-CAK, LN 80 / 10
99	Monthly % Sendout of Total Winter	LN 98 / LN 98 Col N
100	NH Allocated Inventory Finance Charge	LN 88 Col N * LN 99

**Northern Utilities - NEW HAMPSHIRE DIVISION
COMMODITY COSTS**

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	Summer
Supply Volumes - Therms															
New Hampshire Sales Pipeline	2,658,952	2,374,553	2,173,892	2,027,283	2,431,316	3,438,280	1,824,460	1,260,551	1,058,339	1,075,360	1,141,684	2,432,827	23,897,496	15,104,276	8,793,221
New Hampshire Sales Storage	1,145,098	2,539,194	3,164,218	3,161,395	2,667,653	1,558	0	0	0	0	0	0	12,679,116	12,679,116	0
New Hampshire Sales Peaking	837,326	1,957,698	3,032,500	1,844,964	1,106,370	11,945	6,642	6,402	6,407	6,482	6,188	6,889	8,829,813	8,790,803	39,010
Total New Hampshire Firm Sales Sendout	4,641,376	6,871,445	8,370,610	7,033,642	6,205,340	3,451,783	1,831,102	1,266,953	1,064,746	1,081,842	1,147,872	2,439,716	45,406,426	36,574,196	8,832,231
New Hampshire Interruptible Sendout (Pipeline)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Firm Sendout	4,641,376	6,871,445	8,370,610	7,033,642	6,205,340	3,451,783	1,831,102	1,266,953	1,064,746	1,081,842	1,147,872	2,439,716	45,406,426	36,574,196	8,832,231
Total Firm Sales	4,576,952	6,776,112	8,254,498	6,936,059	6,114,540	3,403,851	1,805,678	1,249,361	1,049,956	1,066,818	1,131,924	2,405,063	44,770,812	36,062,011	8,708,801
Difference (LAUF & Company Use)	64,424	95,333	116,112	97,583	90,800	47,932	25,424	17,592	14,790	15,024	15,948	34,652	635,614	512,184	123,430
Percent Difference	1.39%	1.39%	1.39%	1.39%	1.46%	1.39%	1.39%	1.39%	1.39%	1.39%	1.39%	1.39%	1.42%	1.40%	1.40%
Variable Costs															
New Hampshire Sales Pipeline Commodity	\$ 663,882	\$ 671,758	\$ 785,185	\$ 718,019	\$ 682,133	\$ 768,742	\$ 394,326	\$ 272,352	\$ 230,753	\$ 234,299	\$ 241,655	\$ 527,737	\$ 6,190,838	\$ 4,289,717	\$ 1,901,121
New Hampshire Total Storage	\$ 275,783	\$ 610,281	\$ 754,929	\$ 754,783	\$ 635,566	\$ 333	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,031,676	\$ 3,031,676	\$ -
New Hampshire Total Peaking	\$ 695,468	\$ 1,684,145	\$ 2,004,526	\$ 1,573,556	\$ 822,748	\$ 4,855	\$ 2,667	\$ 2,559	\$ 2,555	\$ 2,584	\$ 2,458	\$ 2,734	\$ 6,800,855	\$ 6,785,299	\$ 15,556
New Hampshire Inventory Finance Charge	\$ 325	\$ 523	\$ 659	\$ 544	\$ 463	\$ 219	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,734	\$ 2,734	\$ -
Total New Hampshire Sales Variable Costs	\$ 1,635,459	\$ 2,966,707	\$ 3,545,299	\$ 3,046,902	\$ 2,140,910	\$ 774,149	\$ 396,992	\$ 274,911	\$ 233,309	\$ 236,882	\$ 244,112	\$ 530,470	\$ 16,026,102	\$ 14,109,426	\$ 1,916,677
New Hampshire Interruptible Commodity Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total New Hampshire Commodity Costs	\$ 1,635,459	\$ 2,966,707	\$ 3,545,299	\$ 3,046,902	\$ 2,140,910	\$ 774,149	\$ 396,992	\$ 274,911	\$ 233,309	\$ 236,882	\$ 244,112	\$ 530,470	\$ 16,026,102	\$ 14,109,426	\$ 1,916,677
Supply Cost/Therm															
New Hampshire Sales Pipeline Commodity	\$ 0.2497	\$ 0.2829	\$ 0.3612	\$ 0.3542	\$ 0.2806	\$ 0.2236	\$ 0.2161	\$ 0.2161	\$ 0.2180	\$ 0.2179	\$ 0.2117	\$ 0.2169	\$ 0.2591	\$ 0.2840	\$ 0.2162
New Hampshire Storage Excl'd Inventory Finance Costs	\$ 0.2408	\$ 0.2403	\$ 0.2386	\$ 0.2387	\$ 0.2382	\$ 0.2137	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.2391	\$ 0.2391	\$ -
New Hampshire Peaking Excl'd Inventory Finance Costs	\$ 0.8306	\$ 0.8603	\$ 0.6610	\$ 0.8529	\$ 0.7436	\$ 0.4065	\$ 0.4015	\$ 0.3998	\$ 0.3988	\$ 0.3986	\$ 0.3971	\$ 0.3968	\$ 0.7702	\$ 0.7719	\$ 0.3988
New Hampshire Inventory Finance Costs per Dth Stor and Peak	\$ 0.0002	\$ 0.0001	\$ 0.0001	\$ 0.0001	\$ 0.0001	\$ 0.0162	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 0.0001	\$ 0.0001	\$ -
Weighted Average Cost per Dth Sendout	\$ 0.3524	\$ 0.4317	\$ 0.4235	\$ 0.4332	\$ 0.3450	\$ 0.2243	\$ 0.2168	\$ 0.2170	\$ 0.2191	\$ 0.2190	\$ 0.2127	\$ 0.2174	\$ 0.3529	\$ 0.3858	\$ 0.2170
New Hampshire Interruptible Cost / Therm	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Commodity Costs															
Base Commodity, therms	1,038,380	1,072,993	1,072,993	1,003,768	1,072,993	1,027,485	1,072,993	1,038,380	1,064,446	1,072,993	1,038,380	1,072,993	12,648,797	6,288,612	6,360,185
Base Commodity Cost	\$ 259,261	\$ 303,548	\$ 387,553	\$ 355,512	\$ 301,040	\$ 229,728	\$ 231,909	\$ 224,350	\$ 232,085	\$ 233,783	\$ 219,789	\$ 232,757	\$ 3,211,315	\$ 1,836,642	\$ 1,374,673
Remaining Commodity	\$ 1,376,198	\$ 2,663,159	\$ 3,157,746	\$ 2,691,390	\$ 1,839,870	\$ 544,421	\$ 165,083	\$ 50,561	\$ 1,224	\$ 3,099	\$ 24,323	\$ 297,713	\$ 12,814,787	\$ 12,272,784	\$ 542,004
Total Commodity	\$ 1,635,459	\$ 2,966,707	\$ 3,545,299	\$ 3,046,902	\$ 2,140,910	\$ 774,149	\$ 396,992	\$ 274,911	\$ 233,309	\$ 236,882	\$ 244,112	\$ 530,470	\$ 16,026,102	\$ 14,109,426	\$ 1,916,677

Northern Utilities - NEW HAMPSHIRE DIVISION
COMMODITY COSTS

	Supply Volumes - Therms	
1	New Hampshire Sales Pipeline	Schedule 8-CAK, LN 10 * LN 46 * 10
2	New Hampshire Sales Storage	Schedule 8-CAK, LN 3 * LN 46 * 10
3	New Hampshire Sales Peaking	Schedule 8-CAK, LN 4 * LN 46 * 10
4	Total New Hampshire Firm Sales Sendout	Sum LN 1 : LN 3
5		
6	New Hampshire Interruptible Sendout (Pipeline)	Schedule 8-CAK, LN 8 * 10
7		
8	Total Firm Sendout	LN 4
9	Total Firm Sales	Schedule 6-CAK, 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 8-CAK, LN 59
15	New Hampshire Total Storage	Schedule 8-CAK, LN 60
16	New Hampshire Total Peaking	Schedule 8-CAK, LN 61
17	New Hampshire Inventory Finance Charge	Schedule 8-CAK, LN 64
18	Total New Hampshire Sales Variable Costs	Sum LN 14 : LN 17
19		
20	New Hampshire Interruptible Commodity Costs	Schedule 8-CAK, LN 30
21	Total New Hampshire Commodity Costs	LN 18 + LN 20
22		
23	Supply Cost/Therm	
24	New Hampshire Sales Pipeline Commodity	LN 14 / LN 1
25	New Hampshire Storage Excl'd Inventory Finance Costs	LN 15 / LN 2
26	New Hampshire Peaking Excl'd Inventory Finance Costs	LN 16 / LN 3
27	New Hampshire Inventory Finance Costs per Dth Stor and Peak	LN 17 / Sum (LN 2 : LN 3)
28	Weighted Average Cost per Dth Sendout	LN 18 / LN 8
29		
30	New Hampshire Interruptible Cost / Therm	LN 20 / LN 6
31		
32	Commodity Costs	
33	Base Commodity, therms	Schedule 6-CAK, LN 64
34	Base Commodity Cost	Min (LN 24 * LN 33), LN 18
35	Remaining Commodity	LN 21 - LN 34
36	Total Commodity	LN 34 + LN 35

REDACTED

Northern Utilities, Inc.
New Hampshire Division
Schedule 10-CAK
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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	Withdrawn Value plus Charges
Nov-18	213,538	-	-	213,538	424,300	\$ 1.99	NA	\$ -	\$ 1.99	\$ -	\$ 424,300	2.72%	\$ 962	\$ 424,300	\$ -
Dec-18	213,538	-	12,185	201,353	\$ 424,300	\$ 1.99	NA	\$ -	\$ 1.99	\$ 24,213	\$ 400,088	2.72%	\$ 934	\$ 400,088	\$ 24,213
Jan-19	201,353	-	68,646	132,707	\$ 400,088	\$ 1.99	NA	\$ -	\$ 1.99	\$ 136,399	\$ 263,689	2.72%	\$ 752	\$ 263,689	\$ 136,399
Feb-19	132,707	-	64,217	68,490	\$ 263,689	\$ 1.99	NA	\$ -	\$ 1.99	\$ 127,599	\$ 136,090	2.72%	\$ 453	\$ 136,090	\$ 127,599
Mar-19	68,490	-	68,043	447	\$ 136,090	\$ 1.99	NA	\$ -	\$ 1.99	\$ 135,202	\$ 888	2.72%	\$ 155	\$ 888	\$ 135,202
Apr-19	447	-	447	-	\$ 888	\$ 1.99	NA	\$ -	\$ 1.99	\$ 888	\$ -	2.72%	\$ 1	\$ -	\$ 888
May-19	-	44,133	-	44,133	\$ -	NA	\$ 1.99	\$ 87,848	\$ -	\$ -	\$ 87,848	2.72%	\$ 100	\$ 87,848	\$ -
Jun-19	44,133	42,710	-	86,843	\$ 87,848	\$ 1.99	\$ 2.00	\$ 85,277	\$ 1.99	\$ -	\$ 173,126	2.72%	\$ 296	\$ 173,126	\$ -
Jul-19	86,843	-	-	86,843	\$ 173,126	\$ 1.99	NA	\$ -	\$ 1.99	\$ -	\$ 173,126	2.72%	\$ 392	\$ 173,126	\$ -
Aug-19	86,843	39,852	-	126,695	\$ 173,126	\$ 1.99	\$ 2.02	\$ 80,306	\$ 2.00	\$ -	\$ 253,432	2.72%	\$ 483	\$ 253,431	\$ -
Sep-19	126,695	42,710	-	169,405	\$ 253,432	\$ 2.00	\$ 1.87	\$ 79,738	\$ 1.97	\$ -	\$ 333,170	2.72%	\$ 665	\$ 333,169	\$ -
Oct-19	169,405	44,133	-	213,538	\$ 333,170	\$ 1.97	\$ 1.91	\$ 84,409	\$ 1.96	\$ -	\$ 417,580	2.72%	\$ 851	\$ 417,579	\$ -

Union 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	Withdrawn Value plus Charges
Nov-18	3,293,600	-	321,568	2,972,032	\$ 7,624,684	\$ 2.32	NA	\$ -	\$ 2.32	\$ 744,430	\$ 6,880,255	2.72%		\$ 6,880,255	\$ 744,430
Dec-18	2,972,032	-	670,064	2,301,968	\$ 6,880,255	\$ 2.32	NA	\$ -	\$ 2.32	\$ 1,551,199	\$ 5,329,055	2.72%		\$ 5,329,055	\$ 1,551,199
Jan-19	2,301,968	-	772,246	1,529,722	\$ 5,329,055	\$ 2.32	NA	\$ -	\$ 2.32	\$ 1,787,749	\$ 3,541,306	2.72%		\$ 3,541,306	\$ 1,787,749
Feb-19	1,529,722	-	785,299	744,423	\$ 3,541,306	\$ 2.32	NA	\$ -	\$ 2.32	\$ 1,817,968	\$ 1,723,338	2.72%		\$ 1,723,338	\$ 1,817,968
Mar-19	744,423	-	657,758	86,665	\$ 1,723,338	\$ 2.32	NA	\$ -	\$ 2.32	\$ 1,522,709	\$ 200,630	2.72%		\$ 200,630	\$ 1,522,709
Apr-19	86,665	736,614	-	823,279	\$ 200,630		\$ 2.18	\$1,602,407	\$ 2.19		\$ 1,803,037			\$ 1,803,037	\$ -
May-19	823,279	761,167	-	1,584,446	\$ 1,803,037	\$ -	\$ 2.15	\$1,635,939	\$ 2.17		\$ 3,438,976			\$ 3,438,976	\$ -
Jun-19	1,584,446	736,614	-	2,321,060	\$ 3,438,976	\$ -	\$ 2.16	\$1,587,631	\$ 2.17		\$ 5,026,606			\$ 5,026,606	\$ -
Jul-19	2,321,060	481,464	-	2,802,524	\$ 5,026,606	\$ -	\$ 2.17	\$1,046,940	\$ 2.17		\$ 6,073,547			\$ 6,073,547	\$ -
Aug-19	2,802,524	-	-	2,802,524	\$ 6,073,547	\$ -	NA	\$ -	\$ 2.17		\$ 6,073,547			\$ 6,073,547	\$ -
Sep-19	2,802,524	491,076	-	3,293,600	\$ 6,073,547	\$ -	\$ 2.15	\$1,054,521	\$ 2.16		\$ 7,128,068			\$ 7,128,068	\$ -
Oct-19	3,293,600	-	-	3,293,600	\$ 7,128,068	\$ -	\$ -	\$ -	\$ 2.16		\$ 7,128,068			\$ 7,128,068	\$ -

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	Withdrawn Value plus Charges
Nov-18	12,000	1,755	1,755	12,000											
Dec-18	12,000	24,580	24,580	12,000											
Jan-19	12,000	50,014	51,214	10,800											
Feb-19	10,800	1,696	1,696	10,800											
Mar-19	10,800	31,347	31,347	10,800											
Apr-19	10,800	3,369	3,369	10,800											
May-19	10,800	3,060	1,860	12,000											
Jun-19	12,000	1,800	1,800	12,000											
Jul-19	12,000	1,860	1,860	12,000											
Aug-19	12,000	660	1,860	10,800											
Sep-19	10,800	3,000	1,800	12,000											
Oct-19	12,000	1,860	1,860	12,000											

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

Base Commodity Costs

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	Summer
BASE SENDOUT BY CLASS															
Total Therms															
Res Heat	404,856	418,351	418,351	391,361	418,351	404,856	418,351	404,856	415,019	418,351	404,856	418,351	4,935,909	2,456,126	2,479,784
Res General	9,323	9,633	9,633	9,012	9,633	9,323	9,633	9,323	9,557	9,633	9,323	9,633	113,660	56,558	57,103
G50 Low Annual-Low Winter	85,633	88,487	88,487	82,778	88,487	85,633	88,487	85,633	87,782	88,487	85,633	88,487	1,044,014	519,505	524,509
G40 Low Annual-High Winter	149,406	154,386	154,386	144,426	154,386	149,406	154,386	149,406	153,156	154,386	149,406	154,386	1,821,523	906,396	915,127
G51 Med Annual-Low Winter	101,060	104,428	104,428	97,691	104,428	101,060	104,428	101,060	103,596	104,428	101,060	104,428	1,232,096	613,095	619,001
G41 Med Annual-High Winter	119,834	123,828	123,828	115,839	123,828	119,834	123,828	119,834	122,842	123,828	119,834	123,828	1,460,986	726,992	733,994
G52 High Annual-Low Winter	135,522	140,039	140,039	131,005	140,039	124,627	140,039	135,522	138,924	140,039	135,522	140,039	1,641,358	811,272	830,086
G42 High Annual-High Winter	32,747	33,839	33,839	31,656	33,839	32,747	33,839	32,747	33,570	33,839	32,747	33,839	399,250	198,668	200,582
Total Firm Sales	1,038,380	1,072,993	1,072,993	1,003,768	1,072,993	1,027,485	1,072,993	1,038,380	1,064,446	1,072,993	1,038,380	1,072,993	12,648,797	6,288,612	6,360,185
% of Total															
Res Heat	38.99%	38.99%	38.99%	38.99%	38.99%	39.40%	38.99%	38.99%	38.99%	38.99%	38.99%	38.99%			
Res General	0.90%	0.90%	0.90%	0.90%	0.90%	0.91%	0.90%	0.90%	0.90%	0.90%	0.90%	0.90%			
G50 Low Annual-Low Winter	8.25%	8.25%	8.25%	8.25%	8.25%	8.33%	8.25%	8.25%	8.25%	8.25%	8.25%	8.25%			
G40 Low Annual-High Winter	14.39%	14.39%	14.39%	14.39%	14.39%	14.54%	14.39%	14.39%	14.39%	14.39%	14.39%	14.39%			
G51 Med Annual-Low Winter	9.73%	9.73%	9.73%	9.73%	9.73%	9.84%	9.73%	9.73%	9.73%	9.73%	9.73%	9.73%			
G41 Med Annual-High Winter	11.54%	11.54%	11.54%	11.54%	11.54%	11.66%	11.54%	11.54%	11.54%	11.54%	11.54%	11.54%			
G52 High Annual-Low Winter	13.05%	13.05%	13.05%	13.05%	13.05%	12.13%	13.05%	13.05%	13.05%	13.05%	13.05%	13.05%			
G42 High Annual-High Winter	3.15%	3.15%	3.15%	3.15%	3.15%	3.19%	3.15%	3.15%	3.15%	3.15%	3.15%	3.15%			
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%			
BASE COMMODITY COSTS															
TOTAL BASE COMMODITY															
Res Heat	\$ 259,261	\$ 303,548	\$ 387,553	\$ 355,512	\$ 301,040	\$ 229,728	\$ 231,909	\$ 224,350	\$ 232,085	\$ 233,783	\$ 219,789	\$ 232,757	\$ 3,211,315	\$ 1,836,642	\$ 1,374,673
Res General	\$ 101,084	\$ 118,351	\$ 151,104	\$ 138,611	\$ 117,373	\$ 90,519	\$ 90,419	\$ 87,472	\$ 90,488	\$ 91,150	\$ 85,694	\$ 90,750	\$ 1,253,015	\$ 717,041	\$ 535,974
G50 Low Annual-Low Winter	\$ 2,328	\$ 2,725	\$ 3,479	\$ 3,192	\$ 2,703	\$ 2,084	\$ 2,082	\$ 2,014	\$ 2,084	\$ 2,099	\$ 1,973	\$ 2,090	\$ 28,853	\$ 16,511	\$ 12,342
G40 Low Annual-High Winter	\$ 21,381	\$ 25,033	\$ 31,961	\$ 29,318	\$ 24,826	\$ 19,146	\$ 19,125	\$ 18,502	\$ 19,139	\$ 19,279	\$ 18,125	\$ 19,195	\$ 265,030	\$ 151,664	\$ 113,366
G51 Med Annual-Low Winter	\$ 37,303	\$ 43,676	\$ 55,762	\$ 51,152	\$ 43,315	\$ 33,405	\$ 33,368	\$ 32,280	\$ 33,393	\$ 33,638	\$ 31,624	\$ 33,490	\$ 462,406	\$ 264,613	\$ 197,793
G41 Med Annual-High Winter	\$ 25,232	\$ 29,543	\$ 37,718	\$ 34,600	\$ 29,299	\$ 22,595	\$ 22,570	\$ 21,835	\$ 22,588	\$ 22,753	\$ 21,391	\$ 22,653	\$ 312,776	\$ 178,987	\$ 133,789
G52 High Annual-Low Winter	\$ 29,920	\$ 35,031	\$ 44,725	\$ 41,028	\$ 34,741	\$ 26,793	\$ 26,763	\$ 25,891	\$ 26,784	\$ 26,980	\$ 25,365	\$ 26,861	\$ 370,882	\$ 212,238	\$ 158,644
G42 High Annual-High Winter	\$ 33,837	\$ 39,617	\$ 50,581	\$ 46,399	\$ 39,290	\$ 27,864	\$ 30,267	\$ 29,281	\$ 30,290	\$ 30,512	\$ 28,685	\$ 30,378	\$ 417,000	\$ 237,587	\$ 179,413
	\$ 8,176	\$ 9,573	\$ 12,222	\$ 11,212	\$ 9,494	\$ 7,322	\$ 7,314	\$ 7,075	\$ 7,319	\$ 7,373	\$ 6,932	\$ 7,340	\$ 101,352	\$ 57,999	\$ 43,353
Residential	\$ 103,411	\$ 121,076	\$ 154,583	\$ 141,803	\$ 120,076	\$ 92,603	\$ 92,501	\$ 89,486	\$ 92,572	\$ 93,249	\$ 87,667	\$ 92,840	\$ 1,281,868	\$ 733,553	\$ 548,315
SALES HLF CLASSES	\$ 80,450	\$ 94,193	\$ 120,259	\$ 110,317	\$ 93,414	\$ 69,606	\$ 71,962	\$ 69,617	\$ 72,017	\$ 72,544	\$ 68,202	\$ 72,226	\$ 994,806	\$ 568,239	\$ 426,568
SALES LLF CLASSES	\$ 75,400	\$ 88,280	\$ 112,710	\$ 103,392	\$ 87,550	\$ 67,519	\$ 67,445	\$ 65,247	\$ 67,496	\$ 67,990	\$ 63,920	\$ 67,692	\$ 934,640	\$ 534,851	\$ 399,790

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 6-CAK, LN 52
4	Res General	Schedule 6-CAK, LN 53
5	G50 Low Annual-Low Winter	Schedule 6-CAK, LN 54
6	G40 Low Annual-High Winter	Schedule 6-CAK, LN 55
7	G51 Med Annual-Low Winter	Schedule 6-CAK, LN 56
8	G41 Med Annual-High Winter	Schedule 6-CAK, LN 57
9	G52 High Annual-Low Winter	Schedule 6-CAK, LN 58
10	G42 High Annual-High Winter	Schedule 6-CAK, 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	
23	TOTAL BASE COMMODITY	Schedule 9-CAK, LN 34
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

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

Remaining Commodity Costs

REMAINING SENDOUT BY CLASS	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	Summer
Total Therms															
Res Heat	1,734,258	2,748,577	3,439,526	2,850,322	2,439,381	1,185,990	295,383	88,982	-	3,333	42,562	532,304	15,360,618	14,398,054	962,564
Res General	10,343	19,481	25,833	20,790	16,639	5,303	6,802	2,049	-	77	980	12,257	120,554	98,389	22,165
G50 Low Annual-Low Winter	44,893	104,755	146,915	115,025	85,888	11,439	62,478	18,821	-	705	9,002	112,590	712,510	508,914	203,596
G40 Low Annual-High Winter	945,784	1,467,027	1,820,781	1,515,260	1,308,724	665,080	109,007	32,837	-	1,230	15,707	196,439	8,077,876	7,722,657	355,220
G51 Med Annual-Low Winter	84,982	171,004	231,097	184,243	144,113	37,299	73,733	22,212	-	832	10,624	132,873	1,093,012	852,738	240,274
G41 Med Annual-High Winter	682,990	1,064,741	1,324,058	1,100,786	948,697	477,221	87,431	26,338	-	986	12,598	157,557	5,883,404	5,598,493	284,911
G52 High Annual-Low Winter	32,056	108,057	162,186	122,948	83,835	-	98,877	29,786	-	1,116	14,247	178,184	831,293	509,083	322,210
G42 High Annual-High Winter	66,426	112,986	145,020	118,635	98,651	41,007	23,893	7,197	-	270	3,443	43,056	660,585	582,727	77,859
Total Firm Sales	3,601,733	5,796,629	7,295,417	6,028,009	5,125,928	2,423,339	757,604	228,222	-	8,547	109,164	1,365,260	32,739,853	30,271,056	2,468,797
% of Total															
Res Heat	48.15%	47.42%	47.15%	47.28%	47.59%	48.94%	38.99%	38.99%	38.99%	38.99%	38.99%	38.99%	38.99%		
Res General	0.29%	0.34%	0.35%	0.34%	0.32%	0.22%	0.90%	0.90%	0.90%	0.90%	0.90%	0.90%	0.90%		
G50 Low Annual-Low Winter	1.25%	1.81%	2.01%	1.91%	1.68%	0.47%	8.25%	8.25%	8.25%	8.25%	8.25%	8.25%	8.25%		
G40 Low Annual-High Winter	26.26%	25.31%	24.96%	25.14%	25.53%	27.44%	14.39%	14.39%	14.39%	14.39%	14.39%	14.39%	14.39%		
G51 Med Annual-Low Winter	2.36%	2.95%	3.17%	3.06%	2.81%	1.54%	9.73%	9.73%	9.73%	9.73%	9.73%	9.73%	9.73%		
G41 Med Annual-High Winter	18.96%	18.37%	18.15%	18.26%	18.51%	19.69%	11.54%	11.54%	11.54%	11.54%	11.54%	11.54%	11.54%		
G52 High Annual-Low Winter	0.89%	1.86%	2.22%	2.04%	1.64%	0.00%	13.05%	13.05%	13.05%	13.05%	13.05%	13.05%	13.05%		
G42 High Annual-High Winter	1.84%	1.95%	1.99%	1.97%	1.92%	1.69%	3.15%	3.15%	3.15%	3.15%	3.15%	3.15%	3.15%		
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%	100.00%		

REMAINING COMMODITY COSTS	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	Summer
REMAINING COMMODITY															
Res Heat	\$ 662,648	\$ 1,262,785	\$ 1,488,763	\$ 1,272,614	\$ 875,577	\$ 266,441	\$ 64,365	\$ 19,713	\$ 477	\$ 1,208	\$ 9,483	\$ 116,076	\$ 6,040,152	\$ 5,828,829	\$ 211,323
Res General	\$ 3,952	\$ 8,950	\$ 11,182	\$ 9,282	\$ 5,972	\$ 1,191	\$ 1,482	\$ 454	\$ 11	\$ 28	\$ 218	\$ 2,673	\$ 45,396	\$ 40,530	\$ 4,866
G50 Low Annual-Low Winter	\$ 17,153	\$ 48,128	\$ 63,591	\$ 51,356	\$ 30,828	\$ 2,570	\$ 13,614	\$ 4,170	\$ 101	\$ 256	\$ 2,006	\$ 24,552	\$ 258,324	\$ 213,626	\$ 44,698
G40 Low Annual-High Winter	\$ 361,378	\$ 674,000	\$ 788,106	\$ 676,535	\$ 469,746	\$ 149,415	\$ 23,753	\$ 7,275	\$ 176	\$ 446	\$ 3,500	\$ 42,836	\$ 3,197,164	\$ 3,119,179	\$ 77,986
G51 Med Annual-Low Winter	\$ 32,471	\$ 78,565	\$ 100,028	\$ 82,261	\$ 51,727	\$ 8,379	\$ 16,067	\$ 4,921	\$ 119	\$ 302	\$ 2,367	\$ 28,975	\$ 406,181	\$ 353,431	\$ 52,750
G41 Med Annual-High Winter	\$ 260,966	\$ 489,176	\$ 573,105	\$ 491,480	\$ 340,520	\$ 107,211	\$ 19,051	\$ 5,835	\$ 141	\$ 358	\$ 2,807	\$ 34,357	\$ 2,325,007	\$ 2,262,458	\$ 62,550
G52 High Annual-Low Winter	\$ 12,248	\$ 49,645	\$ 70,201	\$ 54,894	\$ 30,091	\$ -	\$ 21,546	\$ 6,599	\$ 160	\$ 404	\$ 3,175	\$ 38,855	\$ 287,818	\$ 217,079	\$ 70,739
G42 High Annual-High Winter	\$ 25,381	\$ 51,910	\$ 62,770	\$ 52,968	\$ 35,409	\$ 9,213	\$ 5,206	\$ 1,595	\$ 39	\$ 98	\$ 767	\$ 9,389	\$ 254,745	\$ 237,651	\$ 17,093
Residential	\$ 666,600	\$ 1,271,736	\$ 1,499,945	\$ 1,281,896	\$ 881,549	\$ 267,633	\$ 65,847	\$ 20,167	\$ 488	\$ 1,236	\$ 9,702	\$ 118,749	\$ 6,085,548	\$ 5,869,359	\$ 216,189
SALES HLF CLASSES	\$ 61,873	\$ 176,338	\$ 233,819	\$ 188,511	\$ 112,646	\$ 10,949	\$ 51,226	\$ 15,689	\$ 380	\$ 962	\$ 7,548	\$ 92,382	\$ 952,323	\$ 784,137	\$ 168,186
SALES LLF CLASSES	\$ 647,725	\$ 1,215,086	\$ 1,423,982	\$ 1,220,983	\$ 845,675	\$ 265,839	\$ 48,010	\$ 14,704	\$ 356	\$ 901	\$ 7,074	\$ 86,583	\$ 5,776,916	\$ 5,619,288	\$ 157,628

Total Commodity Costs

TOTAL COMMODITY COSTS	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Annual	Winter	Summer
TOTAL COMMODITY															
Res Heat	\$ 763,732	\$ 1,381,136	\$ 1,639,867	\$ 1,411,225	\$ 992,950	\$ 356,960	\$ 154,784	\$ 107,185	\$ 90,965	\$ 92,358	\$ 95,177	\$ 206,826	\$ 7,293,167	\$ 6,545,870	\$ 747,296
Res General	\$ 6,280	\$ 11,676	\$ 14,661	\$ 12,474	\$ 8,675	\$ 3,276	\$ 3,564	\$ 2,468	\$ 2,095	\$ 2,127	\$ 2,192	\$ 4,763	\$ 74,250	\$ 57,041	\$ 17,208
G50 Low Annual-Low Winter	\$ 38,534	\$ 73,161	\$ 95,551	\$ 80,675	\$ 55,654	\$ 21,716	\$ 32,739	\$ 22,671	\$ 19,240	\$ 19,535	\$ 20,131	\$ 43,747	\$ 523,354	\$ 365,290	\$ 158,064
G40 Low Annual-High Winter	\$ 398,681	\$ 717,675	\$ 843,869	\$ 727,687	\$ 513,060	\$ 182,820	\$ 57,121	\$ 39,555	\$ 33,569	\$ 34,083	\$ 35,124	\$ 76,326	\$ 3,659,571	\$ 3,383,792	\$ 275,778
G51 Med Annual-Low Winter	\$ 57,704	\$ 108,107	\$ 137,746	\$ 116,861	\$ 81,026	\$ 30,975	\$ 38,637	\$ 26,756	\$ 22,707	\$ 23,054	\$ 23,758	\$ 51,628	\$ 718,958	\$ 532,418	\$ 186,539
G41 Med Annual-High Winter	\$ 290,886	\$ 524,207	\$ 617,830	\$ 532,507	\$ 375,261	\$ 134,004	\$ 45,815	\$ 31,726	\$ 26,925	\$ 27,337	\$ 28,172	\$ 61,219	\$ 2,695,889	\$ 2,474,696	\$ 221,193
G52 High Annual-Low Winter	\$ 46,085	\$ 89,262	\$ 120,781	\$ 101,293	\$ 69,381	\$ 27,864	\$ 51,813	\$ 35,879	\$ 30,450	\$ 30,916	\$ 31,860	\$ 69,233	\$ 704,818	\$ 454,667	\$ 250,151
G42 High Annual-High Winter	\$ 33,557	\$ 61,483	\$ 74,993	\$ 64,180	\$ 44,903	\$ 16,534	\$ 12,520	\$ 8,670	\$ 7,358	\$ 7,471	\$ 7,699	\$ 16,729	\$ 356,097	\$ 295,651	\$ 60,446
Residential	\$ 770,012	\$ 1,392,812	\$ 1,654,528	\$ 1,423,699	\$ 1,001,625	\$ 360,236	\$ 158,348	\$ 109,654	\$ 93,060	\$ 94,485	\$ 97,369	\$ 211,589	\$ 7,367,416	\$ 6,602,912	\$ 764,505
SALES HLF CLASSES	\$ 142,323	\$ 270,530	\$ 354,079	\$ 298,829	\$ 206,061	\$ 80,555	\$ 123,189	\$ 85,306	\$ 72,397	\$ 73,506	\$ 75,749	\$ 164,607	\$ 1,947,130	\$ 1,352,376	\$ 594,754
SALES LLF CLASSES	\$ 723,124	\$ 1,303,365	\$ 1,536,692	\$ 1,324,374	\$ 933,225	\$ 333,358	\$ 115,455	\$ 79,951	\$ 67,852	\$ 68,891	\$ 70,994	\$ 154,274	\$ 6,711,557	\$ 6,154,139	\$ 557,418
% ALLOCATION BETWEEN HLF & LLF															
HLF CLASSES%														18.02%	51.62%
LLF CLASSES %														81.98%	48.38%

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

Remaining Commodity Costs

36	REMAINING SENDOUT BY CLASS	
37	Total Therms	
38	Res Heat	Schedule 6-CAK, LN 68
39	Res General	Schedule 6-CAK, LN 69
40	G50 Low Annual-Low Winter	Schedule 6-CAK, LN 70
41	G40 Low Annual-High Winter	Schedule 6-CAK, LN 71
42	G51 Med Annual-Low Winter	Schedule 6-CAK, LN 72
43	G41 Med Annual-High Winter	Schedule 6-CAK, LN 73
44	G52 High Annual-Low Winter	Schedule 6-CAK, LN 74
45	G42 High Annual-High Winter	Schedule 6-CAK, LN 75
46	Total Firm Sales	Sum LN 38 : LN 45
47	% of Total	
48	Res Heat	LN 38 / LN 46
49	Res General	LN 39 / LN 46
50	G50 Low Annual-Low Winter	LN 40 / LN 46
51	G40 Low Annual-High Winter	LN 41 / LN 46
52	G51 Med Annual-Low Winter	LN 42 / LN 46
53	G41 Med Annual-High Winter	LN 43 / LN 46
54	G52 High Annual-Low Winter	LN 44 / LN 46
55	G42 High Annual-High Winter	LN 45 / LN 46
56	Total Firm Sales	Sum LN 62 : LN 69

57	REMAINING COMMODITY COSTS	
58	REMAINING COMMODITY	Schedule 9-CAK, LN 35
59	Res Heat	LN 58 * LN 48
60	Res General	LN 58 * LN 49
61	G50 Low Annual-Low Winter	LN 58 * LN 50
62	G40 Low Annual-High Winter	LN 58 * LN 51
63	G51 Med Annual-Low Winter	LN 58 * LN 52
64	G41 Med Annual-High Winter	LN 58 * LN 53
65	G52 High Annual-Low Winter	LN 58 * LN 54
66	G42 High Annual-High Winter	LN 58 * LN 55
67		
68	Residential	LN 59 + LN 60
69	SALES HLF CLASSES	LN 61 + LN 63 + LN 65
70	SALES LLF CLASSES	LN 62 + LN 64 + LN 66

Total Commodity Costs

71	TOTAL COMMODITY COSTS	
72	TOTAL COMMODITY	Schedule 9-CAK, LN 36
73	Res Heat	LN 24 + LN 59
74	Res General	LN 25 + LN 60
75	G50 Low Annual-Low Winter	LN 26 + LN 61
76	G40 Low Annual-High Winter	LN 27 + LN 62
77	G51 Med Annual-Low Winter	LN 28 + LN 63
78	G41 Med Annual-High Winter	LN 29 + LN 64
79	G52 High Annual-Low Winter	LN 30 + LN 65
80	G42 High Annual-High Winter	LN 31 + LN 66
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

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

	Winter	Summer	Annual	
1 Demand	\$ 7,344,405	\$ 725,806	\$ 8,070,211	Schedule 5-CAK, LN 79
2 Commodity	\$ 14,109,426	\$ 1,916,677	\$ 16,026,102	Schedule 9-CAK, LN 36
3 Total	\$ 21,453,831	\$ 2,642,482	\$ 24,096,313	LN 1 + LN 2
4				
5 Forecasted Firm Sales (Therms)	36,062,011	8,708,801	44,770,812	Schedule 6-CAK, LN 11
6 Forecasted Residential Sales (Therms)	16,777,596	3,473,678	20,251,274	Schedule 6-CAK, LN 3
7 Average Residential Rate:	Winter	Summer	Annual	
8 Average Demand Rate	\$0.2037	\$0.0833		LN 1 / LN 5
9 Average Commodity Rate	\$0.3913	\$0.2201		LN 2 / LN 5
10 Average Rate	\$0.5949	\$0.3034		LN 3 / LN 5
11				
12 Residential Reallocation:	Winter	Summer	Annual	
13 Demand Costs Allocated To Residential per SMBA	\$ 3,643,165	\$ 329,980	\$ 3,973,145	Schedule 7-CAK, LN 169
14 Demand Costs Allocated To Residential per Avg Res. Rate	\$ 3,416,933	\$ 289,357	\$ 3,706,290	LN 8 * LN 6
15 Demand Reallocation:	\$ 226,232	\$ 40,623	\$ 266,855	LN 13 - LN 14
16 HLF Allocation	\$ 30,878	\$ 12,788	\$ 43,666	LN 15 * LN 20
17 LLF Allocation	\$ 195,354	\$ 27,835	\$ 223,189	LN 15 * LN 21
18				
19 SMBA Capacity Cost Allocation (%)				
20 HLF	13.65%	31.48%		Schedule 7-CAK, LN 174
21 LLF	86.35%	68.52%		Schedule 7-CAK, LN 175
22				
23 Commodity Costs Allocated To Residential per SMBA	\$ 6,602,912	\$ 764,505	\$ 7,367,416	Schedule 11-CAK, LN 82
24 Commodity Costs Allocated To Residential per Avg Res. Rate	\$ 6,564,311	\$ 764,557	\$ 7,328,867	LN 9 * LN 6
25 Commodity Reallocation:	\$ 38,601	\$ (52)	\$ 38,549	LN 23 - LN 24
26 HLF Allocation	\$ 6,954	\$ (27)	\$ 6,927	LN 25 * LN 30
27 LLF Allocation	\$ 31,647	\$ (25)	\$ 31,621	LN 25 * LN 31
28				
29 SMBA Commodity Cost Allocation (%)				
30 HLF	18.02%	51.62%		Schedule 11-CAK, LN 87
31 LLF	81.98%	48.38%		Schedule 11-CAK, LN 88

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
2018-19 ANNUAL COG RECONCILIATION
SCHEDULE 1: SUMMARY OF ANNUAL BALANCE
August 2018 - October 2019

	AMOUNT	
Annual Beginning Balance	\$ (444,079)	FORM III SCHEDULE 2
Less: Reported Collections	\$ (34,296,513)	FORM III SCHEDULE 3
Add: Cost of Firm Gas Allowable	\$ 33,096,699	FORM III SCHEDULE 4
Add: Interest	\$ (102,828)	FORM III SCHEDULE 2
Annual Ending Balance	\$ (1,746,721)	

Allocation of Reconciliation Balance to 2019 / 2020 Winter Season and 2020 Summer Season

Winter Season Sales	3,606,201	Schedule 6-CAK
Summer Season Sales	870,880	Schedule 6-CAK

Winter Season Sales Percentage	80.55%
Summer Season Sales Percentage	19.45%

Reconciliation Allocated to Winter Season	\$ (1,406,949)
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Reconciliation Allocated to Summer Season	\$ (339,771)
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NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
2018-19 ANNUAL COG RECONCILIATION
SCHEDULE 2: ADJUSTMENTS TO REPORTED SUMMER, WINTER AND ANNUAL ACCOUNTS
August 2018 - October 2019
Acct 191

	<u>Aug-18</u>	<u>Sep-18</u>	<u>Oct-18</u>	<u>Nov-18</u>	<u>Dec-18</u>	<u>Jan-19</u>	<u>Feb-19</u>	<u>Mar-19</u>	<u>Apr-19</u>	<u>May-19</u>	<u>Jun-19</u>	<u>Jul-19</u>	-----Estimated-----			<u>Aug-19</u>	<u>Sep-19</u>	<u>Oct-19</u>	<u>Total</u>
Initial Account Beginning Balance	\$ (453,609)																		
Adjustment (1)	\$ 9,530																		
Adjusted Beginning Balance	\$ (444,079)	\$ 175,275	\$ 782,448	\$ 1,310,543	\$ 1,049,229	\$ 938,345	\$ (463,026)	\$ (1,896,817)	\$ (2,965,494)	\$ (3,701,327)	\$ (4,038,481)	\$ (3,811,743)	\$ (3,461,695)	\$ (2,856,726)	\$ (2,265,806)				
Plus: Cost of Firm Gas (Schedule 4)	\$ 969,978	\$ 981,859	\$ 1,384,680	\$ 3,857,750	\$ 5,771,295	\$ 5,618,860	\$ 4,527,307	\$ 3,718,004	\$ 1,685,569	\$ 588,217	\$ 569,766	\$ 571,151	\$ 886,140	\$ 881,464	\$ 1,084,657	\$ 33,096,699			
Less: Reported Collections (Schedule 3)	\$ (350,094)	\$ (376,579)	\$ (860,936)	\$ (4,123,970)	\$ (5,886,311)	\$ (7,021,269)	\$ (5,955,946)	\$ (4,776,068)	\$ (2,406,159)	\$ (907,676)	\$ (325,078)	\$ (204,473)	\$ (266,724)	\$ (278,833)	\$ (556,397)	\$ (34,296,513)			
Annual Account Ending Balance	\$ 175,806	\$ 780,556	\$ 1,306,192	\$ 1,044,323	\$ 934,213	\$ (464,064)	\$ (1,891,666)	\$ (2,954,881)	\$ (3,686,084)	\$ (4,020,785)	\$ (3,793,794)	\$ (3,445,065)	\$ (2,842,279)	\$ (2,254,094)	\$ (1,737,546)				
Month's Average Balance	\$ (134,136)	\$ 477,915	\$ 1,044,320	\$ 1,177,433	\$ 991,721	\$ 237,141	\$ (1,177,346)	\$ (2,425,849)	\$ (3,325,789)	\$ (3,861,056)	\$ (3,916,138)	\$ (3,628,404)	\$ (3,151,987)	\$ (2,555,410)	\$ (2,001,676)				
Interest Rate (Prime Rate)	4.75%	4.75%	5.00%	5.00%	5.00%	5.25%	5.25%	5.25%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%				
Interest Applied	\$ (531)	\$ 1,892	\$ 4,351	\$ 4,906	\$ 4,132	\$ 1,037	\$ (5,151)	\$ (10,613)	\$ (15,243)	\$ (17,697)	\$ (17,949)	\$ (16,630)	\$ (14,447)	\$ (11,712)	\$ (9,174)	\$ (102,828)			
Annual Account Ending Balance w/int	\$ 175,275	\$ 782,448	\$ 1,310,543	\$ 1,049,229	\$ 938,345	\$ (463,026)	\$ (1,896,817)	\$ (2,965,494)	\$ (3,701,327)	\$ (4,038,481)	\$ (3,811,743)	\$ (3,461,695)	\$ (2,856,726)	\$ (2,265,806)	\$ (1,746,721)				

(1) Reflects ATV charges, plus interest, not included in 2017-2018 reconciliation.

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
2018-19 ANNUAL COG RECONCILIATION
SCHEDULE 3: REVENUE BACKUP TO REPORTED COLLECTIONS
August 2018 - October 2019

	<u>Aug-18</u>	<u>Sep-18</u>	<u>Oct-18</u>	<u>Nov-18</u>	<u>Dec-18</u>	<u>Jan-19</u>	<u>Feb-19</u>	<u>Mar-19</u>	<u>Apr-19</u>	<u>May-19</u>	<u>Jun-19</u>	<u>Jul-19</u>	----- Estimated ⁽¹⁾ -----	<u>Aug-19</u>	<u>Sep-19</u>	<u>Oct-19</u>	<u>Total</u>
Accrued Revenue	\$ 7,915	\$ 5,274	\$ 176,595	\$ 1,675,288	\$ 447,365	\$ 695,614	\$ (472,004)	\$ (739,322)	\$ (960,503)	\$ (576,960)	\$ (179,478)	\$ (127,886)					
Billed Revenue	\$ 342,179	\$ 371,305	\$ 684,342	\$ 2,448,682	\$ 5,438,946	\$ 6,325,655	\$ 6,427,950	\$ 5,515,390	\$ 3,366,662	\$ 1,484,636	\$ 504,556	\$ 332,360					
Calendarized Revenue	<u>\$ 350,094</u>	<u>\$ 376,579</u>	<u>\$ 860,936</u>	<u>\$ 4,123,970</u>	<u>\$ 5,886,311</u>	<u>\$ 7,021,269</u>	<u>\$ 5,955,946</u>	<u>\$ 4,776,068</u>	<u>\$ 2,406,159</u>	<u>\$ 907,676</u>	<u>\$ 325,078</u>	<u>\$ 204,473</u>	<u>\$ 266,724</u>	<u>\$ 278,833</u>	<u>\$ 556,397</u>	<u>\$ 34,296,513</u>	

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
2018-19 ANNUAL COG RECONCILIATION
SCHEDULE 4: PURCHASED GAS COSTS
August 2018- October 2019

-----Estimated⁽¹⁾-----

Commodity Costs	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Total
DTE Energy Trading	\$ -	\$ -	\$ 151,311	\$ -	\$ 477,945	\$ 622,568	\$ 550,534	\$ 493,306	\$ 588,745	\$ 67,241	\$ 62,833	\$ 44,028				
Emera Energy Services Corp.	\$ 39,519	\$ 23,874	\$ 104,238	\$ 515,908	\$ 602,741	\$ 2,138,735	\$ 1,659,140	\$ 1,318,475	\$ 509,970	\$ 784,126	\$ 423,936	\$ 189,164				\$ 8,309,827
Repsol	\$ -	\$ -	\$ -	\$ -	\$ 242,603	\$ 311,284	\$ 473,502	\$ 476,188	\$ 554,917	\$ -	\$ -	\$ -				\$ 2,058,495
Shell	\$ 142,926	\$ 140,147	\$ -	\$ 142,205	\$ 203,546	\$ 325,624	\$ 250,740	\$ 187,377	\$ 203,001	\$ 138,664	\$ -	\$ 12,176				\$ 1,746,407
Southwestern	\$ 44,559	\$ 40,856	\$ 43,895	\$ 46,251	\$ 55,316	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				\$ 230,877
Tenaska	\$ -	\$ -	\$ -	\$ -	\$ 171,879	\$ 286,105	\$ 232,579	\$ 166,274	\$ 165,182	\$ -	\$ -	\$ -				\$ 1,022,020
Subtotal - Commodity	\$ 227,004	\$ 204,878	\$ 299,443	\$ 704,364	\$ 1,754,031	\$ 3,684,316	\$ 3,166,496	\$ 2,641,620	\$ 2,021,816	\$ 990,031	\$ 486,769	\$ 245,368				\$ 16,426,136
Transportation																
Granite	\$ 57	\$ 90	\$ 200	\$ 366	\$ 466	\$ 670	\$ 540	\$ 430	\$ 350	\$ 194	\$ 84	\$ 72				\$ 3,522
Emera	\$ -	\$ -	\$ -	\$ -	\$ 1,081	\$ 903	\$ 2,624	\$ 2,631	\$ 2,042	\$ -	\$ -	\$ -				\$ 9,280
Maritimes	\$ -	\$ -	\$ -	\$ 16,837	\$ 7,724	\$ 21,412	\$ 13,557	\$ 1,008	\$ 1,013	\$ 28,394	\$ 464	\$ -				\$ 90,409
Portland	\$ -	\$ -	\$ -	\$ -	\$ 26,294	\$ 2,595	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				\$ 28,890
Tennessee	\$ 8,546	\$ 8,466	\$ 8,612	\$ 8,794	\$ 3,009	\$ 3,329	\$ 3,308	\$ 2,905	\$ 3,363	\$ 3,016	\$ 3,026	\$ 2,639				\$ 59,012
Subtotal - Commodity Transportation	\$ 8,603	\$ 8,556	\$ 8,812	\$ 25,997	\$ 38,573	\$ 28,910	\$ 20,028	\$ 6,974	\$ 6,768	\$ 31,605	\$ 3,574	\$ 2,711				\$ 191,113
Commodity Cost Estimates	\$ 213,344	\$ 227,696	\$ 730,013	\$ 1,793,204	\$ 3,712,810	\$ 3,179,569	\$ 2,630,462	\$ 2,028,235	\$ 1,016,721	\$ 490,280	\$ 248,007	\$ 216,511				\$ 16,486,852
Commodity Cost Reversals	\$ (231,726)	\$ (213,344)	\$ (227,696)	\$ (730,013)	\$ (1,793,204)	\$ (3,712,810)	\$ (3,179,569)	\$ (2,630,462)	\$ (2,028,235)	\$ (1,016,721)	\$ (490,280)	\$ (248,007)				\$ (16,502,067)
Subtotal - Estimates	\$ (18,382)	\$ 14,352	\$ 502,317	\$ 1,063,191	\$ 1,919,606	\$ (533,241)	\$ (549,107)	\$ (602,227)	\$ (1,011,514)	\$ (526,441)	\$ (242,273)	\$ (31,496)				\$ 33,856,959
Subtotal - Supply	\$ 217,225	\$ 227,786	\$ 810,572	\$ 1,793,553	\$ 3,712,211	\$ 3,179,985	\$ 2,637,417	\$ 2,046,368	\$ 1,017,071	\$ 495,195	\$ 248,070	\$ 216,583				\$ 16,602,034
Withdrawal - Underground Storage	\$ 9,496	\$ (10,173)	\$ (299)	\$ 442,320	\$ 444,456	\$ 1,125,609	\$ 1,110,508	\$ 844,405	\$ (2,832)	\$ 1,888	\$ 981	\$ 152				\$ 3,966,512
ATV Reconciliation Charges	\$ (5,678)	\$ 763	\$ 13,181	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				\$ 8,267
Off System Sales	\$ -	\$ -	\$ (374)	\$ -	\$ (3,933)	\$ (52,655)	\$ (479,981)	\$ (855,788)	\$ (786,176)	\$ -	\$ -	\$ -				\$ (2,178,908)
Net OBA Adjustment	\$ (568)	\$ 216	\$ (6,374)	\$ 537	\$ 538	\$ (3,007)	\$ (721)	\$ (335)	\$ 1,016	\$ 148	\$ 671	\$ 12				\$ (7,868)
Company Managed	\$ (6,596)	\$ (8,075)	\$ (6,989)	\$ -	\$ (94,846)	\$ -	\$ (140,458)	\$ (153,902)	\$ (95,033)	\$ (120,295)	\$ -	\$ -				\$ (626,193)
LNG Withdrawal / Boiloff	\$ 4,458	\$ 4,655	\$ 3,270	\$ 6,960	\$ 6,843	\$ 55,843	\$ 6,380	\$ 10,600	\$ 7,713	\$ 6,591	\$ 6,021	\$ 6,021				\$ 125,355
Supplier Balancing	\$ 10,571	\$ 26,949	\$ 5,583	\$ -	\$ 120,043	\$ -	\$ 148,464	\$ 146,840	\$ 68,577	\$ 27,726	\$ (49,696)	\$ -				\$ 505,057
Inventory Finance Charge	\$ 329	\$ 422	\$ 516	\$ 604	\$ 574	\$ 366	\$ 190	\$ 168	\$ 182	\$ 247	\$ 268	\$ 330				\$ 4,195
Subtotal - Other Commodity	\$ 12,011	\$ 14,757	\$ 8,515	\$ 450,422	\$ 473,676	\$ 1,126,155	\$ 644,381	\$ (8,011)	\$ (806,553)	\$ (83,695)	\$ (41,755)	\$ 6,515				\$ 1,796,418
Sales for Resale Estimates	\$ (7,059)	\$ (7,363)	\$ (7,081)	\$ (91,698)	\$ (193,113)	\$ (633,883)	\$ (950,821)	\$ (906,471)	\$ -	\$ -	\$ -	\$ -				\$ (2,797,489)
Sales for Resale Reversals	\$ 6,596	\$ 7,059	\$ 7,363	\$ 7,081	\$ 91,698	\$ 193,113	\$ 633,883	\$ 950,821	\$ 906,471	\$ -	\$ -	\$ -				\$ 2,804,085
Subtotal - Estimates	\$ (463)	\$ (304)	\$ 282	\$ (84,617)	\$ (101,415)	\$ (440,770)	\$ (316,938)	\$ 44,350	\$ 906,471	\$ -	\$ -	\$ -				\$ 6,596
Total Annual Commodity Costs	\$ 228,773	\$ 242,239	\$ 819,369	\$ 2,159,358	\$ 4,084,471	\$ 3,865,370	\$ 2,964,860	\$ 2,082,707	\$ 1,116,989	\$ 411,499	\$ 206,315	\$ 223,098	\$ 201,647	\$ 196,971	\$ 400,164	\$ 19,203,829

(1) Monthly estimates provided in Table 2 of Northern 's August 2019 Monthly Cost of Gas Report, submitted in DG 18-143 on August 26, 2019.

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
2018-19 ANNUAL COG RECONCILIATION
SCHEDULE 4: PURCHASED GAS COSTS
August 2018- October 2019

Demand Costs	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	-----Estimated ⁽¹⁾ -----			Total
Pipeline Reservation																
Alberta Northeast	\$ 4,164	\$ 5,507	\$ 4,408	\$ 4,341	\$ 4,576	\$ 4,689	\$ 4,464	\$ 3,441	\$ 4,498	\$ 4,985	\$ 4,569	\$ 3,918				\$ 53,562
Algonquin	\$ 15,153	\$ 15,153	\$ 15,146	\$ 15,084	\$ 14,977	\$ 14,970	\$ 14,984	\$ 14,944	\$ 14,964	\$ 14,975	\$ 14,984	\$ 14,984				\$ 180,319
Emera	\$ 392,533	\$ 395,440	\$ 393,568	\$ 385,405	\$ 374,010	\$ 379,557	\$ 385,261	\$ 293,859	\$ 291,120	\$ 291,849	\$ 298,027	\$ 299,952				\$ 4,180,580
Granite State	\$ 167,645	\$ 167,645	\$ 167,645	\$ 224,272	\$ 224,272	\$ 224,272	\$ 224,272	\$ 224,272	\$ 224,272	\$ 165,766	\$ 165,766	\$ 165,766				\$ 2,345,867
Iroquois	\$ 17,577	\$ 17,577	\$ 16,410	\$ 16,410	\$ 16,226	\$ 16,226	\$ 16,226	\$ 16,226	\$ 16,226	\$ 16,226	\$ 16,226	\$ 14,123				\$ 195,676
Portland	\$ 325,677	\$ 325,677	\$ 325,677	\$ 325,677	\$ 322,027	\$ 322,027	\$ 322,027	\$ 322,027	\$ 322,027	\$ 322,027	\$ 322,027	\$ 322,027				\$ 3,878,927
Tennessee	\$ 164,131	\$ 164,131	\$ 164,131	\$ 164,131	\$ 158,898	\$ 158,898	\$ 158,898	\$ 158,898	\$ 158,898	\$ 158,898	\$ 158,898	\$ 158,898				\$ 1,927,712
Texas Eastern	\$ 2,408	\$ 2,416	\$ 2,416	\$ 2,416	\$ 2,389	\$ 2,389	\$ 2,389	\$ 2,408	\$ 2,408	\$ 2,408	\$ 2,408	\$ 3,593				\$ 30,050
Total Pipeline Reservation	\$ 1,089,290	\$ 1,093,546	\$ 1,089,401	\$ 1,137,737	\$ 1,117,375	\$ 1,123,029	\$ 1,128,521	\$ 1,036,076	\$ 1,034,414	\$ 977,135	\$ 982,906	\$ 983,262				\$ 12,792,691
Product Demand																
Excelon	\$ -	\$ -	\$ -	\$ -	\$ 89,102	\$ 89,102	\$ 89,102	\$ 89,102	\$ 89,102	\$ -	\$ -	\$ -				\$ 445,511
Gaz Metropolitan	\$ -	\$ -	\$ -	\$ -	\$ 4,753	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				\$ 4,753
Repsol	\$ -	\$ -	\$ -	\$ -	\$ 778,100	\$ 804,037	\$ 804,037	\$ 726,227	\$ 804,037	\$ -	\$ -	\$ -				\$ 3,916,439
Total Product Demand	\$ -	\$ -	\$ -	\$ 4,753	\$ 867,203	\$ 893,139	\$ 893,139	\$ 815,329	\$ 893,139	\$ -	\$ -	\$ -				\$ 4,366,702
Storage Pipeline Transportation and Demand Reservation																
Emera	\$ 105,577	\$ 105,577	\$ 105,577	\$ 105,577	\$ 104,394	\$ 104,394	\$ 104,394	\$ 104,394	\$ 104,394	\$ 104,394	\$ 104,394	\$ 104,394				\$ 1,257,458
Tennessee	\$ 5,199	\$ 5,199	\$ 5,199	\$ 5,199	\$ 5,026	\$ 5,026	\$ 5,026	\$ 5,026	\$ 5,026	\$ 5,026	\$ 5,026	\$ 5,026				\$ 61,004
Total Storage & Demand Reservation	\$ 110,776	\$ 110,776	\$ 110,776	\$ 110,776	\$ 109,420	\$ 109,420	\$ 109,420	\$ 109,420	\$ 109,420	\$ 109,420	\$ 109,420	\$ 109,420				\$ 1,318,462
Demand Cost Estimates	\$ (935,125)	\$ (937,607)	\$ (932,729)	\$ (90,178)	\$ (70,695)	\$ (65,275)	\$ (226,968)	\$ (152,536)	\$ (956,735)	\$ (1,047,459)	\$ (1,043,831)	\$ (1,038,883)				\$ (7,498,021)
Demand Cost Reversals	\$ 935,125	\$ 935,125	\$ 937,607	\$ 932,729	\$ 90,178	\$ 70,695	\$ 65,275	\$ 226,968	\$ 152,536	\$ 956,735	\$ 1,047,459	\$ 1,043,831				\$ 7,394,263
Subtotal	\$ -	\$ (2,482)	\$ 4,878	\$ 842,551	\$ 19,483	\$ 5,420	\$ (161,693)	\$ 74,432	\$ (804,199)	\$ (90,724)	\$ 3,628	\$ 4,948				\$ (103,758)
Capacity Release(2)	\$ (466,964)	\$ (473,672)	\$ (469,910)	\$ (486,436)	\$ (537,855)	\$ (535,500)	\$ (538,096)	\$ (523,851)	\$ (518,043)	\$ (825,077)	\$ (708,701)	\$ (767,913)				\$ (6,852,020)
Company Managed	\$ (8,314)	\$ (7,471)	\$ (8,153)	\$ -	\$ (51,352)	\$ -	\$ (42,318)	\$ (42,309)	\$ (43,491)	\$ (42,186)	\$ (42,002)	\$ -				\$ -
Other A&G Allowance	\$ 17,815	\$ 17,815	\$ 17,815	\$ 78,509	\$ 78,509	\$ 78,509	\$ 78,509	\$ 78,509	\$ 78,509	\$ 18,234	\$ 18,234	\$ 18,234				\$ 579,198
Local Production and Storage Allowance	\$ -	\$ -	\$ -	\$ 79,351	\$ 79,351	\$ 79,351	\$ 79,351	\$ 79,351	\$ 79,351	\$ -	\$ -	\$ -				\$ 476,106
Conversion & Re-entry Fees	\$ (18)	\$ (17)	\$ (32)	\$ (107)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -				\$ (175)
Total Indirect Demand Costs	\$ (457,481)	\$ (463,345)	\$ (460,280)	\$ (328,684)	\$ (431,348)	\$ (377,641)	\$ (422,554)	\$ (408,300)	\$ (403,675)	\$ (849,030)	\$ (732,470)	\$ (749,679)				\$ (6,084,487)
Estimates - Cap Release & Comp Managed	\$ (321,593)	\$ (320,468)	\$ (499,932)	\$ (568,672)	\$ (563,981)	\$ (563,858)	\$ (548,244)	\$ (539,904)	\$ (800,423)	\$ (770,506)	\$ (770,538)	\$ (770,435)				\$ (7,038,554)
Reversals - Cap Release & Comp Managed	\$ 320,214	\$ 321,593	\$ 320,468	\$ 499,932	\$ 568,672	\$ 563,981	\$ 563,858	\$ 548,244	\$ 539,904	\$ 800,423	\$ 770,506	\$ 770,538				\$ 6,588,333
Subtotal	\$ (1,379)	\$ 1,125	\$ (179,464)	\$ (68,740)	\$ 4,691	\$ 123	\$ 15,614	\$ 8,340	\$ (260,519)	\$ 29,917	\$ (32)	\$ 103				\$ (450,221)
Annual Demand Costs	\$ 741,206	\$ 739,620	\$ 565,311	\$ 1,698,393	\$ 1,686,824	\$ 1,753,490	\$ 1,562,447	\$ 1,635,297	\$ 568,580	\$ 176,718	\$ 363,451	\$ 348,053	\$ 684,493	\$ 684,493	\$ 684,493	\$ 13,892,870
Total Gas Costs																
	\$ 969,978	\$ 981,859	\$ 1,384,680	\$ 3,857,750	\$ 5,771,295	\$ 5,618,860	\$ 4,527,307	\$ 3,718,004	\$ 1,685,569	\$ 588,217	\$ 569,766	\$ 571,151	\$ 886,140	\$ 881,464	\$ 1,084,657	\$ 33,096,699

(1) Monthly estimates provided in Table 2 of Northern 's August 2019 Monthly Cost of Gas Report, submitted in DG 18-143 on August 26, 2019.

(2) Includes Asset Management Agreement Revenue

CONFIDENTIAL

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
2018-19 ANNUAL COG RECONCILIATION
COST OF GAS ADJUSTMENT - FORM III, Schedule 4 - UNITS
August 2018 - October 2019

Indicates Confidential Data

Commodity Volumes:	<u>Aug-18</u>	<u>Sep-18</u>	<u>Oct-18</u>	<u>Nov-18</u>	<u>Dec-18</u>	<u>Jan-19</u>	<u>Feb-19</u>	<u>Mar-19</u>	<u>Apr-19</u>	<u>May-19</u>	<u>Jun-19</u>	<u>Jul-19</u>	<u>Aug-19</u>	<u>Sep-19</u>	<u>Oct-19</u>	<u>Total</u>
DTE Energy Trading													-----Estimated ⁽¹⁾ -----			
Emera Energy Services Corp.																
Repsol																
Shell																
Southwestern																
Tenaska																
Subtotal - Commodity Supply																
Granite																
Emera																
Maritimes																
Portland																
Tennessee																
Subtotal - Commodity Transportation																
Commodity Volume Estimates																
Commodity Volume Reversals																
Subtotal - Estimates																
Subtotal - Supply																
Withdrawal - Underground Storage																
ATV Reconciliation Charges																
Off System Sales																
Net OBA Adjustment																
Company Managed																
LNG Withdrawal / Boiloff																
Supplier Balancing																
Inventory Finance Charge																
Subtotal - Other Commodity																
Sales for Resale Estimates																
Sales for Resale Reversals																
Subtotal - Estimates																
Total Commodity Volumes													102,888	104,952	212,494	

(1) Monthly estimates provided in Table 2 of Northern 's August 2019 Monthly Cost of Gas Report, submitted in DG 18-143 on August 26, 2019.

CONFIDENTIAL

FORM III
Schedule 4
Page 4 of 4

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
2018-19 ANNUAL COG RECONCILIATION
COST OF GAS ADJUSTMENT - FORM III, Schedule 4 - IN COST PER UNIT
August 2018 - October 2019

Indicates Confidential Data

Commodity Costs per Unit:	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	-----Estimated ⁽¹⁾ -----			Total
	Aug-19	Sep-19	Oct-19													
DTE Energy Trading																
Emera Energy Services Corp.	\$ -	\$ -	\$ -													
Repsol																
Shell																
Southwestern																
Tenaska																
Subtotal - Commodity Supply	\$ 2.97	\$ 2.96	\$ 2.94													
Granite																
Emera																
Maritimes																
Portland																
Tennessee																
Subtotal - Commodity Transportation	n/a	n/a	n/a													
Commodity Cost Estimates																
Commodity Cost 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 Withdrawal / Boiloff																
Supplier Balancing																
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													

(1) Monthly estimates provided in Table 2 of Northern 's August 2019 Monthly Cost of Gas Report, submitted in DG 18-143 on August 26, 2019.

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
2018-19 ANNUAL COG RECONCILIATION
SCHEDULE 5: PURCHASED AND MADE VOLUMES
August 2018 - July 2019

<i>New Hampshire</i>	<u>Aug-18</u>	<u>Sep-18</u>	<u>Oct-18</u>	<u>Nov-18</u>	<u>Dec-18</u>	<u>Jan-19</u>	<u>Feb-19</u>	<u>Mar-19</u>	<u>Apr-19</u>	<u>May-19</u>	<u>Jun-19</u>	<u>Jul-19</u>	<u>Total</u>
Throughput IN													
<i>BTU Factor</i>	1.028	1.028	1.028	1.031	1.034	1.043	1.037	1.035	1.031	1.029	1.029	1.029	
<i>GST Meter Throughput (MCF)</i>	350,211	364,662	599,288	870,230	989,910	1,176,088	1,039,891	948,874	648,375	523,015	374,574	352,921	8,238,039
<i>Salem Meter (MCF)</i>	12,840	14,042	29,029	53,060	67,530	83,404	69,259	59,987	33,363	22,371	14,281	12,906	472,072
<i>GST Meter Throughput (DTH)</i>	360,017	374,873	617,267	899,818	1,027,527	1,226,660	1,078,367	982,085	668,475	538,182	385,437	363,156	8,521,861
<i>Salem Meter (DTH)</i>	13,200	14,435	29,900	54,864	70,096	86,990	71,822	62,087	34,397	23,020	14,695	13,280	488,786
<i>LNG/Propane</i>													-
<i>Total Throughput</i>	373,216	389,308	647,167	954,682	1,097,623	1,313,650	1,150,189	1,044,171	702,872	561,202	400,132	376,436	9,010,647
Throughput OUT													
<i>Residential Gas</i>													
Charged	31,583	32,634	58,636	163,655	298,149	325,807	355,102	310,179	204,959	119,680	57,697	39,172	1,997,253
Uncharged Current	18,967	23,769	34,391	147,840	176,692	188,632	177,276	125,778	71,820	61,537	33,995	19,641	1,080,338
Uncharged Prior	(24,906)	(18,967)	(23,769)	(34,391)	(147,840)	(176,692)	(188,632)	(177,276)	(125,778)	(71,820)	(61,537)	(33,995)	(1,085,603)
Total Residential Gas	25,644	37,436	69,258	277,104	327,001	337,747	343,746	258,681	151,001	109,397	30,155	24,818	1,991,988
Interruptible				-	-	-	-	-	-	-	-	-	-
<i>Commercial/Industrial Gas</i>													
Charged	56,755	63,609	95,335	208,510	340,363	401,272	398,139	377,423	242,115	147,271	80,849	70,543	2,482,184
Uncharged Current	34,083	46,330	55,916	169,333	202,490	225,392	198,917	161,807	95,155	75,723	47,636	35,371	1,348,153
Uncharged Prior	(35,570)	(34,083)	(46,330)	(55,916)	(169,333)	(202,490)	(225,392)	(198,917)	(161,807)	(95,155)	(75,723)	(47,636)	(1,348,352)
Total C/I Gas	55,268	75,856	104,921	321,927	373,520	424,174	371,664	340,313	175,463	127,839	52,762	58,278	2,481,985
<i>Transportation</i>													
Charged	281,499	274,026	331,583	393,820	429,138	473,142	476,686	460,215	396,372	365,200	291,855	281,310	4,454,846
Uncharged Current	107,362	126,043	130,912	213,018	199,007	196,581	188,064	159,272	130,649	130,937	111,452	89,667	1,782,964
Uncharged Prior	(113,758)	(107,362)	(126,043)	(130,912)	(213,018)	(199,007)	(196,581)	(188,064)	(159,272)	(130,649)	(130,937)	(111,452)	(1,807,055)
Total Transportation	275,103	292,707	336,452	475,926	415,127	470,716	468,169	431,423	367,749	365,488	272,370	259,525	4,430,755
Company Use	131	131	100	142	207	254	257	251	173	100	58	83	1,887
Total Throughput OUT	356,146	406,130	510,731	#####	1,115,855	1,232,891	1,183,836	1,030,668	694,386	602,824	355,345	342,704	8,906,615
Total Throughput IN	373,216	389,308	647,167	954,682	1,097,623	1,313,650	1,150,189	1,044,171	702,872	561,202	400,132	376,436	9,010,647
Difference IN/OUT	17,070	(16,822)	136,436	(120,417)	(18,232)	80,759	(33,647)	13,503	8,486	(41,622)	44,787	33,732	104,032
%													1.15%

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
DEFERRED WORKING CAPITAL ALLOWANCE ON PURCHASED GAS COSTS
August 2018 - October 2019

ANNUAL BALANCE SEASON - Acct 173

	<u>BEGINNING</u> <u>BALANCE</u>	<u>WORKING CAP</u> <u>ALLOWANCE (1)</u>	<u>WORKING CAP</u> <u>PERCENTAGE</u>	<u>WORKING CAP</u> <u>COLLECTIONS</u>	<u>WORKING CAP</u> <u>DEFERRED</u>	<u>ENDING</u> <u>BALANCE</u>	<u>AVE MONTHLY</u> <u>BALANCE</u>	<u>INTEREST</u> <u>RATE</u>	<u>INTEREST</u>	<u>ENDING BAL</u> <u>W/ INTEREST</u>
	A	B	C	D	E = B + D	F = A + E	G = (A + F) / 2	H	I = G * (H / 12)	K = F + I + J
August 2018	\$ 6,784									
Adjustment	\$ 12									
August 2018	\$ 6,796	1,265	0.1304%	(448)	816	7,612	7,204	4.75%	29	7,641
September	\$ 7,641	1,280	0.1304%	(483)	797	8,438	8,039	4.75%	32	8,469
October	\$ 8,469	1,901	0.1373%	(879)	1,022	9,492	8,980	5.00%	37	9,529
November	\$ 9,529	5,297	0.1373%	(11,123)	(5,826)	3,703	6,616	5.00%	28	3,731
December	\$ 3,731	7,924	0.1373%	(16,066)	(8,142)	(4,411)	(340)	5.00%	(1)	(4,413)
January 2019	\$ (4,413)	8,097	0.1441%	(19,651)	(11,554)	(15,967)	(10,190)	5.25%	(45)	(16,011)
February	\$ (16,011)	6,524	0.1441%	(16,791)	(10,267)	(26,279)	(21,145)	5.25%	(93)	(26,371)
March	\$ (26,371)	5,358	0.1441%	(15,149)	(9,791)	(36,163)	(31,267)	5.25%	(137)	(36,299)
April	\$ (36,299)	2,545	0.1510%	(7,692)	(5,147)	(41,446)	(38,873)	5.50%	(178)	(41,625)
May	\$ (41,625)	888	0.1510%	(2,941)	(2,052)	(43,677)	(42,651)	5.50%	(195)	(43,872)
June	\$ (43,872)	860	0.1510%	(1,078)	(218)	(44,090)	(43,981)	5.50%	(202)	(44,292)
July	\$ (44,292)	862	0.1304%	(1,047)	(184)	(44,476)	(44,384)	5.50%	(203)	(44,680)
Estimated August	\$ (44,680)	824	0.1014%	(500)	324	(44,355)	(44,517)	5.50%	(204)	(44,559)
Estimated September	\$ (44,559)	833	0.1014%	(500)	333	(44,226)	(44,393)	5.50%	(203)	(44,430)
Estimated October	\$ (44,430)	1,244	0.1077%	(850)	394	(44,036)	(44,233)	5.50%	(203)	(44,238)

(1) Working Capital Allowance calculated by taking monthly Total Gas Costs from Schedule 4, Page 2, and multiplying by (10.02/365)* prime interest rate.

Winter Season Sales Percentage	80.55%
Summer Season Sales Percentage	19.45%
Reconciliation Allocated to Winter Season	\$ (35,633)
Reconciliation Allocated to Summer Season	\$ (8,605)

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
BAD DEBT EXPENSE - CALCULATION OF COLLECTION ALLOWANCE
August 2018 - October 2019

ANNUAL BALANCE- Acct 173

	<u>BEGINNING BALANCE</u>	<u>ACUTAL BAD DEBT</u>	<u>BAD DEBT COLLECTIONS</u>	<u>DEFERRED BALANCE</u>	<u>ENDING BALANCE</u>	<u>AVE MO BALANCE</u>	<u>INTEREST RATE</u>	<u>INTEREST</u>	<u>END BAL W/ INTEREST</u>
	A	B	C	D = B + C	E = A + D	F = (A + E) / 2	G	H = (F * G) / 12	J = E + H + I
August 2018	(\$69,926)	32,568	(1,263)	31,306	(38,620)	(54,273)	4.75%	(215)	(38,835)
September	(\$38,835)	3,466	(1,362)	2,104	(36,730)	(37,783)	4.75%	(150)	(36,880)
October	(\$36,880)	33,664	(2,537)	31,127	(5,753)	(21,316)	5.00%	(89)	(5,841)
November	(\$5,841)	7,281	(21,789)	(14,509)	(20,350)	(13,096)	5.00%	(55)	(20,405)
December	(\$20,405)	40,557	(30,793)	9,764	(10,641)	(15,523)	5.00%	(65)	(10,705)
January 2019	(\$10,705)	14,378	(37,658)	(23,280)	(33,985)	(22,345)	5.25%	(98)	(34,083)
February	(\$34,083)	4,248	(32,162)	(27,914)	(61,997)	(48,040)	5.25%	(210)	(62,207)
March	(\$62,207)	(7,102)	(29,034)	(36,136)	(98,343)	(80,275)	5.25%	(351)	(98,694)
April	(\$98,694)	5,749	(14,741)	(8,992)	(107,687)	(103,190)	5.50%	(473)	(108,160)
May	(\$108,160)	17,834	(2,143)	15,691	(92,469)	(100,314)	5.50%	(460)	(92,929)
June	(\$92,929)	10,967	(812)	10,155	(82,774)	(87,851)	5.50%	(403)	(83,176)
July	(\$83,176)	29,821	(769)	29,052	(54,125)	(68,651)	5.50%	(315)	(54,439)
Estimated August	(\$54,439)	25,000	(850)	24,150	(30,289)	(42,364)	5.50%	(194)	(30,484)
Estimated September	(\$30,484)	25,000	(875)	24,125	(6,359)	(18,421)	5.50%	(84)	(6,443)
Estimated October	(\$6,443)	5,000	(2,000)	3,000	(3,443)	(4,943)	5.50%	(23)	(3,466)

Winter Season Sales Percentage 80.55%
Summer Season Sales Percentage 19.45%

Reconciliation Allocated to Winter Season \$ (2,792)
Reconciliation Allocated to Summer Season \$ (674)

Northern Utilities, Inc. - New Hampshire Division
Environmental Response Costs
May 2018 - October 2019

		Beginning Balance	Firm Sales and Transportation (therms)	ERC Rate Recoveries /Passback	Current ERC Recoveries/ Passbacks	Ending Balance
May 2018	(act)	\$ 120,247	4,659,558	\$ 0.0060	\$ 27,979	\$ 92,268
June 2018	(act)	\$ 92,268	3,060,655	\$ 0.0060	\$ 18,366	\$ 73,903
July 2018	(act)	\$ 73,903	2,546,504	\$ 0.0060	\$ 15,286	\$ 58,616
August 2018	(act)	\$ 58,616	2,671,152	\$ 0.0060	\$ 16,026	\$ 42,590
September 2018	(act)	\$ 42,590	2,692,954	\$ 0.0060	\$ 16,163	\$ 26,427
October 2018	(act)	\$ 26,427	3,771,702	\$ 0.0060	\$ 22,619	\$ 3,808
November 2018	(act)	\$ 433,049 ⁽¹⁾	6,635,907	\$ 0.0059 ⁽²⁾	\$ 38,941	\$ 394,107
December 2018	(act)	\$ 394,107	9,706,902	\$ 0.0058	\$ 56,301	\$ 337,807
January 2019	(act)	\$ 337,807	10,937,693	\$ 0.0058	\$ 63,434	\$ 274,372
February 2019	(act)	\$ 274,372	11,291,738	\$ 0.0058	\$ 65,494	\$ 208,878
March 2019	(act)	\$ 208,878	10,324,746	\$ 0.0058	\$ 59,880	\$ 148,998
April 2019	(act)	\$ 148,998	7,321,169	\$ 0.0058	\$ 42,469	\$ 106,529
May 2019	(act)	\$ 106,529	5,216,064	\$ 0.0058	\$ 30,252	\$ 76,277
June 2019	(act)	\$ 76,277	3,277,029	\$ 0.0058	\$ 19,019	\$ 57,259
July 2019	(act)	\$ 57,259	2,885,458	\$ 0.0058	\$ 16,750	\$ 40,509
August 2019	(est)	\$ 40,509	2,699,608	\$ 0.0058	\$ 15,658	\$ 24,851
September 2019	(est)	\$ 24,851	2,637,803	\$ 0.0058	\$ 15,299	\$ 9,552
October 2019	(est)	\$ 9,552	3,760,053	\$ 0.0058	\$ 21,808	\$ (12,257)

(1) November Beginning Balance includes \$429,241 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 \$0.0060 and actual Firm Sales and Transportation (therms) at \$0.0058.

**NORTHERN UTILITIES
NEW HAMPSHIRE DIVISION
RLIARA Reconciliation
May 2018 - October 2019**

		<u>Beginning Balance</u>	<u>Program Costs</u>	<u>Regulatory Assessments</u>	<u>RLIARA Recoveries</u>	<u>Ending Balance</u>	<u>Average Monthly Balance</u>	<u>Interest Rate</u>	<u>Interest</u>	<u>Ending Balance w/Interest</u>
		A	B	C	D	E = A+B+C-D	F = (A+E)/2	G	H = F*(G/12)	I = E+H
May 2018	Actual	\$ (31,152)	\$ 27,166	\$ (203,817) (1)	\$ 17,803	\$ (225,608)	\$ (128,380)	4.50%	\$ (481)	\$ (226,089)
June 2018	Actual	\$ (226,089)	\$ 14,005	\$ 4,869	\$ 11,926	\$ (219,141)	\$ (222,615)	4.50%	\$ (835)	\$ (219,976)
July 2018	Actual	\$ (219,976)	\$ 9,739	\$ 4,869	\$ 9,922	\$ (215,290)	\$ (217,633)	4.75%	\$ (861)	\$ (216,152)
August 2018	Actual	\$ (216,152)	\$ 9,308	\$ (16,532) (1)	\$ 10,409	\$ (233,785)	\$ (224,968)	4.75%	\$ (4,771) (1)	\$ (238,556)
September 2018	Actual	\$ (238,556)	\$ 9,140	\$ (5,831) (1)	\$ 10,494	\$ (245,741)	\$ (242,148)	4.75%	\$ (999) (1)	\$ (246,740)
October 2018	Actual	\$ (246,740)	\$ 9,610	\$ 11,421	\$ 14,726	\$ (240,435)	\$ (243,587)	5.00%	\$ (1,015)	\$ (241,450)
November 2018	Actual	\$ (241,450)	\$ 22,017	\$ 11,421	\$ 28,068	\$ (236,080)	\$ (238,765)	5.00%	\$ (995)	\$ (237,074)
December 2018	Actual	\$ (237,074)	\$ 18,404	\$ 11,421	\$ 42,710	\$ (249,960)	\$ (243,517)	5.00%	\$ (1,015)	\$ (250,975)
January 2019	Actual	\$ (250,975)	\$ 44,874 (2)	\$ 11,421	\$ 48,123	\$ (242,803)	\$ (246,889)	5.25%	\$ (1,136)	\$ (243,939)
February 2019	Actual	\$ (243,939)	\$ 86,239 (2)	\$ 11,421	\$ 49,685	\$ (195,964)	\$ (219,952)	5.25%	\$ (481)	\$ (196,445)
March 2019	Actual	\$ (196,445)	\$ 52,648	\$ 11,421	\$ 45,429	\$ (177,805)	\$ (187,125)	5.25%	\$ (819)	\$ (178,624)
April 2019	Actual	\$ (178,624)	\$ 39,060	\$ 11,421	\$ 32,216	\$ (160,359)	\$ (169,492)	5.50%	\$ (777)	\$ (161,136)
May 2019	Actual	\$ (161,136)	\$ 27,022	\$ 11,421	\$ 22,952	\$ (145,645)	\$ (153,391)	5.50%	\$ (703)	\$ (146,348)
June 2019	Actual	\$ (146,348)	\$ 13,809	\$ 11,421	\$ 14,418	\$ (135,537)	\$ (140,943)	5.50%	\$ (646)	\$ (136,183)
July 2019	Actual	\$ (136,183)	\$ 11,937	\$ 11,421	\$ 12,693	\$ (125,519)	\$ (130,851)	5.50%	\$ (600)	\$ (126,119)
August 2019	Est.	\$ (126,119)	\$ 11,382	\$ 3,258	\$ 11,878	\$ (123,357)	\$ (124,738)	5.50%	\$ (572)	\$ (123,928)
September 2019	Est.	\$ (123,928)	\$ 11,049	\$ 3,258	\$ 11,606	\$ (121,228)	\$ (122,578)	5.50%	\$ (562)	\$ (121,790)
October 2019	Est.	\$ (121,790)	\$ 11,821	\$ 3,258	\$ 16,544	\$ (123,255)	\$ (122,523)	5.25%	\$ (536)	\$ (123,791)

(1) Accounting true ups to Regulatory Assessment plus associated interest adjustments.

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

	<u>Aug-18</u>	<u>Sep-18</u>	<u>Oct-18</u>	<u>Nov-18</u>	<u>Dec-18</u>	<u>Jan-19</u>	<u>Feb-19</u>	<u>Mar-19</u>	<u>Apr-19</u>	<u>May-19</u>	<u>Jun-19</u>	<u>Jul-19</u>	<u>TOTAL</u>
Forecast Bill Month Sales	97,769	102,629	214,810	423,189	662,632	801,953	676,432	597,693	326,393	174,959	119,061	99,656	4,297,177
Actual Sales	88,337	96,243	153,970	372,164	638,512	727,079	753,241	687,602	447,074	266,952	138,546	109,716	4,479,436
Difference	(9,432)	(6,386)	(60,840)	(51,025)	(24,119)	(74,874)	76,809	89,909	120,681	91,992	19,484	10,059	182,259
Normal Cal. Month Actual Sales	88,337	96,243	153,970	412,261	742,741	690,598	698,842	746,084	449,577	266,952	138,546	109,716	4,593,865
Actual Sales	88,337	96,243	153,970	372,164	638,512	727,079	753,241	687,602	447,074	266,952	138,546	109,716	4,479,436
Weather Variance	-	-	-	40,096	104,228	(36,481)	(54,399)	58,482	2,503	-	-	-	114,429
Total Variance Excluding Weather (excl weather effect)	(9,432)	(6,386)	(60,840)	(10,928)	80,109	(111,355)	22,409	148,391	123,184	91,992	19,484	10,059	296,688
Variance-difference due to meter count													(121,536)
-difference in load pattern													(38,629)
Total Sales Variance													(160,166)

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
SALES VARIANCE ANALYSIS
August 2018 - July 2019

	<u>NORMAL MMBtu</u>			<u>METERS</u>		
	2018-19 Forecast	2018-19 Actual	Difference	2018-19 Forecast	2018-19 Actual	Difference
Res Heat	1,944,626	1,863,775	(80,852)	303,069	295,219	(7,850)
Res General	23,581	26,684	3,104	15,150	15,497	347
Total Res	1,968,207	1,890,459	(77,748)	318,219	310,716	(7,503)
G-40	947,956	954,044	6,088	55,380	54,732	(648)
G-50	149,714	153,772	4,058	8,761	8,991	230
G-41	769,174	695,669	(73,505)	5,086	4,936	(150)
G-51	223,991	235,518	11,527	1,841	1,931	90
G-42	160,388	149,873	(10,515)	162	123	(39)
G-52	69,267	49,198	(20,070)	39	31	(8)
Total C & I	2,320,491	2,238,073	(82,418)	71,269	70,744	(525)
Total Company	4,288,698	4,128,532	(160,166)	389,488	381,460	(8,028)

	<u>NORMAL AVERAGE USE</u>			<u>Change in Sales Due to Change In:</u>		<u>Total Chg</u>	<u>%</u>
	2018-19 Forecast	2018-19 Actual	Difference	<u>Meter Count</u>	<u>Load Pattern</u>	<u>MMBtu</u>	<u>Difference</u>
Res Heat	6.42	6.31	(0.10)	(50,369)	(30,482)	(80,852)	-4.16%
Res General	1.56	1.72	0.17	540	2,564	3,104	13.16%
Total Res	7.97	8.04	0.06	(49,829)	(27,919)	(77,748)	-3.95%
G-40	17.12	17.43	0.31	(11,092)	17,180	6,088	0.64%
G-50	17.09	17.10	0.01	3,930	127	4,058	2.71%
G-41	151.23	140.94	(10.29)	(22,720)	(50,785)	(73,505)	-9.56%
G-51	121.69	121.97	0.28	10,995	532	11,527	5.15%
G-42	990.05	1,218.48	228.43	(38,612)	28,096	(10,515)	-6.56%
G-52	1,776.09	1,587.02	(189.07)	(14,209)	(5,861)	(20,070)	-28.97%
Total C & I	32.56	31.64	(0.92)	(71,707)	(10,711)	(82,418)	-3.55%
Total Company	11.01	10.82	(0.19)	(121,536)	(38,629)	(160,166)	-3.73%

Northern Utilities Inc.
Calculation of Bad Debt Expense

1	Actual Bad Debt Expense 12 Months Ended July 31, 2019			
2				
3	Total		\$ 476,599	Company Analysis
4	Distribution		\$ 283,228	Company Analysis
5	Distribution (%)		59.43%	LN 4 / LN 3
6	Non-Distribution		\$ 193,371	Company Analysis
7	Non-Distribution(%)		40.57%	LN 6 / LN 3
8				
9	Winter Demand Cost %		91.01%	Schedule 7-CAK, LN 79
10	Summer Demand Cost %		8.99%	Schedule 7-CAK, LN 79
11				
12	Forecast Bad Debt Expense 12 Months Ended December 31, 2020			
13				*
14	Annual Total		\$ 415,000	Company Forecast
15	Annual Non-Distribution		\$ 168,378	LN 14 * LN 7
16	Winter Non-Distribution		\$ 153,235	LN 15 * LN 9
17	Summer Non-Distribution		\$ 15,143	LN 15 * LN 10

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

Sales Revenues	Oct-19	Winter						Summer					
		(Forecast) Nov-19	(Forecast) Dec-19	(Forecast) Jan-20	(Forecast) Feb-20	(Forecast) Mar-20	(Forecast) Apr-20	(Forecast) May-20	(Forecast) Jun-20	(Forecast) Jul-20	(Forecast) Aug-20	(Forecast) Sep-20	(Forecast) Oct-20
Volumes													
Residential Heat & Non Heat		2,129,394	3,152,538	3,840,347	3,226,953	2,844,747	1,583,618	720,231	498,332	418,796	425,522	451,490	959,307
Sales HLF Classes		477,556	707,014	861,268	723,703	637,986	355,155	560,311	387,683	325,806	331,039	351,241	746,303
Sales LLF Classes		1,970,002	2,916,559	3,552,883	2,985,404	2,631,807	1,465,078	525,137	363,346	305,354	310,258	329,192	699,453
Total		4,576,952	6,776,112	8,254,498	6,936,059	6,114,540	3,403,851	1,805,678	1,249,361	1,049,956	1,066,818	1,131,924	2,405,063
Rates													
Residential Heat & Non Heat CGA		\$0.5861	\$0.5861	\$0.5861	\$0.5861	\$0.5861	\$0.5861	\$0.2768	\$0.2768	\$0.2768	\$0.2768	\$0.2768	\$0.2768
Sales HLF Classes CGA		\$0.4950	\$0.4950	\$0.4950	\$0.4950	\$0.4950	\$0.4950	\$0.2443	\$0.2443	\$0.2443	\$0.2443	\$0.2443	\$0.2443
Sales LLF Classes CGA		\$0.6082	\$0.6082	\$0.6082	\$0.6082	\$0.6082	\$0.6082	\$0.3116	\$0.3116	\$0.3116	\$0.3116	\$0.3116	\$0.3116
Revenues													
Residential Heat & Non Heat		\$ (1,248,038)	\$ (1,847,703)	\$ (2,250,827)	\$ (1,891,317)	\$ (1,667,306)	\$ (928,158)	\$ (199,360)	\$ (137,938)	\$ (115,923)	\$ (117,784)	\$ (124,973)	\$ (265,536)
Sales HLF Classes		\$ (236,390)	\$ (349,972)	\$ (426,328)	\$ (358,233)	\$ (315,803)	\$ (175,802)	\$ (136,884)	\$ (94,711)	\$ (79,595)	\$ (80,873)	\$ (85,808)	\$ (182,322)
Sales LLF Classes		\$ (1,198,155)	\$ (1,773,851)	\$ (2,160,864)	\$ (1,815,723)	\$ (1,600,665)	\$ (891,060)	\$ (163,633)	\$ (113,219)	\$ (95,148)	\$ (96,676)	\$ (102,576)	\$ (217,950)
Total Sales		\$ (2,682,583)	\$ (3,971,526)	\$ (4,838,019)	\$ (4,065,273)	\$ (3,583,774)	\$ (1,995,021)	\$ (499,876)	\$ (345,868)	\$ (290,665)	\$ (295,333)	\$ (313,357)	\$ (665,808)
Gas Costs and Credits	Oct-19	Winter						Summer					
		(Forecast) Nov-19	(Forecast) Dec-19	(Forecast) Jan-20	(Forecast) Feb-20	(Forecast) Mar-20	(Forecast) Apr-20	(Forecast) May-20	(Forecast) Jun-20	(Forecast) Jul-20	(Forecast) Aug-20	(Forecast) Sep-20	(Forecast) Oct-20
Demand Costs (net of Capacity Assignment)													
Pipeline		\$ 148,071	\$ 148,071	\$ 148,071	\$ 148,071	\$ 148,071	\$ 147,686	\$ 147,686	\$ 147,686	\$ 147,686	\$ 147,686	\$ 147,686	\$ 147,686
Storage		\$ 601,905	\$ 601,905	\$ 601,905	\$ 601,905	\$ 601,905	\$ 601,905	\$ 601,905	\$ 601,905	\$ 601,905	\$ 601,905	\$ 601,905	\$ 601,905
On-system Peaking		\$ 133,441	\$ 197,149	\$ 197,149	\$ 197,149	\$ 197,149	\$ 91,532	\$ 91,532	\$ 27,823	\$ 27,823	\$ 27,823	\$ 27,823	\$ 27,823
Off-System Peaking		\$ 779,362	\$ 779,362	\$ 779,362	\$ 779,362	\$ 779,362	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Demand Costs		\$ 1,662,778	\$ 1,726,487	\$ 1,726,487	\$ 1,726,487	\$ 1,726,487	\$ 841,123	\$ 841,123	\$ 777,414	\$ 777,414	\$ 777,414	\$ 777,414	\$ 777,414
Asset Management and Capacity Release													
NUI AMA Revenue		\$ (1,205,050)	\$ (1,205,050)	\$ (1,205,050)	\$ (1,205,050)	\$ (1,205,050)	\$ (1,205,050)	\$ (1,205,050)	\$ (1,205,050)	\$ (1,205,050)	\$ (1,205,050)	\$ (1,205,050)	\$ (1,205,050)
NUI Capacity Release		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NUI AMA Rev & Cap. Release Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NH AMA Revenue		\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)
NH Capacity Release		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
NH Total Asset Management and Capacity Release		\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)	\$ (504,819)
Re-entry Rate & Conversion Rate Revenue		\$ (1,666.67)	\$ (1,666.67)	\$ (1,666.67)	\$ (1,666.67)	\$ (1,666.67)	\$ (1,666.67)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Demand Costs		\$ 1,156,292	\$ 1,220,001	\$ 1,220,001	\$ 1,220,001	\$ 1,220,001	\$ 334,637	\$ 336,304	\$ 272,595	\$ 272,595	\$ 272,595	\$ 272,595	\$ 272,595
NUI Commodity Costs													
NUI Total Pipeline Volumes		720,067	615,478	557,996	526,109	639,074	969,749	510,915	354,416	307,247	308,564	332,093	656,863
Pipeline Costs Modeled in Sendout™		\$ 1,797,848	\$ 1,741,179	\$ 2,015,417	\$ 1,863,362	\$ 1,792,992	\$ 2,168,195	\$ 1,104,254	\$ 765,743	\$ 669,901	\$ 672,296	\$ 702,927	\$ 1,424,889
NYMEX Price Used for Forecast		\$ 2.3240	\$ 2.4850	\$ 2.5880	\$ 2.5560	\$ 2.4730	\$ 2.2770	\$ 2.2610	\$ 2.2970	\$ 2.3360	\$ 2.3450	\$ 2.3290	\$ 2.3540
NYMEX Price Used for Update		\$ 2.3240	\$ 2.4850	\$ 2.5880	\$ 2.5560	\$ 2.4730	\$ 2.2770	\$ 2.2610	\$ 2.2970	\$ 2.3360	\$ 2.3450	\$ 2.3290	\$ 2.3540
Increase/(Decrease) NYMEX Price		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Increase/(Decrease) in Pipeline Costs		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Updated Pipeline Costs		\$ 1,797,848	\$ 1,741,179	\$ 2,015,417	\$ 1,863,362	\$ 1,792,992	\$ 2,168,195	\$ 1,104,254	\$ 765,743	\$ 669,901	\$ 672,296	\$ 702,927	\$ 1,424,889
Interruptible Volumes - NH		0	0	0	0	0	0	0	0	0	0	0	0
Average Supply Cost (\$/MMBtu)		\$ 2.50	\$ 2.83	\$ 3.61	\$ 3.54	\$ 2.81	\$ 2.24	\$ 2.16	\$ 2.16	\$ 2.18	\$ 2.18	\$ 2.12	\$ 2.17
Interruptible Cost - NH		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Updated Pipeline Costs		\$ 1,797,848	\$ 1,741,179	\$ 2,015,417	\$ 1,863,362	\$ 1,792,992	\$ 2,168,195	\$ 1,104,254	\$ 765,743	\$ 669,901	\$ 672,296	\$ 702,927	\$ 1,424,889
New Hampshire Allocated Percentage		36.93%	38.58%	38.96%	38.53%	38.04%	35.46%	35.71%	35.57%	34.45%	34.85%	34.38%	37.04%
NH Updated Pipeline Costs		\$ 663,882	\$ 671,758	\$ 785,185	\$ 718,019	\$ 682,133	\$ 768,742	\$ 394,326	\$ 272,352	\$ 230,753	\$ 234,299	\$ 241,655	\$ 527,737
NH Commodity Costs													
Pipeline		\$ 663,882	\$ 671,758	\$ 785,185	\$ 718,019	\$ 682,133	\$ 768,742	\$ 394,326	\$ 272,352	\$ 230,753	\$ 234,299	\$ 241,655	\$ 527,737
Storage		\$ 275,783	\$ 610,281	\$ 754,929	\$ 754,783	\$ 635,566	\$ 333	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Peaking		\$ 695,468	\$ 1,684,145	\$ 2,004,526	\$ 1,573,556	\$ 822,748	\$ 4,855	\$ 2,667	\$ 2,559	\$ 2,555	\$ 2,584	\$ 2,458	\$ 2,734
Total Commodity Costs		\$ 1,635,133	\$ 2,966,184	\$ 3,544,640	\$ 3,046,358	\$ 2,140,448	\$ 773,930	\$ 396,992	\$ 274,911	\$ 233,309	\$ 236,882	\$ 244,112	\$ 530,470

Northern Utilities
NEW HAMPSHIRE (Over) / Undercollection

Sales Revenues				
Volumes	Winter	Summer	Prior Period	Total
Residential Heat & Non Heat				20,251,274
Sales HLF Classes				6,465,065
Sales LLF Classes				18,054,473
Total				44,770,812
Rates				
Residential Heat & Non Heat CGA				
Sales HLF Classes CGA				
Sales LLF Classes CGA				
Revenues				
Residential Heat & Non Heat				\$ (10,794,863)
Sales HLF Classes				\$ (2,522,720)
Sales LLF Classes				\$ (10,229,520)
Total Sales	\$ (21,136,195)	\$ (2,410,908)		\$ (23,547,103)
Gas Costs and Credits				
				Total
Demand Costs (net of Capacity Assignment)				
Pipeline				\$ 1,774,154
Storage				\$ 7,222,857
On-system Peaking				\$ 1,244,219
Off-System Peaking				\$ 3,896,809
Total Demand Costs				\$ 14,138,039
Asset Management and Capacity Release				
NUI AMA Revenue				\$ (14,460,600)
NUI Capacity Release				\$ -
NUI AMA Rev & Cap. Release Subtotal				\$ -
NH AMA Revenue				\$ (6,057,829)
NH Capacity Release				\$ -
NH Total Asset Management and Capacity Release		\$ -	\$ -	\$ (6,057,829)
Re-entry Rate & Conversion Rate Revenue	\$ (10,000)	\$ -		\$ (10,000)
Net Demand Costs	\$ 6,370,933	\$ 1,699,278		\$ 8,070,211
NUI Commodity Costs				
NUI Total Pipeline Volumes				6,498,570
Pipeline Costs Modeled in Sendout™				\$ 16,719,003
NYMEX Price Used for Forecast				
NYMEX Price Used for Update				
Increase/(Decrease) NYMEX Price				
Increase/(Decrease) in Pipeline Costs				
Updated Pipeline Costs				
Interruptible Volumes - NH				
Average Supply Cost (\$/MMBtu)				
Interruptible Cost - NH				
Total Updated Pipeline Costs				
New Hampshire Allocated Percentage				
NH Updated Pipeline Costs				\$ 6,190,838
NH Commodity Costs				
Pipeline				\$ 6,190,838
Storage				\$ 3,031,676
Peaking				\$ 6,800,855
Total Commodity Costs	\$ 14,106,692	\$ 1,916,677		\$ 16,023,369

Northern Utilities

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

57	Inventory Finance Charge		\$ 325	\$ 523	\$ 659	\$ 544	\$ 463	\$ 219	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
58														
59	Total Anticipated Direct Cost of Gas		\$ 2,791,751	\$ 4,186,708	\$ 4,765,300	\$ 4,266,903	\$ 3,360,911	\$ 1,108,786	\$ 733,296	\$ 547,506	\$ 505,903	\$ 509,477	\$ 516,707	\$ 803,065
60			Winter						Summer					
61		Oct-19	(Forecast) Nov-19	(Forecast) Dec-19	(Forecast) Jan-20	(Forecast) Feb-20	(Forecast) Mar-20	(Forecast) Apr-20	(Forecast) May-20	(Forecast) Jun-20	(Forecast) Jul-20	(Forecast) Aug-20	(Forecast) Sep-20	(Forecast) Oct-20
62														
63	Working Capital													
64	Total Anticipated Direct Cost of Gas		\$ 2,791,751	\$ 4,186,708	\$ 4,765,300	\$ 4,266,903	\$ 3,360,911	\$ 1,108,786	\$ 733,296	\$ 547,506	\$ 505,903	\$ 509,477	\$ 516,707	\$ 803,065
65	Working Capital Percentage		0.2880%	0.29%	0.29%	0.29%	0.29%	0.29%	0.29%	0.29%	0.29%	0.29%	0.29%	0.29%
66	Working Capital Allowance		\$ 8,039	\$ 12,056	\$ 13,722	\$ 12,287	\$ 9,678	\$ 3,193	\$ 2,112	\$ 1,577	\$ 1,457	\$ 1,467	\$ 1,488	\$ 2,312
67	Beginning Period Working Capital Balance		\$ (44,238)	\$ (36,375)	\$ (24,452)	\$ (10,807)	\$ 1,460	\$ 11,165	\$ 14,414	\$ 16,593	\$ 18,246	\$ 19,786	\$ 21,343	\$ 22,927
68	End of Period Working Capital Allowance		\$ (36,199)	\$ (24,319)	\$ (10,730)	\$ 1,480	\$ 11,138	\$ 14,358	\$ 16,526	\$ 18,170	\$ 19,703	\$ 21,253	\$ 22,830	\$ 25,240
69	Interest		\$ (176)	\$ (133)	\$ (77)	\$ (20)	\$ 28	\$ 56	\$ 68	\$ 76	\$ 83	\$ 90	\$ 97	\$ 105
70	End of period with Interest	\$ (44,238)	\$ (36,375)	\$ (24,452)	\$ (10,807)	\$ 1,460	\$ 11,165	\$ 14,414	\$ 16,593	\$ 18,246	\$ 19,786	\$ 21,343	\$ 22,927	\$ 25,345
71	Bad Debt													
72	Projected Bad Debt	\$ -	\$ 16,838	\$ 8,419	\$ -	\$ -	\$ -	\$ -	\$ 8,419	\$ 25,257	\$ 25,257	\$ 33,676	\$ 25,257	\$ 25,257
73	Beginning Period Bad Debt Balance		\$ (3,466)	\$ 13,394	\$ 21,890	\$ 21,986	\$ 22,082	\$ 22,178	\$ 22,275	\$ 30,810	\$ 56,257	\$ 81,815	\$ 115,922	\$ 141,742
74	End of Period Bad Debt Balance		\$ 13,372	\$ 21,813	\$ 21,890	\$ 21,986	\$ 22,082	\$ 22,178	\$ 30,694	\$ 56,067	\$ 81,514	\$ 115,491	\$ 141,179	\$ 166,998
75	Interest		\$ 22	\$ 77	\$ 96	\$ 96	\$ 97	\$ 97	\$ 116	\$ 190	\$ 301	\$ 432	\$ 562	\$ 675
76	End of Period Bad Debt Balance with Interest	\$ (3,466)	\$ 13,394	\$ 21,890	\$ 21,986	\$ 22,082	\$ 22,178	\$ 22,275	\$ 30,810	\$ 56,257	\$ 81,815	\$ 115,922	\$ 141,742	\$ 167,674
77	Local Production and Storage Capacity		\$ 79,351	\$ 79,351	\$ 79,351	\$ 79,351	\$ 79,351	\$ 79,351	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
78			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
79	Miscellaneous Overhead		\$ 77,924	\$ 77,924	\$ 77,924	\$ 77,924	\$ 77,924	\$ 77,924	\$ 18,818	\$ 18,818	\$ 18,818	\$ 18,818	\$ 18,818	\$ 18,818
80														
81	Gas Cost Other than Bad Debt and Working Capital Over/Under Collection													
82	Beginning Balance Over/Under Collection		\$ (1,746,720)	\$ (1,487,336)	\$ (1,120,571)	\$ (1,040,732)	\$ (685,595)	\$ (754,325)	\$ (1,488,180)	\$ (1,241,901)	\$ (1,026,396)	\$ (796,318)	\$ (566,331)	\$ (346,154)
83	Net Costs - Revenues		\$ 266,443	\$ 372,457	\$ 84,556	\$ 358,906	\$ (65,588)	\$ (728,960)	\$ 252,238	\$ 220,456	\$ 234,056	\$ 232,962	\$ 222,169	\$ 156,076
84	Ending Balance before Interest		\$ (1,480,277)	\$ (1,114,879)	\$ (1,036,015)	\$ (681,827)	\$ (751,182)	\$ (1,483,285)	\$ (1,235,942)	\$ (1,021,445)	\$ (792,340)	\$ (563,356)	\$ (344,162)	\$ (190,078)
85	Average Balance		\$ (1,613,499)	\$ (1,301,108)	\$ (1,078,293)	\$ (861,280)	\$ (718,388)	\$ (1,118,805)	\$ (1,362,061)	\$ (1,131,673)	\$ (909,368)	\$ (679,837)	\$ (455,246)	\$ (268,116)
86	Interest Rate		5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%
87	Interest Expense		\$ (7,059)	\$ (5,692)	\$ (4,718)	\$ (3,768)	\$ (3,143)	\$ (4,895)	\$ (6,959)	\$ (4,951)	\$ (3,978)	\$ (2,974)	\$ (1,992)	\$ (1,173)
88	Ending Balance Incl Interest Expense	\$ (1,746,720)	\$ (1,487,336)	\$ (1,120,571)	\$ (1,040,732)	\$ (685,595)	\$ (754,325)	\$ (1,488,180)	\$ (1,241,901)	\$ (1,026,396)	\$ (796,318)	\$ (566,331)	\$ (346,154)	\$ (191,251)
89	Total Over/Under Collection Ending Balance	\$ (1,794,424)	\$ (1,510,317)	\$ (1,123,133)	\$ (1,029,554)	\$ (662,053)	\$ (720,982)	\$ (1,451,490)	\$ (1,194,497)	\$ (951,893)	\$ (694,717)	\$ (429,066)	\$ (181,485)	\$ 1,768
90														
91	Total Indirect Cost of Gas	\$ (1,794,424)	\$ 174,939	\$ 172,002	\$ 166,299	\$ 165,870	\$ 163,934	\$ 155,726	\$ 23,573	\$ 40,967	\$ 41,938	\$ 51,508	\$ 44,230	\$ 45,995
92														
93	Total Cost of Gas	\$ (1,794,424)	\$ 2,966,690	\$ 4,358,710	\$ 4,931,598	\$ 4,432,773	\$ 3,524,846	\$ 1,264,512	\$ 756,869	\$ 588,472	\$ 547,841	\$ 560,985	\$ 560,938	\$ 849,060
94														
95	Total Interest	\$ -	\$ (7,213)	\$ (5,748)	\$ (4,699)	\$ (3,692)	\$ (3,019)	\$ (4,742)	\$ (5,775)	\$ (4,685)	\$ (3,594)	\$ (2,453)	\$ (1,333)	\$ (392)

Northern Utilities

NEW HAMPSHIRE (Over) / Undercollection

57	Inventory Finance Charge				\$ 2,734
58					
59	Total Anticipated Direct Cost of Gas	\$ 20,480,359	\$ 3,615,954		\$ 24,096,313
60					
61					Total
62					
63	Working Capital				
64	Total Anticipated Direct Cost of Gas				\$ 24,096,313
65	Working Capital Percentage				
66	Working Capital Allowance	\$ 58,975	\$ 10,412	\$ (44,238)	\$ 25,149
67	Beginning Period Working Capital Balance				
68	End of Period Working Capital Allowance				
69	Interest	\$ (323)	\$ 519		\$ 196
70	End of period with Interest				
71	Bad Debt				
72	Projected Bad Debt	\$ 25,257	\$ 143,122	\$ (3,466)	\$ 164,913
73	Beginning Period Bad Debt Balance				
74	End of Period Bad Debt Balance				
75	Interest	\$ 484	\$ 2,277		\$ 2,761
76	End of Period Bad Debt Balance with Interest				
77	Local Production and Storage Capacity				\$ 476,106
78					\$ -
79	Miscellaneous Overhead				\$ 580,455
80					
81	Gas Cost Other than Bad Debt and Working Capital				
82	Beginning Balance Over/Under Collection				\$ (12,300,558)
83	Net Costs - Revenues				\$ 1,605,771
84	Ending Balance before Interest				\$ (10,694,787)
85	Average Balance				\$ (11,497,672)
86	Interest Rate				
87	Interest Expense				\$ (50,302)
88	Ending Balance Incl Interest Expense				
89	Total Over/Under Collection Ending Balance				
90					
91	Total Indirect Cost of Gas	\$ 998,770	\$ 248,212	\$ (1,794,424)	\$ (547,443)
92					
93	Total Cost of Gas	\$ 21,479,129	\$ 3,864,166	\$ (1,794,424)	\$ 23,548,871
94					
95	Total Interest	\$ (29,113)	\$ (18,232)		\$ (47,346)

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

Total Division Metered Deliveries (Dth)										
2019-2020	2019-2020 Compared to 2018-2019					2019-2020 Compared to 2017-2018				
Forecast	2018-2019 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern	2017-2018 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern
1	2	3	4	5	6	7	8	9	10	11
Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(3-5)	Note 4.	(1-5)	(6/5)	Note 5.	(8-10)
723,907	718,435	5,472	0.8%	16,193	-10,721	685,265	38,642	5.6%	29,839	8,803
939,084	964,517	-25,434	-2.6%	21,198	-46,632	935,615	3,468	0.4%	40,186	-36,718
1,319,986	1,253,072	66,914	5.3%	27,756	39,158	1,230,841	89,145	7.2%	56,617	32,528
1,234,360	1,302,243	-67,883	-5.2%	28,635	-96,519	1,232,006	2,353	0.2%	58,043	-55,690
1,114,724	1,079,882	34,842	3.2%	23,744	11,098	1,041,976	72,749	7.0%	48,034	24,715
870,735	844,381	26,354	3.1%	18,467	7,887	829,523	41,212	5.0%	36,363	4,849
563,702	583,725	-20,023	-3.4%	13,090	-33,113	574,552	-10,850	-1.9%	25,741	-36,590
422,532	400,920	21,613	5.4%	9,070	12,543	409,352	13,181	3.2%	18,494	-5,313
378,065	370,564	7,502	2.0%	8,400	-899	352,762	25,303	7.2%	15,981	9,322
375,733	376,603	-870	-0.2%	8,552	-9,422	369,837	5,896	1.6%	16,785	-10,889
382,839	368,608	14,230	3.9%	8,401	5,829	370,269	12,569	3.4%	16,859	-4,290
477,319	488,525	-11,205	-2.3%	11,212	-22,417	485,553	-8,234	-1.7%	22,262	-30,496
6,202,795	6,162,530	40,265	0.7%	135,993	-95,728	5,955,226	247,569	4.2%	267,543	-19,973
2,600,191	2,588,943	11,247	0.4%	58,726	-47,479	2,562,324	37,866	1.5%	116,181	-78,315
8,802,986	8,751,474	51,512	0.6%	194,719	-143,207	8,517,550	285,436	3.4%	384,426	-98,990

Note 1 Company Forecast

Note 2 Pages 2 - 4; Sum of Column 2 of Billed Deliveries table. Actual Data through April 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						
2019-2020	Compared to 2018-2019			Compared to 2017-2018		
Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change
1	2	3	4	5	6	7
Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)
34,342	33,585	757	2.3%	32,909	1,433	4.4%
34,456	33,715	741	2.2%	33,037	1,419	4.3%
34,610	33,860	750	2.2%	33,088	1,522	4.6%
34,672	33,926	746	2.2%	33,112	1,560	4.7%
34,674	33,928	746	2.2%	33,146	1,528	4.6%
34,623	33,882	741	2.2%	33,169	1,454	4.4%
34,468	33,712	756	2.2%	32,990	1,478	4.5%
34,309	33,550	759	2.3%	32,826	1,483	4.5%
34,195	33,437	758	2.3%	32,713	1,482	4.5%
34,182	33,423	759	2.3%	32,698	1,484	4.5%
34,375	33,609	766	2.3%	32,878	1,497	4.6%
34,855	34,073	782	2.3%	33,327	1,528	4.6%
34,563	33,816	747	2.2%	33,077	1,486	4.5%
34,397	33,634	763	2.3%	32,905	1,492	4.5%
34,480	33,725	755	2.2%	32,991	1,489	4.5%

Note 1 Company Forecast

Note 2 Actual data through April. Forecast data beginning June. 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						
2019-2020	Compared to 2018-2019			Compared to 2017-2018		
Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change
1	2	3	4	5	6	7
Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)
21.08	21.39	-0.31	-1.5%	20.82	0.26	1.2%
27.25	28.61	-1.35	-4.7%	28.32	-1.07	-3.8%
38.14	37.01	1.13	3.1%	37.20	0.94	2.5%
35.60	38.38	-2.78	-7.3%	37.21	-1.61	-4.3%
32.15	31.83	0.32	1.0%	31.44	0.71	2.3%
25.15	24.92	0.23	0.9%	25.01	0.14	0.6%
16.35	17.32	-0.96	-5.5%	17.42	-1.06	-6.1%
12.32	11.95	0.37	3.1%	12.47	-0.15	-1.2%
11.06	11.08	-0.03	-0.2%	10.78	0.27	2.5%
10.99	11.27	-0.28	-2.4%	11.31	-0.32	-2.8%
11.14	10.97	0.17	1.5%	11.26	-0.12	-1.1%
13.69	14.34	-0.64	-4.5%	14.57	-0.87	-6.0%
179.46	182.24	-2.77	-1.5%	180.04	-0.62	-0.3%
75.59	76.97	-1.38	-1.8%	77.87	-2.26	-2.9%
255.31	259.50	-4.19	-1.6%	258.18	-2.88	-1.1%

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)										
2019-2020	2019-2020 Compared to 2018-2019					2019-2020 Compared to 2017-2018				
Forecast	2018-2019 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern	2017-2018 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern
1	2	3	4	5	6	7	8	9	10	11
Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(3-5)	Note 4.	(1-5)	(6/5)	Note 5.	(8-10)
Nov	1,765	1,867	-101	-5.4%	-56	-45	2,049	-284	-13.8%	-167
Dec	2,379	2,634	-255	-9.7%	-79	-176	3,078	-699	-22.7%	-240
Jan	3,428	3,169	259	8.2%	-95	354	4,193	-765	-18.2%	-313
Feb	3,056	3,414	-358	-10.5%	-104	-255	3,941	-885	-22.5%	-327
Mar	2,497	2,572	-75	-2.9%	-76	2	2,550	-53	-2.1%	-158
Apr	2,159	2,130	28	1.3%	-63	92	2,166	-8	-0.4%	-125
May	1,544	1,758	-214	-12.2%	-52	-162	1,783	-239	-13.4%	-104
Jun	1,422	1,344	78	5.8%	-40	118	1,443	-21	-1.5%	-84
Jul	1,287	1,378	-91	-6.6%	-41	-50	1,183	104	8.8%	-69
Aug	1,156	1,233	-77	-6.2%	-37	-40	1,239	-83	-6.7%	-73
Sep	1,225	1,154	71	6.2%	-35	106	1,163	63	5.4%	-69
Oct	1,185	1,346	-161	-12.0%	-41	-121	1,320	-136	-10.3%	-78
Winter	15,284	15,786	-502	-3.2%	-474	-28	17,977	-2,693	-15.0%	-1,311
Summer	7,819	8,213	-394	-4.8%	-245	-149	8,131	-313	-3.8%	-478
Annual	23,103	23,998	-896	-3.7%	-719	-177	26,108	-3,006	-11.5%	-1,717

Note 1 Company Forecast

Note 2 Actual, weather normalized data through April. Forecast data beginning June.

Note 3 Column 3 of Meter Counts table times Column 2 of Use Per Meter table.

Note 4 Actual, weather normalized data through May. Forecast data beginning June.

Note 5 Column 6 of Meter Counts table times Column 5 of Use Per Meter table.

Total Division Meter Counts						
2019-2020	Compared to 2018-2019			Compared to 2017-2018		
Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change
1	2	3	4	5	6	7
Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)
1,228	1,266	-38	-3.0%	1,337	-109	-8.2%
1,228	1,266	-38	-3.0%	1,332	-104	-7.8%
1,227	1,265	-38	-3.0%	1,326	-99	-7.5%
1,214	1,252	-38	-3.0%	1,324	-110	-8.3%
1,212	1,249	-37	-3.0%	1,292	-80	-6.2%
1,238	1,276	-38	-3.0%	1,314	-76	-5.8%
1,271	1,310	-39	-3.0%	1,350	-79	-5.9%
1,271	1,310	-39	-3.0%	1,350	-79	-5.9%
1,273	1,312	-39	-3.0%	1,352	-79	-5.8%
1,271	1,310	-39	-3.0%	1,350	-79	-5.9%
1,257	1,296	-39	-3.0%	1,336	-79	-5.9%
1,222	1,260	-38	-3.0%	1,299	-77	-5.9%
1,225	1,262	-38	-3.0%	1,321	-96	-7.3%
1,261	1,300	-39	-3.0%	1,340	-79	-5.9%
1,243	1,281	-38	-3.0%	1,330	-88	-6.6%

Note 1 Company Forecast

Note 2 Actual data through April. Forecast data beginning June.

Note 3 Actual Data.

Total Division Use Per Meter						
2019-2020	Compared to 2018-2019			Compared to 2017-2018		
Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change
1	2	3	4	5	6	7
Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)
1.44	1.47	-0.04	-2.5%	1.53	-0.10	-6.2%
1.94	2.08	-0.14	-6.9%	2.31	-0.37	-16.2%
2.79	2.51	0.29	11.5%	3.16	-0.37	-11.6%
2.52	2.73	-0.21	-7.7%	2.98	-0.46	-15.4%
2.06	2.06	0.00	0.1%	1.97	0.09	4.4%
1.74	1.67	0.07	4.4%	1.65	0.10	5.8%
1.21	1.34	-0.13	-9.5%	1.32	-0.11	-8.0%
1.12	1.03	0.09	9.1%	1.07	0.05	4.7%
1.01	1.05	-0.04	-3.7%	0.88	0.14	15.5%
0.91	0.94	-0.03	-3.4%	0.92	-0.01	-0.9%
0.97	0.89	0.08	9.5%	0.87	0.10	12.0%
0.97	1.07	-0.10	-9.2%	1.02	-0.05	-4.6%
12.48	12.51	-0.02	-0.2%	13.61	-1.11	-8.2%
6.20	6.32	-0.12	-1.9%	6.07	0.13	2.1%
18.59	18.73	-0.14	-0.8%	19.63	-0.99	-5.0%

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)											
2019-2020	2019-2020 Compared to 2018-2019					2019-2020 Compared to 2017-2018					
Forecast	2018-2019 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern	2017-2018 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern	
1	2	3	4	5	6	7	8	9	10	11	
Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(3-5)	Note 4.	(1-5)	(6/5)	Note 5.	(8-10)	
Nov	150,093	145,833	4,260	2.9%	4,244	138,889	11,203	8.1%	7,712	3,492	
Dec	243,190	252,037	-8,847	-3.5%	7,145	-15,992	237,691	5,499	2.3%	13,200	-7,701
Jan	380,250	343,178	37,072	10.8%	9,800	27,272	337,311	42,940	12.7%	20,177	22,763
Feb	359,654	381,447	-21,793	-5.7%	10,788	-32,581	354,674	4,980	1.4%	21,854	-16,874
Mar	303,142	279,758	23,383	8.4%	7,897	15,486	272,674	30,468	11.2%	16,329	14,139
Apr	226,147	203,270	22,877	11.3%	5,718	17,159	204,134	22,013	10.8%	11,808	10,205
May	105,852	112,909	-7,057	-6.3%	3,259	-10,316	108,610	-2,758	-2.5%	6,308	-9,066
Jun	64,448	54,930	9,518	17.3%	1,599	7,919	53,193	11,254	21.2%	3,114	8,141
Jul	40,918	39,762	1,156	2.9%	1,160	-4	35,218	5,700	16.2%	2,068	3,632
Aug	32,623	33,430	-807	-2.4%	977	-1,783	30,344	2,279	7.5%	1,784	495
Sep	36,815	32,762	4,053	12.4%	960	3,093	31,472	5,344	17.0%	1,858	3,486
Oct	58,893	62,089	-3,195	-5.1%	1,826	-5,022	57,316	1,578	2.8%	3,397	-1,819
Winter	1,662,476	1,605,524	56,952	3.5%	45,592	11,360	1,545,373	117,103	7.6%	90,210	26,894
Summer	339,549	335,882	3,667	1.1%	9,781	-6,114	316,152	23,397	7.4%	18,571	4,826
Annual	2,002,025	1,941,405	60,620	3.1%	55,373	5,247	1,861,525	140,500	7.5%	109,007	31,494

Note 1 Company Forecast

Note 2 Actual, weather normalized data through April. Forecast data beginning June.

Note 3 Column 3 of Meter Counts table times Column 2 of Use Per Meter table.

Note 4 Actual, weather normalized data through May. Forecast data beginning June.

Note 5 Column 6 of Meter Counts table times Column 5 of Use Per Meter table.

Total Division Meter Counts						
2019-2020	Compared to 2018-2019			Compared to 2017-2018		
Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change
1	2	3	4	5	6	7
Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)
26,063	25,326	737	2.9%	24,692	1,371	5.6%
26,154	25,433	721	2.8%	24,778	1,376	5.6%
26,293	25,563	730	2.9%	24,809	1,484	6.0%
26,361	25,636	725	2.8%	24,831	1,530	6.2%
26,371	25,647	724	2.8%	24,881	1,490	6.0%
26,352	25,631	721	2.8%	24,911	1,441	5.8%
26,270	25,533	737	2.9%	24,828	1,442	5.8%
26,202	25,461	741	2.9%	24,753	1,449	5.9%
26,145	25,404	741	2.9%	24,695	1,450	5.9%
26,143	25,401	742	2.9%	24,691	1,452	5.9%
26,299	25,550	749	2.9%	24,833	1,466	5.9%
26,595	25,835	760	2.9%	25,107	1,488	5.9%
26,266	25,539	726	2.8%	24,817	1,449	5.8%
26,276	25,531	745	2.9%	24,818	1,458	5.9%
26,271	25,535	736	2.9%	24,817	1,453	5.9%

Note 1 Company Forecast

Note 2 Actual data through April. Forecast data beginning June.

Note 3 Actual Data.

Total Division Use Per Meter						
2019-2020	Compared to 2018-2019			Compared to 2017-2018		
Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change
1	2	3	4	5	6	7
Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)
5.76	5.76	0.00	0.0%	5.62	0.13	2.4%
9.30	9.91	-0.61	-6.2%	9.59	-0.29	-3.1%
14.46	13.42	1.04	7.7%	13.60	0.87	6.4%
13.64	14.88	-1.24	-8.3%	14.28	-0.64	-4.5%
11.50	10.91	0.59	5.4%	10.96	0.54	4.9%
8.58	7.93	0.65	8.2%	8.19	0.39	4.7%
4.03	4.42	-0.39	-8.9%	4.37	-0.35	-7.9%
2.46	2.16	0.30	14.0%	2.15	0.31	14.5%
1.57	1.57	0.00	0.0%	1.43	0.14	9.7%
1.25	1.32	-0.07	-5.2%	1.23	0.02	1.5%
1.40	1.28	0.12	9.2%	1.27	0.13	10.5%
2.21	2.40	-0.19	-7.9%	2.28	-0.07	-3.0%
63.29	62.86	0.43	0.7%	62.27	0.99	1.6%
12.92	13.16	-0.23	-1.8%	12.74	0.19	1.5%
76.21	76.03	0.18	0.2%	75.01	1.18	1.6%

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

Total Division C&I Metered Deliveries (Dth)										
2019-2020	2019-2020 Compared to 2018-2019					2019-2020 Compared to 2017-2018				
Forecast	2018-2019 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern	2017-2018 Normal	Change	Percent Change	Change Due to Meter Count	Change Due to Load Pattern
1	2	3	4	5	6	7	8	9	10	11
Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(3-5)	Note 4.	(1-5)	(6/5)	Note 5.	(8-10)
572,049	570,735	1,314	0.2%	4,734	-3,420	544,326	27,723	5.1%	13,529	14,194
693,515	709,846	-16,331	-2.3%	5,868	-22,199	694,847	-1,332	-0.2%	14,746	-16,078
936,307	906,724	29,583	3.3%	7,479	22,104	889,336	46,971	5.3%	17,523	29,447
871,650	917,382	-45,732	-5.0%	7,690	-53,422	873,391	-1,742	-0.2%	17,576	-19,318
809,086	797,552	11,533	1.4%	6,692	4,842	766,752	42,333	5.5%	12,975	29,358
642,429	638,981	3,448	0.5%	5,313	-1,865	623,223	19,206	3.1%	7,988	11,218
456,306	469,057	-12,751	-2.7%	3,961	-16,712	464,158	-7,852	-1.7%	7,836	-15,688
356,663	344,646	12,017	3.5%	2,898	9,119	354,716	1,947	0.5%	5,962	-4,015
335,860	329,423	6,437	2.0%	2,745	3,692	316,361	19,499	6.2%	5,268	14,232
341,954	341,940	14	0.0%	2,853	-2,839	338,254	3,700	1.1%	5,640	-1,940
344,798	334,692	10,106	3.0%	2,771	7,335	337,635	7,163	2.1%	5,536	1,627
417,241	425,090	-7,849	-1.8%	3,655	-11,504	426,917	-9,676	-2.3%	7,217	-16,893
4,525,035	4,541,221	-16,185	-0.4%	37,776	-53,961	4,391,876	133,159	3.0%	84,601	48,558
2,252,823	2,244,849	7,974	0.4%	18,883	-10,909	2,238,041	14,782	0.7%	37,422	-22,640
6,777,858	6,786,070	-8,212	-0.1%	56,659	-64,870	6,629,917	147,941	2.2%	119,403	28,538

Note 1 Company Forecast

Note 2 Actual, weather normalized data through April. Forecast data beginning June.

Note 3 Column 3 of Meter Counts table times Column 2 of Use Per Meter table.

Note 4 Actual, weather normalized data through May. Forecast data beginning June.

Note 5 Column 6 of Meter Counts table times Column 5 of Use Per Meter table.

Total Division Meter Counts							
2019-2020	Compared to 2018-2019			Compared to 2017-2018			
Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change	
1	2	3	4	5	6	7	
Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)	
	7,051	6,993	58	0.8%	6,880	171	2.5%
	7,074	7,016	58	0.8%	6,927	147	2.1%
	7,090	7,032	58	0.8%	6,953	137	2.0%
	7,097	7,038	59	0.8%	6,957	140	2.0%
	7,091	7,032	59	0.8%	6,973	118	1.7%
	7,033	6,975	58	0.8%	6,944	89	1.3%
	6,927	6,869	58	0.8%	6,812	115	1.7%
	6,836	6,779	57	0.8%	6,723	113	1.7%
	6,777	6,721	56	0.8%	6,666	111	1.7%
	6,768	6,712	56	0.8%	6,657	111	1.7%
	6,819	6,763	56	0.8%	6,709	110	1.6%
	7,038	6,978	60	0.9%	6,921	117	1.7%
	7,073	7,014	58	0.8%	6,939	134	1.9%
	6,861	6,804	57	0.8%	6,748	113	1.7%
	6,967	6,909	58	0.8%	6,844	123	1.8%

Note 1 Company Forecast

Note 2 Actual data through April. Forecast data beginning June.

Note 3 Actual Data.

Total Division Use Per Meter							
2019-2020	Compared to 2018-2019			Compared to 2017-2018			
Forecast	Actual	Change	Percent Change	Actual	Change	Percent Change	
1	2	3	4	5	6	7	
Note 1.	Note 2.	(1-2)	(3/2)	Note 3.	(1-5)	(6/5)	
	81.13	81.62	-0.49	-0.6%	79.12	2.01	2.5%
	98.04	101.18	-3.14	-3.1%	100.31	-2.27	-2.3%
	132.06	128.94	3.12	2.4%	127.91	4.15	3.2%
	122.82	130.35	-7.53	-5.8%	125.54	-2.72	-2.2%
	114.10	113.42	0.68	0.6%	109.96	4.14	3.8%
	91.34	91.61	-0.27	-0.3%	89.75	1.60	1.8%
	65.87	68.29	-2.41	-3.5%	68.14	-2.26	-3.3%
	52.17	50.84	1.33	2.6%	52.76	-0.59	-1.1%
	49.56	49.01	0.54	1.1%	47.46	2.10	4.4%
	50.53	50.94	-0.42	-0.8%	50.81	-0.29	-0.6%
	50.56	49.49	1.08	2.2%	50.33	0.24	0.5%
	59.28	60.92	-1.63	-2.7%	61.68	-2.40	-3.9%
	639.79	647.42	-7.63	-1.2%	632.93	6.91	1.1%
	328.36	329.95	-1.59	-0.5%	331.66	-3.20	-1.0%
	972.89	982.21	-9.32	-0.9%	968.79	3.71	0.4%

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
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-19	1,940	211,000	108,028	12,875	79,190	18,351	9,782	16,530	0	457,695
Dec-19	2,872	312,382	159,934	19,061	117,239	27,168	14,483	24,472	0	677,611
Jan-20	3,498	380,536	194,828	23,220	142,818	33,096	17,642	29,811	0	825,450
Feb-20	2,940	319,756	163,709	19,511	120,006	27,810	14,825	25,050	0	693,606
Mar-20	2,591	281,883	144,319	17,200	105,793	24,516	13,069	22,083	0	611,454
Apr-20	1,443	156,919	80,340	9,575	58,893	13,647	7,275	12,293	0	340,385
May-20	1,621	70,402	25,981	14,891	20,838	17,574	5,695	23,566	0	180,568
Jun-20	1,122	48,712	17,976	10,303	14,418	12,159	3,940	16,306	0	124,936
Jul-20	943	40,937	15,107	8,659	12,117	10,219	3,311	13,703	0	104,996
Aug-20	958	41,594	15,350	8,798	12,312	10,383	3,364	13,923	0	106,682
Sep-20	1,016	44,133	16,287	9,335	13,063	11,016	3,570	14,773	0	113,192
Oct-20	2,159	93,771	34,605	19,834	27,756	23,407	7,585	31,389	0	240,506
Winter	15,284	1,662,476	851,159	101,442	623,938	144,588	77,076	130,238	0	3,606,201
Summer	7,819	339,549	125,305	71,819	100,504	84,758	27,465	113,661	0	870,880
Total	23,103	2,002,025	976,465	173,261	724,442	229,346	104,541	243,899	0	4,477,081

Forecast Calendar Month Distribution Service Deliveries (Dth)

	Res Non-Heat	Res Heat	G40	G50	G41	G51	G42	G52	Special Contracts	Total Division
Nov-19	1,940	211,000	124,035	15,178	147,265	42,880	59,590	145,808	106,303	853,999
Dec-19	2,872	312,382	183,672	21,614	216,024	56,476	84,509	142,693	100,660	1,120,902
Jan-20	3,498	380,536	222,085	25,906	255,512	64,359	97,761	156,549	110,515	1,316,722
Feb-20	2,940	319,756	187,326	21,952	217,994	56,008	86,209	146,846	104,599	1,143,630
Mar-20	2,591	281,883	165,239	19,676	193,443	52,273	73,363	149,890	119,745	1,058,103
Apr-20	1,443	156,919	93,397	11,814	115,311	36,553	51,955	126,469	115,578	709,438
May-20	1,621	70,402	32,917	17,064	53,214	37,633	35,357	135,530	117,044	500,781
Jun-20	1,122	48,712	20,635	12,311	29,085	29,131	22,564	108,326	111,321	383,206
Jul-20	943	40,937	16,950	10,700	23,593	26,896	20,439	118,181	105,744	364,383
Aug-20	958	41,594	17,244	10,841	23,981	27,116	19,732	125,663	110,712	377,842
Sep-20	1,016	44,133	19,720	11,365	31,231	28,559	23,234	120,552	108,829	388,638
Oct-20	2,159	93,771	44,386	22,067	71,387	45,034	40,233	149,489	116,814	585,341
Winter	15,284	1,662,476	975,755	116,140	1,145,549	308,550	453,387	868,255	657,400	6,202,795
Summer	7,819	339,549	151,851	84,348	232,490	194,369	161,559	757,741	670,465	2,600,191
Total	23,103	2,002,025	1,127,606	200,487	1,378,039	502,920	614,946	1,625,995	1,327,865	8,802,986

Forecast Sales Service Percentage

	Res Non-Heat	Res Heat	G40	G50	G41	G51	G42	G52	Special Contracts	Total Division
Nov-19	100%	100%	87%	85%	54%	43%	16%	11%	0%	54%
Dec-19	100%	100%	87%	88%	54%	48%	17%	17%	0%	60%
Jan-20	100%	100%	88%	90%	56%	51%	18%	19%	0%	63%
Feb-20	100%	100%	87%	89%	55%	50%	17%	17%	0%	61%
Mar-20	100%	100%	87%	87%	55%	47%	18%	15%	0%	58%
Apr-20	100%	100%	86%	81%	51%	37%	14%	10%	0%	48%
May-20	100%	100%	79%	87%	39%	47%	16%	17%	0%	36%
Jun-20	100%	100%	87%	84%	50%	42%	17%	15%	0%	33%
Jul-20	100%	100%	89%	81%	51%	38%	16%	12%	0%	29%
Aug-20	100%	100%	89%	81%	51%	38%	17%	11%	0%	28%
Sep-20	100%	100%	83%	82%	42%	39%	15%	12%	0%	29%
Oct-20	100%	100%	78%	90%	39%	52%	19%	21%	0%	41%
Winter	100%	100%	87%	87%	54%	47%	17%	15%	0%	58%
Summer	100%	100%	83%	85%	43%	44%	17%	15%	0%	33%
Total	100%	100%	87%	86%	53%	46%	17%	15%	0%	51%

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-19	1,765	150,093	66,876	12,952	45,424	17,477	10,201	22,814	0	327,603
Dec-19	2,379	243,190	115,788	15,080	66,026	18,126	14,343	20,863	0	495,793
Jan-20	3,428	380,250	205,345	20,805	149,719	30,391	16,410	22,365	0	828,714
Feb-20	3,056	359,654	193,533	18,622	146,372	26,983	14,621	21,493	0	784,335
Mar-20	2,497	303,142	160,285	18,033	122,163	27,051	12,350	22,554	0	668,075
Apr-20	2,159	226,147	109,332	15,951	94,234	24,560	9,151	20,149	0	501,681
May-20	1,544	105,852	49,637	11,072	35,782	13,768	6,076	19,758	0	243,489
Jun-20	1,422	64,448	20,945	12,643	27,207	17,545	3,815	16,239	0	164,263
Jul-20	1,287	40,918	13,377	12,372	14,870	13,908	3,508	18,437	0	118,678
Aug-20	1,156	32,623	11,019	11,495	12,210	13,000	3,352	19,719	0	104,573
Sep-20	1,225	36,815	11,402	12,418	9,740	13,098	4,028	18,667	0	107,393
Oct-20	1,185	58,893	18,926	11,820	695	13,439	6,687	20,841	0	132,485
Winter	15,284	1,662,476	851,159	101,442	623,938	144,588	77,076	130,238	0	3,606,201
Summer	7,819	339,549	125,305	71,819	100,504	84,758	27,465	113,661	0	870,880
Total	23,103	2,002,025	976,465	173,261	724,442	229,346	104,541	243,899	0	4,477,081

Forecast Bill Month Distribution Service Deliveries (Dth)

	Res Non-Heat	Res Heat	G40	G50	G41	G51	G42	G52	Special Contracts	Total Division
Nov-19	1,765	150,093	82,884	15,255	113,500	42,007	60,009	152,092	106,303	723,907
Dec-19	2,379	243,190	139,525	17,632	164,811	47,434	84,369	139,084	100,660	939,084
Jan-20	3,428	380,250	232,602	23,491	262,413	61,654	96,529	149,103	110,515	1,319,986
Feb-20	3,056	359,654	217,150	21,063	244,360	55,182	86,006	143,290	104,599	1,234,360
Mar-20	2,497	303,142	181,205	20,509	209,813	54,808	72,644	150,362	119,745	1,114,724
Apr-20	2,159	226,147	122,389	18,190	150,652	47,466	53,831	134,324	115,578	870,735
May-20	1,544	105,852	56,573	13,245	68,157	33,827	35,738	131,722	117,044	563,702
Jun-20	1,422	64,448	23,603	14,650	41,874	34,517	22,438	108,259	111,321	422,532
Jul-20	1,287	40,918	15,220	14,413	26,346	30,585	20,636	122,915	105,744	378,065
Aug-20	1,156	32,623	12,913	13,538	23,879	29,734	19,720	131,458	110,712	375,733
Sep-20	1,225	36,815	14,835	14,448	27,908	30,640	23,692	124,446	108,829	382,839
Oct-20	1,185	58,893	28,707	14,053	44,326	35,066	39,335	138,941	116,814	477,319
Winter	15,284	1,662,476	975,755	116,140	1,145,549	308,550	453,387	868,255	657,400	6,202,795
Summer	7,819	339,549	151,851	84,348	232,490	194,369	161,559	757,741	670,465	2,600,191
Total	23,103	2,002,025	1,127,606	200,487	1,378,039	502,920	614,946	1,625,995	1,327,865	8,802,986

Forecast Sales Service Percentage

	Res Non-Heat	Res Heat	G40	G50	G41	G51	G42	G52	Special Contracts	Total Division
Nov-19	100%	100%	81%	85%	40%	42%	17%	15%	0%	45%
Dec-19	100%	100%	83%	86%	40%	38%	17%	15%	0%	53%
Jan-20	100%	100%	88%	89%	57%	49%	17%	15%	0%	63%
Feb-20	100%	100%	89%	88%	60%	49%	17%	15%	0%	64%
Mar-20	100%	100%	88%	88%	58%	49%	17%	15%	0%	60%
Apr-20	100%	100%	89%	88%	63%	52%	17%	15%	0%	58%
May-20	100%	100%	88%	84%	52%	41%	17%	15%	0%	43%
Jun-20	100%	100%	89%	86%	65%	51%	17%	15%	0%	39%
Jul-20	100%	100%	88%	86%	56%	45%	17%	15%	0%	31%
Aug-20	100%	100%	85%	85%	51%	44%	17%	15%	0%	28%
Sep-20	100%	100%	77%	86%	35%	43%	17%	15%	0%	28%
Oct-20	100%	100%	66%	84%	2%	38%	17%	15%	0%	28%
Winter	100%	100%	87%	87%	54%	47%	17%	15%	0%	58%
Summer	100%	100%	83%	85%	43%	44%	17%	15%	0%	33%
Total	100%	100%	87%	86%	53%	46%	17%	15%	0%	51%

Northern Utilities, Inc.
New Hampshire Division
Forecast Total Billed Meters
Forecast Sales Service Billed Meters

Month	Res Non-Heat	Res Heat	40	50	41	51	42	52	Special Contracts	Total Division
Nov-19	1,228	26,063	4,721	735	398	168	13	2	-	33,328
Dec-19	1,228	26,154	4,744	735	398	168	13	2	-	33,442
Jan-20	1,227	26,293	4,758	738	400	167	11	2	-	33,596
Feb-20	1,214	26,361	4,768	736	400	166	11	2	-	33,658
Mar-20	1,212	26,371	4,760	741	399	165	10	2	-	33,660
Apr-20	1,238	26,352	4,694	752	396	165	10	2	-	33,609
May-20	1,271	26,270	4,664	735	353	146	12	3	-	33,454
Jun-20	1,271	26,202	4,581	739	344	143	12	3	-	33,295
Jul-20	1,273	26,145	4,535	729	342	142	12	3	-	33,181
Aug-20	1,271	26,143	4,531	726	341	142	11	3	-	33,168
Sep-20	1,257	26,299	4,531	736	374	150	11	3	-	33,361
Oct-20	1,222	26,595	4,701	752	383	173	13	2	-	33,841

Month	Res Non-Heat	Res Heat	40	50	41	51	42	52	Special Contracts	Total Division
Nov-19	1,228	26,063	5,226	809	660	287	33	33	3	34,339
Dec-19	1,228	26,154	5,249	809	660	287	33	33	3	34,453
Jan-20	1,227	26,293	5,263	812	662	286	31	33	3	34,607
Feb-20	1,214	26,361	5,273	810	662	285	31	33	3	34,669
Mar-20	1,212	26,371	5,265	815	661	284	30	33	3	34,671
Apr-20	1,238	26,352	5,199	826	658	284	30	33	3	34,620
May-20	1,271	26,270	5,169	809	615	265	32	34	3	34,465
Jun-20	1,271	26,202	5,086	813	606	262	32	34	3	34,306
Jul-20	1,273	26,145	5,040	803	604	261	32	34	3	34,192
Aug-20	1,271	26,143	5,036	800	603	261	31	34	3	34,179
Sep-20	1,257	26,299	5,036	810	636	269	31	34	3	34,372
Oct-20	1,222	26,595	5,206	826	645	292	33	33	3	34,852

Forecast Delivery Service Billed Meters

Month	Res Non-Heat	Res Heat	40	50	41	51	42	52	Special Contracts	Total Division
Nov-19			505	74	262	119	20	31	3	1,011
Dec-19			505	74	262	119	20	31	3	1,011
Jan-20			505	74	262	119	20	31	3	1,011
Feb-20			505	74	262	119	20	31	3	1,011
Mar-20			505	74	262	119	20	31	3	1,011
Apr-20			505	74	262	119	20	31	3	1,011
May-20			505	74	262	119	20	31	3	1,011
Jun-20			505	74	262	119	20	31	3	1,011
Jul-20			505	74	262	119	20	31	3	1,011
Aug-20			505	74	262	119	20	31	3	1,011
Sep-20			505	74	262	119	20	31	3	1,011
Oct-20			505	74	262	119	20	31	3	1,011

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-19	457,695	0.02%	92	457,787	1.36%	6,225	464,012	23,490	487,502
Dec-19	677,611	0.02%	136	677,747	1.36%	9,216	686,963	26,625	713,588
Jan-20	825,450	0.02%	165	825,615	1.36%	11,226	836,841	30,153	866,994
Feb-20	693,606	0.02%	139	693,745	1.36%	9,433	703,178	24,471	727,649
Mar-20	611,454	0.02%	122	611,576	1.36%	8,316	619,892	24,809	644,701
Apr-20	340,385	0.02%	68	340,453	1.36%	4,629	345,082	4,257	349,339
May-20	180,568	0.02%	36	180,604	1.36%	2,456	183,060	3,410	186,470
Jun-20	124,936	0.02%	25	124,961	1.36%	1,699	126,660	3,300	129,960
Jul-20	104,996	0.02%	21	105,017	1.36%	1,428	106,445	3,410	109,855
Aug-20	106,682	0.02%	21	106,703	1.36%	1,451	108,154	3,410	111,564
Sep-20	113,192	0.02%	23	113,215	1.36%	1,539	114,754	3,300	118,054
Oct-20	240,506	0.02%	48	240,554	1.36%	3,271	243,825	3,410	247,235
Winter	3,606,201	0.02%	722	3,606,923	1.36%	49,045	3,655,968	133,805	3,789,773
Summer	870,880	0.02%	174	871,054	1.36%	11,844	882,898	20,240	903,138
Annual	4,477,081	0.02%	896	4,477,977	1.36%	60,889	4,538,866	154,045	4,692,911

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

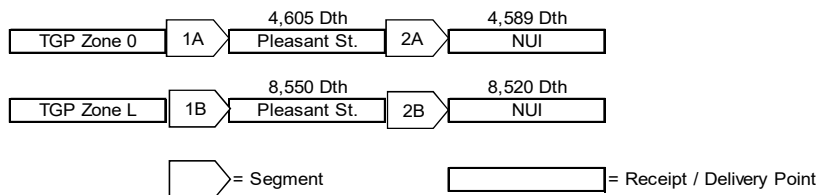
Month	GSGT - NH City-Gates (MCF)	Therm Factor	Total - NH City-Gate (Dth)	Total System Billed Sales (Dth)	Company Use (Dth)	Lost and Unaccounted For (Dth)	Company Gas Allowance (Dth)
Jul-15	347,251	1.0271	356,669	377,555	58	(20,944)	(20,886)
Aug-15	344,262	1.0276	353,760	328,341	117	25,302	25,419
Sep-15	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	113,787	113,896
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)
Jun-17	367,334	1.0280	377,630	385,479	56	(7,905)	(7,849)
Jul-17	339,837	1.0256	348,547	387,504	59	(39,016)	(38,957)
Aug-17	361,673	1.0280	371,789	366,064	62	5,663	5,725
Sep-17	357,543	1.0278	367,472	356,844	56	10,572	10,628
Oct-17	446,927	1.0284	459,625	427,725	32	31,868	31,900
Nov-17	794,934	1.0307	819,307	581,080	71	238,156	238,227
Dec-17	1,205,148	1.0339	1,245,942	1,003,583	209	242,150	242,359
Jan-18	1,274,596	1.0394	1,324,764	1,403,452	373	(79,061)	(78,688)
Feb-18	936,704	1.0340	968,580	1,110,067	270	(141,757)	(141,487)
Mar-18	999,035	1.0334	1,032,433	998,242	239	33,952	34,191
Apr-18	766,729	1.0318	791,111	889,669	211	(98,769)	(98,558)
May-18	443,025	1.0283	455,580	574,552	108	(119,080)	(118,972)
Jun-18	369,548	1.0292	380,339	409,352	40	(29,053)	(29,013)
Jul-18	351,086	1.0289	361,236	352,762	92	8,382	8,474
Aug-18	363,051	1.0284	373,373	369,837	131	3,406	3,537
Sep-18	378,195	1.0276	388,633	370,269	131	18,233	18,364
Oct-18	628,317	1.0303	647,361	485,553	100	161,708	161,808
Nov-18	923,290	1.0336	954,321	765,985	142	188,194	188,336
Dec-18	1,057,440	1.0382	1,097,877	1,067,650	207	30,020	30,227
Jan-19	1,259,492	1.0431	1,313,764	1,200,221	254	113,289	113,543
Feb-19	1,109,150	1.0375	1,150,732	1,229,927	257	(79,452)	(79,195)
Mar-19	1,008,861	1.0347	1,043,849	1,147,817	251	(104,219)	(103,968)
Apr-19	681,738	1.0309	702,824	843,446	173	(140,795)	(140,622)
May-19	545,305	1.0288	560,999	632,151	100	(71,252)	(71,152)
Jun-19	388,772	1.0290	400,027	430,401	58	(30,432)	(30,374)
Total	32,548,456	1.0322	33,595,049	33,130,630	7,103	457,316	464,419
48-Month Average					0.02%	1.36%	1.38%

Northern Capacity Summary (Dth/Day)

<u>Pipeline Capacity Paths</u>	
Tennessee Zone 0 and Zone L Pools	13,109
Tennessee Niagara	2,327
Iroquois Receipts	6,434
Leidy Hub Supply (Texas Eastern, Algonquin)	965
Transco Zone 6, non-NY Supply (Algonquin)	286
Total Pipeline Capacity	23,121
<u>Storage Capacity Paths</u>	
Tennessee Firm Storage	2,644
Union Dawn Storage	39,863
Total Storage Capacity	42,507
<u>Peaking Capacity Paths</u>	
LNG - On-System	6,500
Maritimes Delivered Baseload	7,474
PNGTS Delivered Baseload (Dec-Feb)	7,474
Peaking Contract 1	39,860
Additional Granite Capacity	8,408
Total Peaking Capacity	69,716
Total Design Day Capacity	135,344

Northern Utilities, Inc.
Capacity Path Diagram and Detail
Source of Supply: Tennessee Zone 0 100 Leg, Zone L 500 and 800 Leg Pools

Capacity Path Diagram



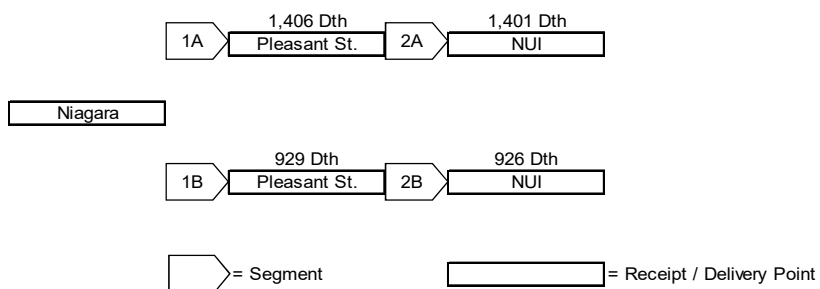
Capacity Path Detail

Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date ²	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1A ¹	Transportation	Tennessee	5083	FT-A	10/31/2023	4,605	Dth	Year-Round	Zone 0, 100 Leg	Pleasant St.	Granite
2A	Transportation	Granite	19-100-FT-NN	FT-NN	10/31/2020	4,589	Dth	Year-Round	Granite	Northern City Gates	
1B ¹	Transportation	Tennessee	5083	FT-A	10/31/2023	8,550	Dth	Year-Round	Zone L, 500 & 800 Legs	Pleasant St.	Granite
2B	Transportation	Granite	19-100-FT-NN	FT-NN	10/31/2020	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

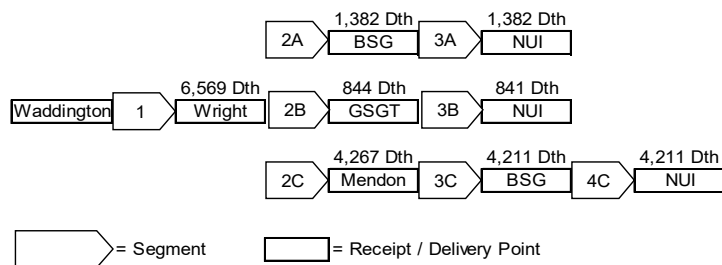


Capacity Path Detail

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	3/31/2025	1,406	Dth	Year-Round	Niagara	Pleasant St.	Granite
2A	Transportation	Granite	19-100-FT-NN	FT-NN	10/31/2020	1,401	Dth	Year-Round	Granite	Northern City Gates	Granite
1B	Transportation	Tennessee	39735	FT-A	3/31/2025	929	Dth	Year-Round	Niagara	Pleasant St.	Granite
2B	Transportation	Granite	19-100-FT-NN	FT-NN	10/31/2020	926	Dth	Year-Round	Granite	Northern City Gates	Granite
Total Path Deliverable						2,327	Dth				

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

Capacity Path Diagram

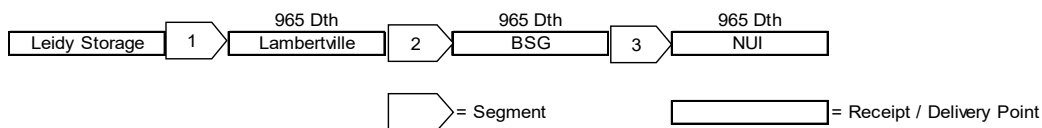


Capacity Path Detail

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	10/31/2023	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	Granite
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.	
3B	Transportation	Granite	19-100-FT-NN	FT-NN	10/31/2020	841	Dth	Year-Round	Granite	Northern City Gates	Algonquin
2C	Transportation	Tennessee	41099	FT-A	10/31/2022	4,267	Dth	Year-Round	Wright	Mendon	
3C	Transportation	Algonquin	93200F	AFT-1	10/31/2021	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: Algonquin Receipt Points

Capacity Path Diagram

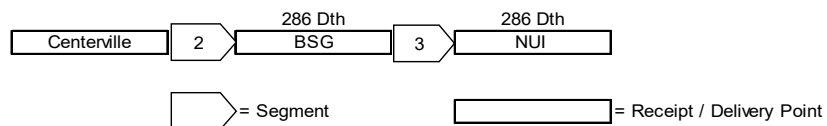


Capacity Path Detail

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	10/31/2021	965	Dth	Year-Round	Leidy Storage	Lambertville, NJ	Algonquin
2	Transportation	Algonquin	93201A1C	AFT-1 (F-2/F-3)	10/31/2020	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

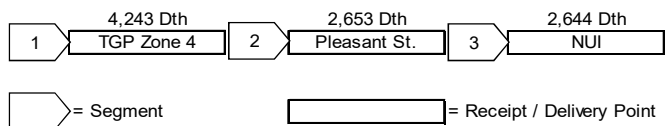


Capacity Path Detail

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)	10/31/2021	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



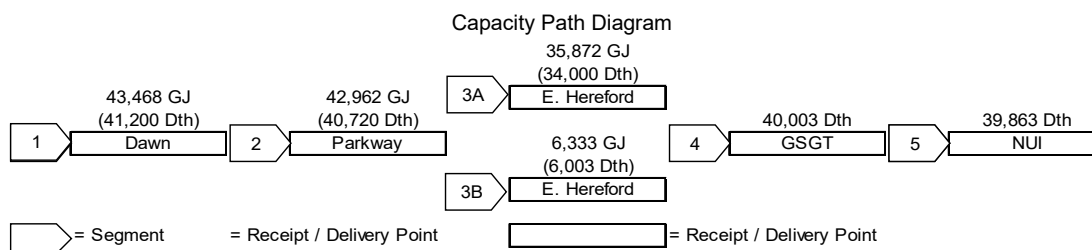
Capacity Path Detail

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	3/31/2025	4,243	Dth	Year-Round	NA	TGP Zone 4	Tennessee
2 ²	Transportation	Tennessee	5265	FT-A	3/31/2025	2,653	Dth	Year-Round	TGP Zone 4	Pleasant St.	Granite
3	Transportation	Granite	19-100-FT-NN	FT-NN	10/31/2020	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: Union Dawn Storage

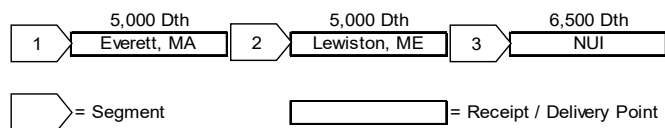


Capacity Path Detail

Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1	Storage	Union	LST086	Firm Storage (MDWD)	3/31/2023	43,468	GJ	Year-Round	NA	Dawn	Union
1	Storage	Union	LST086	Firm Storage (MSB)	3/31/2023	4,220,224	GJ	Year-Round	NA	Dawn	
1	Storage	Union	LST086	Firm Storage (MDID)	3/31/2023	31,652	GJ	Year-Round	NA	Dawn	
2	Transportation	Union	M12256	M12	10/31/2033	42,962	GJ	Year-Round	Dawn	Parkway	TransCanada
3A	Transportation	TransCanada	57901	FT	3/31/2033	35,872	GJ	Year-Round	Parkway	East Hereford	PNGTS
3B	Transportation	TransCanada	57055	FT	10/31/2032	6,333	GJ	Year-Round	Parkway	East Hereford	PNGTS
4	Transportation	PNGTS	FTN-NUI-0001	FT	10/31/2033	40,003	Dth	Year-Round	Pittsburg, NH	Newington, NH	Granite
5	Transportation	Granite	19-100-FT-NN	FT-NN	10/31/2020	39,863	Dth	Year-Round	Newington, NH	Northern City Gates	
Total Path Deliverable						39,863	Dth				

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

Capacity Path Diagram



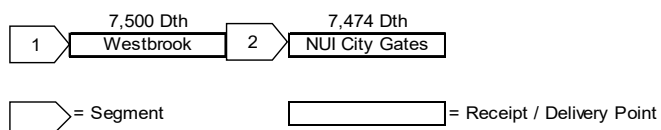
Capacity Path Detail

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	10/31/2020	5,000	Dth	Year-Round	NA		NA
2	LNG Trucking Contract	Confidential			10/31/2020	5,000	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 5,000 Dth per day (5 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

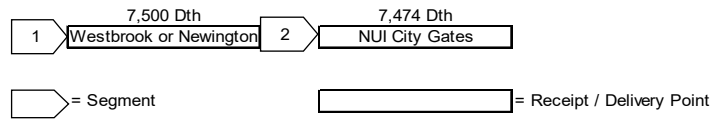


Capacity Path Detail

Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1 ¹	Baseload Supply	Confidential	NA	NA	3/31/2020	7,500	Dth	Winter Only (Nov - Mar)	NA	Westbrook	Granite
2	Transportation	Granite	19-100-FT-NN	FT-NN	10/31/2020	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: PNGTS Delivered Baseload Supply

Capacity Path Diagram

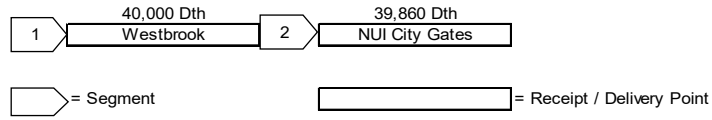


Capacity Path Detail

Segment	Product	Vendor	Contract ID	Rate Schedule	Contract Termination Date	Northern MDQ	Dth / GJ	Availability	Receipt Point	Delivery Point	Interconnecting Pipeline
1	Baseload Supply	Confidential	NA	NA	2/29/2020	7,500	Dth	Winter Only (Dec - Feb)	NA	Newington or Westbrook	Granite
2	Transportation	Granite	19-100-FT-NN	FT-NN	10/31/2020	7,474	Dth	Year-Round	Newington or Westbrook	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	3/31/2024	40,000	Dth	Winter Only (Nov - Mar)	NA	Westbrook or Lewiston	Granite or Northern City Gates
2	Transportation	Granite	19-100-FT-NN	FT-NN	10/31/2019	39,860	Dth	Year-Round	Westbrook or Lewiston	Northern City Gates	
Total Path Deliverable						39,860	Dth				

Note 1: Peaking Contract 1 allows Northern to nominate up to 40,000 Dth per Day and up to 600,000 Dth from November through March with takes above 30,000 Dth per Day capped at 50,000 Dth. Contract volumes may also be delivered to NUI - Lewiston in which case no Granite capacity is utilized.

Northern Utilities, Inc. Estimated Gas Supply Demand Costs November 1, 2019 through October 31, 2020			
Line	Description	Estimate	Reference
1.	Pipeline Demand Costs	\$ 5,511,017	Page 3 - Pipeline Allocated Cost
2.	Storage Allocated Pipeline Demand Costs	\$ 19,060,623	Page 3 - Storage Allocated Cost
3.	Storage Demand Costs	\$ 2,965,107	Page 4 - Annual Fixed Charges
4.	Peaking Allocated Pipeline Demand Costs	\$ 2,186,690	Page 3 - Peaking Allocated Cost
5.	Peaking Contract Costs	\$ 11,234,167	Page 5, Annual Fixed Charges
6.	Asset Management and Capacity Release Revenue	\$ (14,460,600)	Page 6 - Total Asset Management and Capacity Release Revenue
7.	Total Demand Costs	\$ 26,497,004	Sum Lines 1 through 6.

Northern Utilities, Inc.
Pipeline Contract Demand Cost Estimates
November 1, 2019 through October 31, 2020

Capacity Path	Segment	Pipeline	Contract ID	Rate	Negotiated Rate	Maximum Daily Quantity (Dth)	Monthly Demand Rate (\$/MDQ)	Months Per Year	Reference (Att NUI-FXW-10, Page 1)	Monthly Demand	Annual Demand
Tennessee Zone 0/L Pools	1A	Tennessee	5083	FT-A	No	4,605	\$ 20.8034	12	Line 6	\$ 95,800	\$ 1,149,596
Tennessee Zone 0/L Pools	2A	Granite	16-100-FT-NN	FT-NN	No	4,589	\$ 4.4212	12	Line 3	\$ 20,289	\$ 243,467
Tennessee Zone 0/L Pools	1B	Tennessee	5083	FT-A	No	8,550	\$ 18.4662	12	Line 7	\$ 157,886	\$ 1,894,632
Tennessee Zone 0/L Pools	2B	Granite	16-100-FT-NN	FT-NN	No	8,520	\$ 4.4212	12	Line 3	\$ 37,669	\$ 452,023
Tennessee Niagara	1A	Tennessee	5292	FT-A	No	1,406	\$ 6.4110	12	Line 9	\$ 9,014	\$ 108,166
Tennessee Niagara	2A	Granite	16-100-FT-NN	FT-NN	No	1,401	\$ 4.4212	12	Line 3	\$ 6,194	\$ 74,329
Tennessee Niagara	1B	Tennessee	39735	FT-A	No	929	\$ 6.4110	12	Line 9	\$ 5,956	\$ 71,470
Tennessee Niagara	2B	Granite	16-100-FT-NN	FT-NN	No	926	\$ 4.4212	12	Line 3	\$ 4,094	\$ 49,128
Iroquois Receipts	1	Iroquois	R181001	RTS-1	No	5,715	\$ 5.4177	5	Line 4	\$ 30,962	\$ 154,811
Iroquois Receipts	1	Iroquois	R181001	RTS-1	No	854	\$ 5.4177	5	Line 4	\$ 4,627	\$ 23,134
Iroquois Receipts	1	Iroquois	R181001	RTS-1	No	5,715	\$ 5.2357	7	Line 4	\$ 29,922	\$ 209,454
Iroquois Receipts	1	Iroquois	R181001	RTS-1	No	854	\$ 5.2357	7	Line 4	\$ 4,471	\$ 31,299
Iroquois Receipts	2A	Tennessee	95196	FT-A	No	1,382	\$ 6.4110	12	Line 9	\$ 8,860	\$ 106,320
Iroquois Receipts	2B	Tennessee	95196	FT-A	No	844	\$ 6.4110	12	Line 9	\$ 5,411	\$ 64,931
Iroquois Receipts	3B	Granite	16-100-FT-NN	FT-NN	No	841	\$ 4.4212	12	Line 3	\$ 3,718	\$ 44,619
Iroquois Receipts	2C	Tennessee	41099	FT-A	No	4,267	\$ 6.4110	12	Line 9	\$ 27,356	\$ 328,269
Iroquois Receipts	3C	Algonquin	93002F	AFT-1 (AFT-2)	No	4,211	\$ 6.1138	12	Line 1	\$ 25,745	\$ 308,943
Leidy Hub	1	Texas Eastern	800384	FT-1	No	965	\$ 8.4410	12	Line 10	\$ 8,146	\$ 97,747
Leidy Hub	2	Algonquin	93201A1C	AFT-1 (F-2/F-3)	No	965	\$ 6.5734	12	Line 2	\$ 6,343	\$ 76,120
Transco Zone 6, non-NY	1	Algonquin	93201A1C	AFT-1 (F-2/F-3)	No	286	\$ 6.5734	12	Line 2	\$ 1,880	\$ 22,560
Tennessee Firm Storage	2	Tennessee	5265	FT-A	No	2,653	\$ 7.2992	12	Line 8	\$ 19,365	\$ 232,377
Tennessee Firm Storage	3	Granite	16-100-FT-NN	FT-NN	No	2,644	\$ 4.4212	12	Line 3	\$ 11,690	\$ 140,276
Union Dawn Storage	2	Union	M12256	M12	No	40,720	\$ 2.9472	12	Line 12	\$ 120,010	\$ 1,440,120
Union Dawn Storage	3A	TransCanada	57901	FT	No	34,000	\$ 13.2746	12	Line 11	\$ 451,336	\$ 5,416,037
Union Dawn Storage	3B	TransCanada	57055	FT	No	6,003	\$ 13.2746	12	Line 11	\$ 79,687	\$ 956,249
Union Dawn Storage	4	PNGTS	FTN-NUI-0001	FT	Yes	40,003	\$ 18.2500	12	Line 5	\$ 730,055	\$ 8,760,657
Union Dawn Storage	5	Granite	16-100-FT-NN	FT-NN	No	39,863	\$ 4.4212	12	Line 3	\$ 176,242	\$ 2,114,908
Peaking Capacity (Nov-Oct)	N/A	Granite	16-100-FT-NN	FT-NN	No	19,216	\$ 4.4212	12	Line 3	\$ 84,958	\$ 1,019,493
Peaking Capacity (Nov-Apr)	N/A	Granite	16-100-FT-NN	FT-NN	No	44,000	\$ 4.4212	6	Line 3	\$ 194,533	\$ 1,167,197
Total Annual Demand Costs											\$ 26,758,330

Northern Utilities, Inc.
Pipeline Contract Demand Cost Allocations
November 1, 2019 through October 31, 2020

Capacity Path	Segment	Pipeline	Contract ID	MDQ	Pipeline MDQ	Storage MDQ	Peaking MDQ	Annual Demand	Annual Pipeline Allocated Cost	Annual Storage Allocated Cost	Annual Peaking Allocated Cost
Tennessee Zone 0/L Pools	1A	Tennessee	5083	4,605	4,605	-	-	\$ 1,149,596	\$ 1,149,596	\$ -	\$ -
Tennessee Zone 0/L Pools	2A	Granite	16-100-FT-NN	4,589	4,589	-	-	\$ 243,467	\$ 243,467	\$ -	\$ -
Tennessee Zone 0/L Pools	1B	Tennessee	5083	8,550	8,550	-	-	\$ 1,894,632	\$ 1,894,632	\$ -	\$ -
Tennessee Zone 0/L Pools	2B	Granite	16-100-FT-NN	8,520	8,520	-	-	\$ 452,023	\$ 452,023	\$ -	\$ -
Tennessee Niagara	1A	Tennessee	5292	1,406	1,406	-	-	\$ 108,166	\$ 108,166	\$ -	\$ -
Tennessee Niagara	2A	Granite	16-100-FT-NN	1,401	1,401	-	-	\$ 74,329	\$ 74,329	\$ -	\$ -
Tennessee Niagara	1B	Tennessee	39735	929	929	-	-	\$ 71,470	\$ 71,470	\$ -	\$ -
Tennessee Niagara	2B	Granite	16-100-FT-NN	926	926	-	-	\$ 49,128	\$ 49,128	\$ -	\$ -
Iroquois Receipts	1	Iroquois	R181001	5,715	5,715	-	-	\$ 154,811	\$ 154,811	\$ -	\$ -
Iroquois Receipts	1	Iroquois	R181001	854	854	-	-	\$ 23,134	\$ 23,134	\$ -	\$ -
Iroquois Receipts	1	Iroquois	R181001	5,715	5,715	-	-	\$ 209,454	\$ 209,454	\$ -	\$ -
Iroquois Receipts	1	Iroquois	R181001	854	854	-	-	\$ 31,299	\$ 31,299	\$ -	\$ -
Iroquois Receipts	2A	Tennessee	95196	1,382	1,382	-	-	\$ 106,320	\$ 106,320	\$ -	\$ -
Iroquois Receipts	2B	Tennessee	95196	844	844	-	-	\$ 64,931	\$ 64,931	\$ -	\$ -
Iroquois Receipts	3B	Granite	16-100-FT-NN	841	841	-	-	\$ 44,619	\$ 44,619	\$ -	\$ -
Iroquois Receipts	2C	Tennessee	41099	4,267	4,267	-	-	\$ 328,269	\$ 328,269	\$ -	\$ -
Iroquois Receipts	3C	Algonquin	93002F	4,211	4,211	-	-	\$ 308,943	\$ 308,943	\$ -	\$ -
Leidy Hub	1	Texas Eastern	800384	965	965	-	-	\$ 97,747	\$ 97,747	\$ -	\$ -
Leidy Hub	2	Algonquin	93201A1C	965	965	-	-	\$ 76,120	\$ 76,120	\$ -	\$ -
Transco Zone 6, non-NY	1	Algonquin	93201A1C	286	286	-	-	\$ 22,560	\$ 22,560	\$ -	\$ -
Tennessee Firm Storage	2	Tennessee	5265	2,653	-	2,653	-	\$ 232,377	\$ -	\$ 232,377	\$ -
Tennessee Firm Storage	3	Granite	16-100-FT-NN	2,644	-	2,644	-	\$ 140,276	\$ -	\$ 140,276	\$ -
Union Dawn Storage	2	Union	M12256	40,720	-	40,720	-	\$ 1,440,120	\$ -	\$ 1,440,120	\$ -
Union Dawn Storage	3A	TransCanada	57901	34,000	-	34,000	-	\$ 5,416,037	\$ -	\$ 5,416,037	\$ -
Union Dawn Storage	3B	TransCanada	57055	6,003	-	6,003	-	\$ 956,249	\$ -	\$ 956,249	\$ -
Union Dawn Storage	4	PNGTS	FTN-NUI-0001	40,003	-	40,003	-	\$ 8,760,657	\$ -	\$ 8,760,657	\$ -
Union Dawn Storage	5	Granite	16-100-FT-NN	39,863	-	39,863	-	\$ 2,114,908	\$ -	\$ 2,114,908	\$ -
Peaking Capacity (Nov-Oct)	N/A	Granite	16-100-FT-NN	19,216	-	-	26,216	\$ 1,019,493	\$ -	\$ -	\$ 1,019,493
Peaking Capacity (Nov-Apr)	N/A	Granite	16-100-FT-NN	44,000	-	-	30,000	\$ 1,167,197	\$ -	\$ -	\$ 1,167,197
Total Annual Demand Costs								\$ 26,758,330	\$ 5,511,017	\$ 19,060,623	\$ 2,186,690

Northern Utilities, Inc.
Storage Contract Demand Cost Estimates
November 1, 2019 through October 31, 2020

Vendor	Contract ID	Rate	Negotiated	MSQ (Dth)	MDWQ	Space Rate	Demand Rate	Months Per Year	Reference (Att NUI-FXW-10, Page 2)	Annual Space Charge	Annual Demand Charge	Annual Fixed Charges
Tennessee	5195	FS-MA	No	259,337	4,243	\$ 0.0183	\$ 1.3386	12	Line 1	\$ 56,950	\$ 68,156	\$ 125,107
Union	LST086	Storage	Yes	4,000,000	41,200	\$ 0.0592		12	Line 2	\$ 2,840,000		\$ 2,840,000

Total Annual Fixed Charges

\$ 2,965,107

MSQ = Maximum Space Quantity

MDWQ = Maximum Daily Withdrawal Quantity

REDACTED

Northern Utilities, Inc.
Peaking Contract Demand Cost Estimates
November 1, 2019 through October 31, 2020

Denotes Confidential Information

Resource	Supplier	Contract Quantity	Maximum Daily Quantity	Months per Year	Annual Fixed Charges
LNG Contract		125,000	5,000	5	
Peaking Contract 1		600,000	40,000	5	
Total Peaking Supply Contract Demand Costs					\$ 11,234,167

REDACTED

Northern Utilities, Inc.
Asset Management and Capacity Release Revenue Projections
November 1, 2019 through October 31, 2020

Denotes Confidential Information	
Capacity Path	Projected Revenue
Tennessee Zone O/L Pools Tennessee Niagara Iroquois Receipts Leidy Hub & Transco Zone 6, non-NY Union Dawn Storage	
Total Asset Management	\$ (14,460,600)

Northern Utilities, Inc. New Hampshire Division Retail Marketer Capacity Assignment Revenue Projections November 2019 through October 2020		
Item	Revenue	Reference
Pipeline Contract Capacity Assignment	\$ (2,552,560)	Page 2
Storage Contract Capacity Assignment	\$ (268,211)	Page 3
On-System Peaking Service Demand	\$ (230,817)	Page 4
Asset Management Revenue Assigned to Retail Suppliers	\$ 44,191	Page 5
Total Division Capacity Assignment Demand Revenue	\$ (3,007,397)	Sum of Items Above

Northern Utilities, Inc. New Hampshire Division Pipeline Capacity Assignment Estimates November 2019 through October 2020															
Capacity Path	Segment	Pipeline	Contract ID	Pipeline Allocated Cost	Storage Allocated Cost	Peaking Allocated Cost	Capacity Assigned? (Y/N)	Assigned Pipeline MDQ	Assigned Storage MDQ	Assigned Peaking MDQ	Assigned Pipeline Credits	Assigned Storage Credits	Assigned Peaking Credits	ME Annual Cap Assign Credit	
Tennessee Zone O/L Pools	1A	Tennessee	5083	\$ 1,149,596	\$ -	\$ -	Y	(527)	-	-	\$ (131,561)	\$ -	\$ -	\$ (131,561)	
Tennessee Zone O/L Pools	2A	Granite	16-100-FT-NN	\$ 243,467	\$ -	\$ -	Y	(525)	-	-	\$ (27,854)	\$ -	\$ -	\$ (27,854)	
Tennessee Zone O/L Pools	1B	Tennessee	5083	\$ 1,894,632	\$ -	\$ -	Y	(979)	-	-	\$ (216,941)	\$ -	\$ -	\$ (216,941)	
Tennessee Zone O/L Pools	2B	Granite	16-100-FT-NN	\$ 452,023	\$ -	\$ -	Y	(975)	-	-	\$ (51,728)	\$ -	\$ -	\$ (51,728)	
Tennessee Niagara	1A	Tennessee	5292	\$ 108,166	\$ -	\$ -	Y	(161)	-	-	\$ (12,386)	\$ -	\$ -	\$ (12,386)	
Tennessee Niagara	2A	Granite	16-100-FT-NN	\$ 74,329	\$ -	\$ -	Y	(160)	-	-	\$ (8,489)	\$ -	\$ -	\$ (8,489)	
Tennessee Niagara	1B	Tennessee	39735	\$ 71,470	\$ -	\$ -	Y	(106)	-	-	\$ (8,155)	\$ -	\$ -	\$ (8,155)	
Tennessee Niagara	2B	Granite	16-100-FT-NN	\$ 49,128	\$ -	\$ -	Y	(106)	-	-	\$ (5,624)	\$ -	\$ -	\$ (5,624)	
Iroquois Receipts	1	Iroquois	R181001	\$ 154,811	\$ -	\$ -	Y	(654)	-	-	\$ (17,716)	\$ -	\$ -	\$ (17,716)	
Iroquois Receipts	1	Iroquois	R181001	\$ 23,134	\$ -	\$ -	Y	(98)	-	-	\$ (2,655)	\$ -	\$ -	\$ (2,655)	
Iroquois Receipts	1	Iroquois	R181001	\$ 209,454	\$ -	\$ -	Y	(654)	-	-	\$ (23,969)	\$ -	\$ -	\$ (23,969)	
Iroquois Receipts	1	Iroquois	R181001	\$ 31,299	\$ -	\$ -	Y	(98)	-	-	\$ (3,592)	\$ -	\$ -	\$ (3,592)	
Iroquois Receipts	2A	Tennessee	95196	\$ 106,320	\$ -	\$ -	Y	(158)	-	-	\$ (12,155)	\$ -	\$ -	\$ (12,155)	
Iroquois Receipts	2B	Tennessee	95196	\$ 64,931	\$ -	\$ -	Y	(97)	-	-	\$ (7,462)	\$ -	\$ -	\$ (7,462)	
Iroquois Receipts	3B	Granite	16-100-FT-NN	\$ 44,619	\$ -	\$ -	Y	(96)	-	-	\$ (5,093)	\$ -	\$ -	\$ (5,093)	
Iroquois Receipts	2C	Tennessee	41099	\$ 328,269	\$ -	\$ -	Y	(489)	-	-	\$ (37,620)	\$ -	\$ -	\$ (37,620)	
Iroquois Receipts	3C	Algonquin	93002F	\$ 308,943	\$ -	\$ -	Y	(482)	-	-	\$ (35,362)	\$ -	\$ -	\$ (35,362)	
Leidy Hub	1	Texas Eastern	800384	\$ 97,747	\$ -	\$ -	Y	(110)	-	-	\$ (11,142)	\$ -	\$ -	\$ (11,142)	
Leidy Hub	2	Algonquin	93201A1C	\$ 76,120	\$ -	\$ -	Y	(110)	-	-	\$ (8,677)	\$ -	\$ -	\$ (8,677)	
Transco Zone 6, non-NY	1	Algonquin	93201A1C	\$ 22,560	\$ -	\$ -	Y	(33)	-	-	\$ (2,603)	\$ -	\$ -	\$ (2,603)	
Tennessee Firm Storage	2	Tennessee	5265	\$ -	\$ 232,377	\$ -	Y	-	(240)	-	\$ -	\$ (21,022)	\$ -	\$ (21,022)	
Tennessee Firm Storage	3	Granite	16-100-FT-NN	\$ -	\$ 140,276	\$ -	Y	-	(239)	-	\$ -	\$ (12,680)	\$ -	\$ (12,680)	
Union Dawn Storage	2	Union	M12256	\$ -	\$ 1,440,120	\$ -	Y	-	(3,683)	-	\$ -	\$ (130,254)	\$ -	\$ (130,254)	
Union Dawn Storage	3A	TransCanada	57901	\$ -	\$ 5,416,037	\$ -	Y	-	(3,075)	-	\$ -	\$ (489,833)	\$ -	\$ (489,833)	
Union Dawn Storage	3B	TransCanada	57055	\$ -	\$ 956,249	\$ -	Y	-	(543)	-	\$ -	\$ (86,497)	\$ -	\$ (86,497)	
Union Dawn Storage	4	PNGTS	FTN-NUI-0001	\$ -	\$ 8,760,657	\$ -	Y	-	(3,618)	-	\$ -	\$ (792,342)	\$ -	\$ (792,342)	
Union Dawn Storage	5	Granite	16-100-FT-NN	\$ -	\$ 2,114,908	\$ -	Y	-	(3,606)	-	\$ -	\$ (191,314)	\$ -	\$ (191,314)	
Peaking Capacity (Nov-Oct)	N/A	Granite	16-100-FT-NN	\$ -	\$ -	\$ 1,019,493	Y	-	-	(2,372)	\$ -	\$ -	\$ (92,243)	\$ (92,243)	
Peaking Capacity (Nov-Apr)	N/A	Granite	16-100-FT-NN	\$ -	\$ -	\$ 1,167,197	Y	-	-	(2,714)	\$ -	\$ -	\$ (105,592)	\$ (105,592)	
Total Capacity Assignment Credits								11.45%	9.05%	9.05%	\$ (630,783)	\$ (1,723,942)	\$ (197,835)	\$ (2,552,560)	

Northern Utilities, Inc. New Hampshire Division Storage Contract Capacity Assignment Estimates November 2019 through October 2020								
Vendor	Contract ID	Annual Fixed Charges	Capacity Assigned (Y/N)	Company Managed (Y/N)	Storage Assigned ME	Assigned MSQ	Assigned MDWQ	Annual Cap Assign Credit
Tennessee	5195	\$ 125,107	Y	N	9.05%	(23,459)	(384)	\$ (11,317)
Union	LST068	\$ 2,840,000	Y	N	9.05%	(361,823)	(3,727)	\$ (256,894)

Total Division Storage Capacity Assignment \$ (268,211)

MSQ = Maximum Space Quantity

MDWQ = Maximum Daily Withdrawal Quantity

Northern Utilities, Inc. New Hampshire Division On-System Peaking Demand Capacity Assignment Revenues November 2019 through October 2020			
Month	On-System Peaking Demand TCQ	Rate	Demand Revenue
Nov-18	588	\$ 65.41	\$ (38,470)
Dec-18	588	\$ 65.41	\$ (38,470)
Jan-19	588	\$ 65.41	\$ (38,470)
Feb-19	588	\$ 65.41	\$ (38,470)
Mar-19	588	\$ 65.41	\$ (38,470)
Apr-19	588	\$ 65.41	\$ (38,470)

Total Division Peaking Demand Revenue \$ (230,817)

REDACTED

Northern Utilities, Inc. - New Hampshire Division Asset Management and Capacity Release Revenue Assigned to Retail Suppliers November 2019 through October 2020					
Indicates Confidential Information					
Resources	Projected Value	Company-Managed Resources	Resource Type	Percentage Capacity Assigned	Annual Value to Retail Marketers
Tennessee Zone O/L Pools		No	Pipeline	11.45%	
Tennessee Niagara		No	Pipeline	11.45%	
Iroquois Receipts		Yes	Pipeline	11.45%	
Leidy Hub & Transco Zone 6, non-NY		Yes	Pipeline	11.45%	
Union Dawn Storage		No	Storage	9.05%	
Total Asset Management	\$ (14,460,600)				\$ 44,191

REDACTED

Northern Utilities, Inc. New Hampshire Division Peaking Capacity Assignment Demand Rate November 2019 through October 2020			
Indicates Confidential Information			
Line	Description	Northern	NH Division
2	Capacity Allocation Factor		44.82%
3	Peaking Plants	6,500	2,913
4	Total	6,500	2,913
5	LNG Demand Costs		
6	Peaking Plants Fixed Costs		\$ 420,658
7	Total On-System Peaking Fixed Costs		\$ 1,143,381
8	NH Division Peaking Service Demand Rate		\$ 65.41

Northern Utilities
 New Hampshire Division
 Retail Supplier Capacity Assignment Estimates
 November 2019 through October 2020

HLF Allocation	48.43%	19.53%	32.04%	100.00%
LLF Allocation	9.35%	34.33%	56.32%	100.00%

	Pipeline MDQ	Storage MDQ	Peaking MDQ	Total MDQ
HLF TCQ	1,796	724	1,188	3,709
LLF TCQ	850	3,120	5,119	9,089
Retail Supplier Total	2,647	3,845	6,308	12,800
Northern MDQ	23,121	42,507	69,716	135,344
Cap Assign/ Total MDQ	11.45%	9.05%	9.05%	9.46%

On System Peaking	6,500
On System Peaking Allocation	9.32%

Northern Utilities - New Hampshire Division

Capacity Assignment Calculations 2019-2020

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	218	215	0.4%	31	184
2	RATE B-Resi Htg	23,692	23,389	38.6%	1,350	22,040
3	RATE G-40	11,301	11,156	18.4%	498	10,658
4	RATE G-50	982	970	1.6%	285	684
5	RATE G-41	8,384	8,277	13.6%	399	7,877
6	RATE G-51	1,300	1,283	2.1%	337	947
7	RATE G-42	1,210	1,194	2.0%	109	1,085
8	RATE G-52	1,383	1,365	2.3%	452	913
9	Special Contract	1,680	1,659	2.7%	1,532	127
10	RATE T-40	1,717	1,695	2.8%	59	1,636
11	RATE T-50	133	131	0.2%	-	131
12	RATE T-41	7,076	6,986	11.5%	316	6,670
13	RATE T-51	1,406	1,388	2.3%	504	884
14	RATE T-42	413	408	0.7%	38	370
15	RATE T-52	537	531	0.9%	247	283
16	Total	61,433	60,648	100.0%	6,159	54,489
17						-
18	Residential Total	23,910	23,604	38.9%	1,381	22,224
19	LLF Total	30,101	29,717	49.0%	1,420	28,297
20	HLF Total	7,422	7,327	12.1%	3,358	3,969
21	Total	61,433	60,648	100.0%	6,159	54,489
22						
23						
24		Residential MDQ, Dt	Total C&I MDQ, Dt	LLF C&I MDQ, Dt	HLF C&I MDQ, Dt	Total MDQ, Dt
25	Residential Allocation					
26	Pipeline - Base	1,381	4,778	1,420	3,358	6,159
27	Pipeline - Remaining	2,652	1,550	1,360	191	4,202
28	Storage	7,413	11,634	10,203	1,431	19,048
29	Peaking	12,159	19,081	16,734	2,347	31,240
30	Total	23,604	37,044	29,717	7,327	60,648
31	Check - Should be 0	-	-	-	-	-
32						
33	Capacity Allocations %s					
34						
35	Pipeline		9.35%	48.43%		
36	Storage		34.33%	19.53%		
37	Peaking		56.32%	32.04%		
38	Total		100.00%	100.00%		

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

2019-2020 Forecast Annual Sales (Dth)

	Res Non-Heat	Res Heat	G40	G50	G41	G51	G42	G52	Special Contracts	Res	LLF	HLF	Total Division
Sales Service	23,103	2,002,025	976,465	173,261	724,442	229,346	104,541	243,899	0	2,025,127	1,805,447	646,507	4,477,081
Capacity Assigned Delivery Service			148,357	23,962	611,454	253,127	35,728	96,747	574,767		795,539	948,603	1,744,142
Capacity Exempt Delivery Service			2,785	3,263	42,143	20,446	474,677	1,285,349	753,098		519,605	2,062,157	2,581,762
Total System	23,103	2,002,025	1,127,606	200,487	1,378,039	502,920	614,946	1,625,995	1,327,865	2,025,127	3,120,591	3,657,267	8,802,986

2019-2020 Forecast Annual Sendout (Dth)

	Res Non-Heat	Res Heat	G40	G50	G41	G51	G42	G52	Special Contracts	Res	LLF	HLF	Total Division
Sales Service	23,421	2,029,653	989,940	175,652	734,439	232,511	105,984	247,265		2,053,075	1,830,363	655,429	4,538,866
Capacity Assigned Delivery Service			150,404	24,293	619,893	256,621	36,221	98,082	582,699		806,518	961,695	1,768,213
Capacity Exempt Delivery Service			2,823	3,309	42,725	20,729	481,227	1,303,087	763,491		526,776	2,090,615	2,617,390
Total System	23,421	2,029,653	1,143,168	203,254	1,397,057	509,860	623,432	1,648,434	1,346,190	2,053,075	3,163,657	3,707,738	8,924,470

Prior Year WN Act	
Total Division	Percent Change
4,415,885	2.8%
1,714,291	3.1%
2,553,077	2.5%
8,683,253	2.8%

2019-2020 Forecast Load Factor (%)

	Res Non-Heat	Res Heat	G40	G50	G41	G51	G42	G52	Special Contracts	Res	LLF	HLF	Total Division
Sales Service	29.5%	23.5%	24.0%	49.0%	24.0%	49.0%	24.0%	49.0%		23.5%	24.0%	49.0%	25.7%
Capacity Assigned Delivery Service			24.0%	50.0%	24.0%	50.0%	24.0%	50.0%	95.0%		24.0%	70.1%	37.4%
Capacity Exempt Delivery Service			46.0%	94.0%	46.0%	94.0%	46.0%	94.0%	94.0%		46.0%	94.0%	77.7%
Total System	29.5%	23.5%	24.0%	49.5%	24.4%	50.5%	38.0%	79.0%	94.4%	23.5%	26.1%	75.2%	34.6%

Prior Year Actual	
Total Division	Percent Change
25.6%	0.1%
37.5%	-0.3%
77.4%	0.3%
34.6%	0.0%

2019-2020 Design Day Sendout (Dth)

	Res Non-Heat	Res Heat	G40	G50	G41	G51	G42	G52	Special Contracts	Res	LLF	HLF	Total Division
Sales Service	218	23,692	11,301	982	8,384	1,300	1,210	1,383		23,910	20,895	3,665	48,469
Capacity Assigned Delivery Service			1,717	133	7,076	1,406	413	537	1,680		9,207	3,757	12,964
Capacity Exempt Delivery Service			17	10	254	60	2,866	3,798	2,225		3,137	6,093	9,231
Total System	218	23,692	13,034	1,125	15,715	2,767	4,489	5,718	3,906	23,910	33,239	13,515	70,664

Prior Year Design Day Actual	
Total Division	Percent Change
47,187	2.7%
12,533	3.4%
9,034	2.2%
68,754	2.8%

2019-2020 Baseload Sendout (Dth)
(Average Daily July and August Sendout)

	Res Non-Heat	Res Heat	G40	G50	G41	G51	G42	G52	Special Contracts	Res	LLF	HLF	Total Division
Sales Service	31	1,350	498	285	399	337	109	452		1,381	1,007	1,074	3,461
Capacity Assigned Delivery Service			59	0	316	504	38	247	1,532		413	2,284	2,697
Capacity Exempt Delivery Service			2	0	63	42	509	3,288	2,007		574	5,337	5,911
Total System	31	1,350	559	285	778	883	657	3,987	3,539	1,381	1,994	8,695	12,070

2019-2020 Planning Load Design Day Sendout (Dth)

	Res Non-Heat	Res Heat	G40	G50	G41	G51	G42	G52	Special Contracts	Res	LLF	HLF	Total Division
Sales Service	218	23,692	11,301	982	8,384	1,300	1,210	1,383		23,910	20,895	3,665	48,469
Capacity Assigned Delivery Service			1,717	133	7,076	1,406	413	537	1,680		9,207	3,757	12,964
Capacity Exempt Delivery Service			0	0	0	0	0	0	0		0	0	0
Total System	218	23,692	13,018	1,115	15,460	2,706	1,623	1,920	1,680	23,910	30,101	7,422	61,433

2019-2020 Planning Load Baseload Sendout (Dth)
(Average Daily July and August Sendout)

	Res Non-Heat	Res Heat	G40	G50	G41	G51	G42	G52	Special Contracts	Res	LLF	HLF	Total Division
Sales Service	31	1,350	498	285	399	337	109	452		1,381	1,007	1,074	3,461
Capacity Assigned Delivery Service			59	0	316	504	38	247	1,532		413	2,284	2,697
Capacity Exempt Delivery Service			0	0	0	0	0	0	0		0	0	0
Total System	31	1,350	557	285	715	841	147	699	1,532	1,381	1,420	3,358	6,159

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Northern Utilities, Inc. Commodity Cost by Supply Source (\$) November 2019 through October 2020																
Description	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Winter	Summer	Year	
Pipeline Supplies																
FS-MA Path (TGP Zone 4 313 Pool Supply)																
Union Dawn Storage Path (Dawn Supply)																
Tennessee Zone 4 200 Leg																
Tennessee Zone 0																
Tennessee Zone L																
Tennessee Long-Haul Pipeline Path																
Leidy Hub																
Texas Eastern Zone M-3																
Transco Zone 6, non-NY																
Algonquin Receipts Pipeline Path																
Iroquois Receipts Pipeline Path																
Tennessee Niagara Pipeline Path																
Total Pipeline	\$ 1,916,562	\$ 1,887,386	\$ 2,254,297	\$ 2,079,830	\$ 1,926,368	\$ 2,185,928	\$ 1,117,512	\$ 778,677	\$ 683,467	\$ 685,648	\$ 715,083	\$ 1,437,343	\$ 12,250,370	\$ 5,417,731	\$ 17,668,101	
NH CM Pipeline (Leidy/M-3)																
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	\$ 1,797,848	\$ 1,741,179	\$ 2,015,417	\$ 1,863,362	\$ 1,792,992	\$ 2,168,195	\$ 1,104,254	\$ 765,743	\$ 669,901	\$ 672,296	\$ 702,927	\$ 1,424,889	\$ 11,378,994	\$ 5,340,010	\$ 16,719,003	
Underground Storage																
Tennessee FS-MA Storage Path	\$ -	\$ 25,599	\$ 144,208	\$ 134,904	\$ 142,942	\$ 939	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 448,592	\$ -	\$ 448,592	
Union Dawn Storage Path	\$ 746,845	\$ 1,556,233	\$ 1,793,550	\$ 1,823,867	\$ 1,527,650	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,448,144	\$ -	\$ 7,448,144	
Net Storage	\$ 746,845	\$ 1,581,831	\$ 1,937,758	\$ 1,958,771	\$ 1,670,592	\$ 939	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,896,736	\$ -	\$ 7,896,736	
Peaking Supplies																
PNGTS Delivered (Dec - Feb)																
Maritimes Delivered																
Baseload Delivered Supplies																
Lewiston LNG																
Peaking Contract 1																
Off-System Peaking / Incremental Supply																
Total Peaking	\$ 1,883,387	\$ 4,386,862	\$ 5,194,627	\$ 4,098,364	\$ 2,172,084	\$ 13,695	\$ 7,468	\$ 7,196	\$ 7,418	\$ 7,413	\$ 7,149	\$ 7,381	\$ 17,749,019	\$ 44,024	\$ 17,793,043	
NH Peaking Service - (On System)																
ME Peaking Service - (On-System)																
Net Peaking	\$ 1,883,387	\$ 4,365,259	\$ 5,145,230	\$ 4,083,606	\$ 2,162,601	\$ 13,695	\$ 7,468	\$ 7,196	\$ 7,418	\$ 7,413	\$ 7,149	\$ 7,381	\$ 17,653,779	\$ 44,024	\$ 17,697,803	
Total NUI Commodity	\$ 4,546,794	\$ 7,856,079	\$ 9,386,682	\$ 8,136,965	\$ 5,769,043	\$ 2,200,562	\$ 1,124,980	\$ 785,873	\$ 690,885	\$ 693,061	\$ 722,232	\$ 1,444,724	\$ 37,896,125	\$ 5,461,755	\$ 43,357,880	
Company Managed Sales	\$ (118,714)	\$ (167,810)	\$ (288,276)	\$ (231,225)	\$ (142,858)	\$ (17,733)	\$ (13,258)	\$ (12,934)	\$ (13,566)	\$ (13,352)	\$ (12,156)	\$ (12,455)	\$ (966,617)	\$ (77,721)	\$ (1,044,338)	
Net Commodity Costs	\$ 4,428,080	\$ 7,688,269	\$ 9,098,405	\$ 7,905,740	\$ 5,626,185	\$ 2,182,829	\$ 1,111,722	\$ 772,939	\$ 677,319	\$ 679,709	\$ 710,075	\$ 1,432,270	\$ 36,929,508	\$ 5,384,034	\$ 42,313,542	

Northern Utilities, Inc.
Commodity Volumes by Supply Source (Dth)
November 2019 through October 2020

Description	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Winter	Summer	Year
Pipeline Supplies															
FS-MA Path (TGP Zone 4 313 Pool Supply)	65,305	55,503	0	0	592	64,866	67,482	65,305	67,482	67,482	65,305	67,482	186,266	400,538	586,803
Union Dawn Storage Path (Dawn Supply)	125,242	2,889	910	4,964	80,143	797,692	411,348	258,061	207,680	208,997	235,738	556,569	1,011,841	1,878,393	2,890,234
Tennessee Zone 4 200 Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tennessee Zone 0	103,678	110,390	110,390	103,268	110,390	13,297	0	0	0	0	0	0	551,414	0	551,414
Tennessee Zone L	191,736	204,959	204,959	191,736	204,959	46,648	0	0	0	0	0	0	1,044,997	0	1,044,997
Tennessee Long-Haul Pipeline Path	295,414	315,349	315,349	295,004	315,349	59,945	0	0	0	0	0	0	1,596,410	0	1,596,410
Leidy Hub	28,802	29,724	29,724	27,806	29,724	28,802	29,762	28,802	29,762	29,762	28,802	29,762	174,581	176,654	351,236
Texas Eastern Zone M-3	148	191	191	179	191	148	153	148	153	153	148	153	1,049	906	1,954
Transco Zone 6, non-NY	8,580	8,866	8,866	8,294	8,866	8,580	8,866	8,580	8,866	8,866	8,580	8,866	52,052	52,624	104,676
Algonquin Receipts Pipeline Path	37,530	38,781	38,781	36,279	38,781	37,530	38,781	37,530	38,781	38,781	37,530	38,781	227,682	230,184	457,866
Iroquois Receipts Pipeline Path	188,367	194,474	194,474	181,927	194,474	0	0	0	0	0	0	0	953,715	0	953,715
Tennessee Niagara Pipeline Path	54,169	55,974	55,974	52,363	55,974	18,052	0	0	0	0	0	0	511	292,506	293,017
Total Pipeline	766,027	662,970	605,488	570,537	685,314	978,085	517,611	360,896	313,943	315,260	338,573	663,343	4,268,420	2,509,626	6,778,046
NH CM Pipeline (Leidy/M-3)	-3,300	-3,410	-3,410	-3,190	-3,410	-3,300	-3,410	-3,300	-3,410	-3,410	-3,300	-3,300	-20,020	-20,130	-40,150
ME CM Pipeline (Leidy/M-3)	-3,180	-3,286	-3,286	-3,074	-3,286	-3,180	-3,286	-3,180	-3,286	-3,286	-3,180	-3,180	-19,292	-19,398	-38,690
NH CM Pipeline (Transco)	-990	-1,023	-1,023	-957	-1,023	-957	0	0	0	0	0	0	-5,973	0	-5,973
ME CM Pipeline (Transco)	-930	-961	-961	-899	-961	-899	0	0	0	0	0	0	-5,611	0	-5,611
NH CM Pipeline (Iroq Rec)	-19,200	-19,840	-19,840	-18,560	-19,200	0	0	0	0	0	0	0	-96,640	0	-96,640
ME CM Pipeline (Iroq Rec)	-18,360	-18,972	-18,972	-17,748	-18,360	0	0	0	0	0	0	0	-92,412	0	-92,412
Net Pipeline	720,067	615,478	557,996	526,109	639,074	969,749	510,915	354,416	307,247	308,564	332,093	656,863	4,028,472	2,470,098	6,498,570
Underground Storage															
Tennessee FS-MA Storage Path	0	11,979	67,482	63,128	66,890	439	0	0	0	0	0	0	209,918	0	209,918
Union Dawn Storage Path	310,102	646,173	744,712	757,300	634,305	0	0	0	0	0	0	0	3,092,592	0	3,092,592
Net Storage	310,102	658,152	812,194	820,428	701,195	439	0	0	0	0	0	0	3,302,510	0	3,302,510
Peaking Supplies															
PNGTS Delivered (Dec - Feb)	0	231,686	231,686	216,739	0	0	0	0	0	0	0	0	680,111	0	680,111
Maritimes Delivered	225,000	232,500	232,500	217,500	232,500	0	0	0	0	0	0	0	1,140,000	0	1,140,000
Baseload Delivered Supplies	225,000	464,186	464,186	434,239	232,500	0	0	0	0	0	0	0	1,820,111	0	1,820,111
													0	0	0
Lewiston LNG	1,755	24,580	51,214	1,696	31,347	3,369	1,860	1,800	1,860	1,860	1,800	1,860	113,960	11,040	125,000
Peaking Contract 1	0	23,256	274,464	46,304	29,260	0	0	0	0	0	0	0	373,284	0	373,284
Off-System Peaking / Incremental Supply	0	23,256	274,464	46,304	29,260	0	0	0	0	0	0	0	373,284	0	373,284
Total Peaking	226,755	512,022	789,864	482,239	293,106	3,369	1,860	1,800	1,860	1,860	1,800	1,860	2,307,356	11,040	2,318,396
NH Peaking Service - (On System)	0	-2,352	-5,880	-1,764	-1,176	0	0	0	0	0	0	0	-11,172	0	-11,172
ME Peaking Service - (On-System)	0	-2,240	-5,600	-1,680	-1,120	0	0	0	0	0	0	0	-10,640	0	-10,640
Net Peaking	226,755	507,430	778,384	478,795	290,810	3,369	1,860	1,800	1,860	1,860	1,800	1,860	2,285,544	11,040	2,296,584
Total NUI Commodity	1,302,884	1,833,144	2,207,546	1,873,204	1,679,615	981,893	519,471	362,696	315,803	317,120	340,373	665,203	9,878,286	2,520,666	12,398,952
Company Managed Sales	-45,960	-52,084	-58,972	-47,872	-48,536	-8,336	-6,696	-6,480	-6,696	-6,696	-6,480	-6,480	-261,760	-39,528	-301,288
Net Commodity Costs	1,256,924	1,781,060	2,148,574	1,825,332	1,631,079	973,557	512,775	356,216	309,107	310,424	333,893	658,723	9,616,526	2,481,138	12,097,664

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Northern Utilities, Inc.
Average Delivered Commodity Cost by Supply Source (\$/Dth)
November 2019 through October 2020

Description	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Winter	Summer	Year
Pipeline Supplies															
FS-MA Path (TGP Zone 4 313 Pool Supply)															
Union Dawn Storage Path (Dawn Supply)															
Tennessee Zone 4 200 Leg															
Tennessee Zone 0															
Tennessee Zone L															
Tennessee Long-Haul Pipeline Path															
Leidy Hub															
Texas Eastern Zone M-3															
Transco Zone 6, non-NY															
Algonquin Receipts Pipeline Path															
Iroquois Receipts Pipeline Path															
Tennessee Niagara Pipeline Path															
Total Pipeline	\$ 2.502	\$ 2.847	\$ 3.723	\$ 3.645	\$ 2.811	\$ 2.235	\$ 2.159	\$ 2.158	\$ 2.177	\$ 2.175	\$ 2.112	\$ 2.167	\$ 2.870	\$ 2.159	\$ 2.607
NH CM Pipeline (Leidy/M-3)															
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	\$ 2.497	\$ 2.829	\$ 3.612	\$ 3.542	\$ 2.806	\$ 2.236	\$ 2.161	\$ 2.161	\$ 2.180	\$ 2.179	\$ 2.117	\$ 2.169	\$ 2.825	\$ 2.162	\$ 2.573
Underground Storage															
Tennessee FS-MA Storage Path	\$ 2.137	\$ 2.137	\$ 2.137	\$ 2.137	\$ 2.137	\$ 2.137							\$ 2.137	\$ 2.137	
Union Dawn Storage Path	\$ 2.408	\$ 2.408	\$ 2.408	\$ 2.408	\$ 2.408								\$ 2.408	\$ 2.408	
Net Storage	\$ 2.408	\$ 2.403	\$ 2.386	\$ 2.387	\$ 2.382	\$ 2.137							\$ 2.391	\$ 2.391	
Peaking Supplies															
PNGTS Delivered (Dec - Feb)															
Maritimes Delivered															
Baseload Delivered Supplies															
Lewiston LNG															
Peaking Contract 1															
Off-System Peaking / Incremental Supply															
Total Peaking	\$ 8.306	\$ 8.568	\$ 6.577	\$ 8.499	\$ 7.411	\$ 4.065	\$ 4.015	\$ 3.998	\$ 3.988	\$ 3.986	\$ 3.971	\$ 3.968	\$ 7.692	\$ 3.988	\$ 7.675
NH Peaking Service - (On System)															
ME Peaking Service - (On-System)															
Net Peaking	\$ 8.306	\$ 8.603	\$ 6.610	\$ 8.529	\$ 7.436	\$ 4.065	\$ 4.015	\$ 3.998	\$ 3.988	\$ 3.986	\$ 3.971	\$ 3.968	\$ 7.724	\$ 3.988	\$ 7.706
Total NUI Commodity	\$ 3.490	\$ 4.286	\$ 4.252	\$ 4.344	\$ 3.435	\$ 2.241	\$ 2.166	\$ 2.167	\$ 2.188	\$ 2.185	\$ 2.122	\$ 2.172	\$ 3.836	\$ 2.167	\$ 3.497
Company Managed Sales	\$ 2.583	\$ 3.222	\$ 4.888	\$ 4.830	\$ 2.943	\$ 2.127	\$ 1.980	\$ 1.996	\$ 2.026	\$ 1.994	\$ 1.876	\$ 1.922	\$ 3.693	\$ 1.966	\$ 3.466
Net Commodity Costs	\$ 3.523	\$ 4.317	\$ 4.235	\$ 4.331	\$ 3.449	\$ 2.242	\$ 2.168	\$ 2.170	\$ 2.191	\$ 2.190	\$ 2.127	\$ 2.174	\$ 3.840	\$ 2.170	\$ 3.498

REDACTED

Estimated Delivered City-Gate Commodity Costs and Volumes November 2019 through April 2020			
Denotes Confidential Information			
Supply Source	Delivered City-Gate Costs	Delivered City-Gate Volumes	Delivered Cost per Dth
Tennessee FS-MA Storage Path		209,918	
FS-MA Path (TGP Zone 4 313 Pool Supply)		186,266	
Union Dawn Storage Path (Dawn Supply)		995,831	
Union Dawn Storage Path		3,040,687	
Peaking Contract 1		346,792	
Algonquin Receipts Pipeline Path		227,682	
Tennessee Niagara Pipeline Path		292,118	
Tennessee Long-Haul Pipeline Path		1,593,091	
Iroquois Receipts Pipeline Path		953,715	
Lewiston LNG		113,960	
Maritimes Delivered		1,140,000	
PNGTS Delivered (Dec - Feb)		680,111	
Total Delivered Commodity Cost	\$37,654,220	9,780,171	\$3.850

Total NUI Commodity	\$	37,654,220		9,780,171	\$	3.850
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REDACTED

Estimated Delivered City-Gate Commodity Costs and Volumes May 2020 through October 2020			
Denotes Confidential Information			
Supply Source	Delivered City-Gate Costs	Delivered City-Gate Volumes	Delivered Cost per Dth
Algonquin Receipts Pipeline Path		230,184	
FS-MA Path (TGP Zone 4 313 Pool Supply)		400,538	
Union Dawn Storage Path (Dawn Supply)		1,852,455	
Tennessee Niagara Pipeline Path		141	
Lewiston LNG		11,040	
Total Delivered Commodity Cost	\$5,403,957	2,494,357	\$2.166

Total NUI Commodity	\$	5,403,957	2,494,357	\$	2.166
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Source of Supply: Tennessee Zone 0
Delivered to Northern via Tennessee and Granite Pipelines

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	2019-2020 Winter
1	Purchased Volumes	Line 22	109,726	116,830	116,830	109,292	116,830	14,072	583,580
2	City Gate Delivered Volume	Line 34	103,678	110,390	110,390	103,268	110,390	13,297	551,414
3	Total Purchase Cost	Line 2 times Line 3							
4	Variable Transportation Costs	Sum Lines 26 and 36	\$ 32,835	\$ 34,961	\$ 34,961	\$ 32,705	\$ 34,961	\$ 4,211	\$ 174,635
5	Total City Gate Delivered Costs	Sum Lines 4 and 5							
6	Average Delivered Price	Line 6 divided by Line 2							
7									
8	<u>Tennessee Zone 0 Supply Costs</u>								
9	Purchased Volumes	Sendout Optimization	109,726	116,830	116,830	109,292	116,830	14,072	583,580
10	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2.324	\$ 2.485	\$ 2.588	\$ 2.556	\$ 2.473	\$ 2.277	\$ 2.481
11	NYMEX Cost	Line 9 times Line 10	\$ 255,004	\$ 290,322	\$ 302,355	\$ 279,351	\$ 288,920	\$ 32,042	\$ 1,447,994
12	NYMEX Basis Price	Sch 30-FXW, Line 1 of Page 1							
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 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	109,726	116,830	116,830	109,292	116,830	14,072	583,580
23	Fuel Loss Rate	Sch 30-FXW, Line 31 of Page 2	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%
24	Delivered Volume	Line 22 times (1 - Line 23)	104,043	110,778	110,778	103,631	110,778	13,343	553,350
25	Variable Transportation Rate	Sch 30-FXW, Line 18 of Page 2	\$ 0.3143	\$ 0.3143	\$ 0.3143	\$ 0.3143	\$ 0.3143	\$ 0.3143	\$ 0.3143
26	Variable Transportation Costs	Line 24 times Line 25	\$ 32,701	\$ 34,817	\$ 34,817	\$ 32,571	\$ 34,817	\$ 4,194	\$ 173,918
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	104,043	110,778	110,778	103,631	110,778	13,343	553,350
33	Fuel Loss Rate	Sch 30-FXW, Line 28 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)	103,678	110,390	110,390	103,268	110,390	13,297	551,414
35	Variable Transportation Rate	Sch 30-FXW, Line 15 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	\$ 135	\$ 144	\$ 144	\$ 134	\$ 144	\$ 17	\$ 717

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

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	2019-2020 Winter
1	Purchased Volumes	Line 22	201,497	215,393	215,393	201,497	215,393	49,023	1,098,196
2	City Gate Delivered Volume	Line 34	191,736	204,959	204,959	191,736	204,959	46,648	1,044,997
3	Total Purchase Cost	Line 2 times Line 3							
4	Variable Transportation Costs	Sum Lines 26 and 36	\$ 53,123	\$ 56,787	\$ 56,787	\$ 53,123	\$ 56,787	\$ 12,925	\$ 289,532
5	Total City Gate Delivered Costs	Sum Lines 4 and 5							
6	Average Delivered Price	Line 6 divided by Line 2							
7									
8	<u>Tennessee Zone L Supply Costs</u>								
9	Purchased Volumes	Sendout Optimization	201,497	215,393	215,393	201,497	215,393	49,023	1,098,196
10	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2.324	\$ 2.485	\$ 2.588	\$ 2.556	\$ 2.473	\$ 2.277	\$ 2.477
11	NYMEX Cost	Line 9 times Line 10	\$ 468,278	\$ 535,252	\$ 557,437	\$ 515,026	\$ 532,667	\$ 111,626	\$ 2,720,285
12	NYMEX Basis Price	Sch 30-FXW, Line 2 of Page 1							
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 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	201,497	215,393	215,393	201,497	215,393	49,023	1,098,196
23	Fuel Loss Rate	Sch 30-FXW, Line 32 of Page 2	4.51%	4.51%	4.51%	4.51%	4.51%	4.51%	4.51%
24	Delivered Volume	Line 22 times (1 - Line 23)	192,409	205,679	205,679	192,409	205,679	46,812	1,048,667
25	Variable Transportation Rate	Sch 30-FXW, Line 19 of Page 2	\$ 0.2748	\$ 0.2748	\$ 0.2748	\$ 0.2748	\$ 0.2748	\$ 0.2748	\$ 0.2748
26	Variable Transportation Costs	Line 24 times Line 25	\$ 52,874	\$ 56,521	\$ 56,521	\$ 52,874	\$ 56,521	\$ 12,864	\$ 288,174
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	192,409	205,679	205,679	192,409	205,679	46,812	1,048,667
33	Fuel Loss Rate	Sch 30-FXW, Line 28 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)	191,736	204,959	204,959	191,736	204,959	46,648	1,044,997
35	Variable Transportation Rate	Sch 30-FXW, Line 15 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	\$ 249	\$ 266	\$ 266	\$ 249	\$ 266	\$ 61	\$ 1,358

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 Exchange Agreement

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	2019-2020 Winter
2	Purchased Volumes	Line 9	54,880	56,709	56,709	53,051	56,709	18,289	296,348
3	City Gate Delivered Volume	Line 45	54,169	55,974	55,974	52,363	55,974	18,052	292,506
4	Total Purchase Cost	Line 15							
5	Variable Transportation Costs	Sum Lines 27, 37 and 47	\$ 4,387	\$ 4,533	\$ 4,533	\$ 4,240	\$ 4,533	\$ 1,462	\$ 23,687
6	Total City Gate Delivered Costs	Sum Lines 3 and 4							
7	Average Delivered Price	Line 5 divided by Line 2							
8									
9	<u>Niagara Supply Costs</u>								
10	Purchased Volumes	Sendout Optimization	54,880	56,709	56,709	53,051	56,709	18,289	296,348
11	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2.324	\$ 2.485	\$ 2.588	\$ 2.556	\$ 2.473	\$ 2.277	\$ 2.472
12	NYMEX Cost	Line 9 times Line 10	\$ 127,541	\$ 140,923	\$ 146,764	\$ 135,598	\$ 140,243	\$ 41,644	\$ 732,713
13	NYMEX Basis Price	Sch 30-FXW, Line 3 of Page 1							
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	<u>Transportation Fuel Losses and Variable Charges</u>								
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	33,046	34,147	34,147	31,944	34,147	11,015	178,446
24	Fuel Loss Rate	Sch 30-FXW, Line 34 of Page 2	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%
25	Delivered Volume	Line 23 times (1 - Line 24)	32,732	33,823	33,823	31,641	33,823	10,911	176,751
26	Variable Transportation Rate	Sch 30-FXW, Line 21 of Page 2	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794
27	Variable Transportation Costs	Line 25 times Line 26	\$ 2,599	\$ 2,686	\$ 2,686	\$ 2,512	\$ 2,686	\$ 866	\$ 14,034
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	21,835	22,562	22,562	21,107	22,562	7,274	117,902
34	Fuel Loss Rate	Sch 30-FXW, Line 34 of Page 2	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%
35	Delivered Volume	Line 33 times (1 - Line 34)	21,627	22,348	22,348	20,906	22,348	7,205	116,782
36	Variable Transportation Rate	Sch 30-FXW, Line 21 of Page 2	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794
37	Variable Transportation Costs	Line 35 times Line 36	\$ 1,717	\$ 1,774	\$ 1,774	\$ 1,660	\$ 1,774	\$ 572	\$ 9,272
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	54,359	56,171	56,171	52,547	56,171	18,115	293,533
44	Fuel Loss Rate	Sch 30-FXW, Line 28 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)	54,169	55,974	55,974	52,363	55,974	18,052	292,506
46	Variable Transportation Rate	Sch 30-FXW, Line 15 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	\$ 70	\$ 73	\$ 73	\$ 68	\$ 73	\$ 23	\$ 380

Source of Supply: Iroquois Receipts (Interconnect of TransCanada and Iroquois 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-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	2019-2020 Winter
2	Purchased Volumes	Line 9	190,902	197,265	197,265	184,538	197,265	-	967,236
3	City Gate Delivered Volume	Line 38	188,367	194,474	194,474	181,927	194,474	-	953,715
4	Total Purchase Cost	Line 15							
5	Variable Transportation Costs	Sum Lines 30, 40, 50, 60, 70 and 80	\$ 30,244	\$ 31,253	\$ 31,253	\$ 29,236	\$ 31,253	\$ -	\$ 153,239
6	Total City Gate Delivered Costs	Sum Lines 3 and 4							
7	Average Delivered Price	Line 5 divided by Line 2							
8									
9	<u>Iroquois Receipts Supply Costs</u>								
10	Purchased Volumes	Sendout Optimization	190,902	197,265	197,265	184,538	197,265	-	967,236
11	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2,324	\$ 2,485	\$ 2,588	\$ 2,556	\$ 2,473	\$ 2,277	\$ 2,485
12	NYMEX Cost	Line 9 times Line 10	\$ 443,656	\$ 490,204	\$ 510,523	\$ 471,680	\$ 487,837	\$ -	\$ 2,403,900
13	NYMEX Basis Price	Sch 30-FXW, Line 4 of Page 1							
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	<u>Transportation Fuel Losses and Variable Charges</u>								
19	Transportation Segment 5								
20	Iroquois Pipeline (Contract R181001)								
21	Receipt Point: Waddington								
22	Delivery Point: Wright (Interconnection with Tennessee)								
23	Total Contract Received Volume	Sendout Optimization	190,902	197,265	197,265	184,538	197,265	-	967,236
24	Received Volume	Line 10	190,902	197,265	197,265	184,538	197,265	-	967,236
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	190,902	197,265	197,265	184,538	197,265	-	967,236
27	Fuel Loss Rate	Sch 30-FXW, Line 34 of Page 2	0.00%	0.00%	0.00%	0.00%	0.00%	-	0.00%
28	Delivered Volume	Line 26 times (1 - Line 27)	190,902	197,265	197,265	184,538	197,265	-	967,236
29	Variable Transportation Rate	Sch 30-FXW, Line 21 of Page 2	\$ 0.0047	\$ 0.0047	\$ 0.0047	\$ 0.0047	\$ 0.0047	\$ -	\$ -
30	Variable Transportation Costs	Line 28 times Line 29	\$ 897	\$ 927	\$ 927	\$ 867	\$ 927	\$ -	\$ -
31									
32	Transportation 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	41,858	43,253	43,253	40,462	43,253	-	212,079
37	Fuel Loss Rate	Sch 30-FXW, Line 34 of Page 2	0.95%	0.95%	0.95%	0.95%	0.95%	-	0.95%
38	City Gate Delivered Volume	Line 36 times (1 - Line 37)	41,460	42,842	42,842	40,078	42,842	-	210,064
39	Variable Transportation Rate	Sch 30-FXW, Line 21 of Page 2	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ -	\$ 0.0794
40	Variable Transportation Costs	Line 38 times Line 39	\$ 3,292	\$ 3,402	\$ 3,402	\$ 3,182	\$ 3,402	\$ -	\$ 16,679
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	19,837	20,498	20,498	19,176	20,498	-	100,506
47	Fuel Loss Rate	Sch 30-FXW, Line 34 of Page 2	0.95%	0.95%	0.95%	0.95%	0.95%	-	0.95%
48	Delivered Volume	Line 46 times (1 - Line 47)	19,648	20,303	20,303	18,993	20,303	-	99,551
49	Variable Transportation Rate	Sch 30-FXW, Line 21 of Page 2	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ -	\$ 0.0794
50	Variable Transportation Costs	Line 48 times Line 49	\$ 1,560	\$ 1,612	\$ 1,612	\$ 1,508	\$ 1,612	\$ -	\$ 7,904
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	19,648	20,303	20,303	18,993	20,303	-	99,551
57	Fuel Loss Rate	Sch 30-FXW, Line 28 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)	19,580	20,232	20,232	18,927	20,232	-	99,203
59	Variable Transportation Rate	Sch 30-FXW, Line 15 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	\$ 25	\$ 26	\$ 26	\$ 25	\$ 26	\$ -	\$ 129
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	129,207	133,514	133,514	124,901	133,514	-	654,651
67	Fuel Loss Rate	Sch 30-FXW, Line 34 of Page 2	0.95%	0.95%	0.95%	0.95%	0.95%	-	0.95%
68	Delivered Volume	Line 66 times (1 - Line 67)	127,980	132,246	132,246	123,714	132,246	-	648,432
69	Variable Transportation Rate	Sch 30-FXW, Line 21 of Page 2	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ -	\$ 0.0794
70	Variable Transportation Costs	Line 68 times Line 69	\$ 10,162	\$ 10,500	\$ 10,500	\$ 9,823	\$ 10,500	\$ -	\$ 51,486
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	123,714	132,246	-	648,432
77	Fuel Loss Rate	Sch 30-FXW, Line 26 of Page 2	0.51%	0.64%	0.64%	0.64%	0.64%	-	0.61%
78	City Gate Delivered Volume	Line 76 times (1 - Line 77)	127,327	131,400	131,400	122,922	131,400	-	644,448
79	Variable Transportation Rate	Sch 30-FXW, Line 13 of Page 2	\$ 0.1124	\$ 0.1125	\$ 0.1125	\$ 0.1125	\$ 0.1125	\$ -	\$ 0.1125
80	Variable Transportation Costs	Line 78 times Line 79	\$ 14,308	\$ 14,785	\$ 14,785	\$ 13,831	\$ 14,785	\$ -	\$ 72,495

Source of Supply: Leidy Hub
Delivered to Northern via Texas Eastern, Algonquin and Bay State Exchange

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	2019-2020 Winter
1	Purchased Volumes	Line 9	29,296	30,284	30,284	28,331	30,284	29,296	177,775
2	City Gate Delivered Volume	Line 40	28,802	29,724	29,724	27,806	29,724	28,802	174,581
3	Total Purchase Cost	Line 15							
4	Variable Transportation Costs	Sum Lines 29, 42	\$ 3,091	\$ 3,192	\$ 3,192	\$ 2,986	\$ 3,192	\$ 3,091	\$ 18,745
5	Total City Gate Delivered Costs	Sum Lines 3 and 4							
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	<u>Iroquois Receipts Supply Costs</u>								
9	Purchased Volumes	Sendout Optimization	29,296	30,284	30,284	28,331	30,284	29,296	177,775
10	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2.324	\$ 2.485	\$ 2.588	\$ 2.556	\$ 2.473	\$ 2.277	\$ 2.451
11	NYMEX Cost	Line 9 times Line 10	\$ 68,083	\$ 75,257	\$ 78,376	\$ 72,413	\$ 74,893	\$ 66,706	\$ 435,729
12	NYMEX Basis Price	Sch 30-FXW, Line 7 of Page 1							
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 5								
19	Iroquois Pipeline (Contract R181001)								
20	Receipt Point: Waddington								
21	Delivery Point: Wright (Interconnection with Tennessee)								
22	Total Contract Received Volume	Sendout Optimization	29,296	30,284	30,284	28,331	30,284	29,296	177,775
23	Received Volume	Line 9	29,296	30,284	30,284	28,331	30,284	29,296	177,775
24	Percentage Allocated	Line 23 divided by Line 22	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100%
25	Received Volume	Line 14	29,296	30,284	30,284	28,331	30,284	29,296	177,775
26	Fuel Loss Rate	Sch 30-FXW, Line 35 of Page 2	1.18%	1.22%	1.22%	1.22%	1.22%	1.18%	1.21%
27	Delivered Volume	Line 25 times (1 - Line 26)	28,950	29,915	29,915	27,985	29,915	28,950	175,630
28	Variable Transportation Rate	Sch 30-FXW, Line 22 of Page 2	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ -
29	Variable Transportation Costs	Line 27 times Line 28	\$ 1,320	\$ 1,364	\$ 1,364	\$ 1,276	\$ 1,364	\$ 1,320	\$ -
30									
31	Transporation Segment 6A								
32	Tennessee Gas Pipeline (Contract 95196)								
33	Receipt Point: Wright								
34	Delivery Point: Bay State City Gate (Delivered to Northern via Exchange Agreement)								
35	Total Contract Received Volume	Sendout Optimization	29,098	30,108	30,108	28,165	30,108	29,098	176,685
36	Received Volume	Line 22	28,950	29,915	29,915	27,985	29,915	28,950	175,630
37	Percentage Allocated	Line 36 divided by Line 35	99.49%	99.36%	99.36%	99.36%	99.36%	99.49%	99%
38	Received Volume	Line 27	28,950	29,915	29,915	27,985	29,915	28,950	175,630
39	Fuel Loss Rate	Sch 30-FXW, Line 27 of Page 2	0.51%	0.64%	0.64%	0.64%	0.64%	0.51%	0.60%
40	City Gate Delivered Volume	Line 38 times (1 - Line 39)	28,802	29,724	29,724	27,806	29,724	28,802	174,581
41	Variable Transportation Rate	Sch 30-FXW, Line 14 of Page 2	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615
42	Variable Transportation Costs	Line 40 times Line 41	\$ 1,771	\$ 1,828	\$ 1,828	\$ 1,710	\$ 1,828	\$ 1,771	\$ 10,737

Source of Supply: Texas Eastern Zone M-3
Delivered to Northern via Texas Eastern, Algonquin and Bay State Exchange

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	2019-2020 Winter
1	Purchased Volumes	Line 9	148	193	193	180	193	148	1,055
2	City Gate Delivered Volume	Line 27	148	191	191	179	191	148	1,049
3	Total Purchase Cost	Line 15							
4	Variable Transportation Costs	Line 29	\$ 9	\$ 12	\$ 12	\$ 11	\$ 12	\$ 9	\$ 64
5	Total City Gate Delivered Costs	Sum Lines 3 and 4							
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	<u>Iroquois Receipts Supply Costs</u>								
9	Purchased Volumes	Sendout Optimization	148	193	193	180	193	148	1,055
10	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2.324	\$ 2.485	\$ 2.588	\$ 2.556	\$ 2.473	\$ 2.277	\$ 2.462
11	NYMEX Cost	Line 9 times Line 10	\$ 345	\$ 479	\$ 499	\$ 461	\$ 477	\$ 338	\$ 2,598
12	NYMEX Basis Price	Sch 30-FXW, Line 6 of Page 1							
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 5								
19	Iroquois Pipeline (Contract R181001)								
20	Receipt Point: Waddington								
21	Delivery Point: Wright (Interconnection with Tennessee)								
22	Total Contract Received Volume	Sendout Optimization	29,098	30,108	30,108	28,165	30,108	29,098	176,685
23	Received Volume	Line 9	148	193	193	180	193	148	1,055
24	Percentage Allocated	Line 23 divided by Line 22	0.51%	0.64%	0.64%	0.64%	0.64%	0.51%	1%
25	Received Volume	Line 14	148	193	193	180	193	148	1,055
26	Fuel Loss Rate	Sch 30-FXW, Line 27 of Page 2	0.51%	0.64%	0.64%	0.64%	0.64%	0.51%	0.60%
27	City Gate Delivered Volume	Line 25 times (1 - Line 26)	148	191	191	179	191	148	1,049
28	Variable Transportation Rate	Sch 30-FXW, Line 14 of Page 2	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ -
29	Variable Transportation Costs	Line 27 times Line 28	\$ 9	\$ 12	\$ 12	\$ 11	\$ 12	\$ 9	\$ -

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-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	2019-2020 Winter
1	Purchased Volumes	Line 9	8,624	8,923	8,923	8,347	8,923	8,624	52,365
2	City Gate Delivered Volume	Sum Lines 24	8,580	8,866	8,866	8,294	8,866	8,580	52,052
3	Total Purchase Cost	Line 15							
4	Variable Transportation Costs	Sum Lines 26	\$ 528	\$ 545	\$ 545	\$ 510	\$ 545	\$ 528	\$ 3,201
5	Total City Gate Delivered Costs	Sum Lines 3 and 4							
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	8,624	8,923	8,923	8,347	8,923	8,624	52,365
10	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2.324	\$ 2.485	\$ 2.588	\$ 2.556	\$ 2.473	\$ 2.277	\$ 2.451
11	NYMEX Cost	Line 9 times Line 10	\$ 20,042	\$ 22,174	\$ 23,093	\$ 21,336	\$ 22,067	\$ 19,637	\$ 128,349
12	NYMEX Basis Price	Sch 30-FXW, Line 5 of Page 1							
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	8,624	8,923	8,923	8,347	8,923	8,624	52,365
23	Fuel Loss Rate	Sch 30-FXW, Line 27 of Page 2	0.51%	0.64%	0.64%	0.64%	0.64%	0.51%	1.20%
24	City Gate Delivered Volume	Line 22 times (1 - Line 23)	8,580	8,866	8,866	8,294	8,866	8,580	52,052
25	Variable Transportation Rate	Sch 30-FXW, Line 14 of Page 2	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615
26	Variable Transportation Costs	Line 24 times Line 25	\$ 528	\$ 545	\$ 545	\$ 510	\$ 545	\$ 528	\$ 3,201

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

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	2019-2020 Winter
1	Purchased Volumes	Line 9	66,431	56,460	-	-	602	65,984	189,478
2	City Gate Delivered Volume	Line 37	65,305	55,503	-	-	592	64,866	186,266
3	Total Purchase Cost	Line 15							
4	Variable Transportation Costs	Sum Lines 29 and 39	\$ 6,979	\$ 5,932	\$ -	\$ -	\$ 63	\$ 6,932	\$ 19,906
5	Total City Gate Delivered Costs	Sum Lines 3 and 4							
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	<u>Tennessee Zone 4 Supply Costs</u>								
9	Purchased Volumes	Sendout Optimization	66,431	56,460	-	-	602	65,984	189,478
10	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2,324	\$ 2,485	\$ 2,588	\$ 2,556	\$ 2,473	\$ 2,277	\$ 2,356
11	NYMEX Cost	Line 9 times Line 10	\$ 154,386	\$ 140,303	\$ -	\$ -	\$ 1,490	\$ 150,246	\$ 446,426
12	NYMEX Basis Price	Sch 30-FXW, Line 8 of Page 1							
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 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 Received Volume	Sendout Optimization	66,431	68,646	68,646	64,217	68,646	66,431	403,016
23	Received Volume	Line 14	66,431	56,460	-	-	602	65,984	189,478
24	Percentage Allocated	Line 23 divided by Line 22	100.00%	82.25%	0.00%	0.00%	0.88%	99.33%	47.02%
25	Received Volume	Line 9	66,431	56,460	-	-	602	65,984	189,478
26	Fuel Loss Rate	Sch 30-FXW, Line 33 of Page 2	1.35%	1.35%			1.35%	1.35%	1.35%
27	Delivered Volume	Line 25 times (1 - Line 26)	65,534	55,698	-	-	594	65,093	186,920
28	Variable Transportation Rate	Sch 30-FXW, Line 20 of Page 2	\$ 0.1052	\$ 0.1052			\$ 0.1052	\$ 0.1052	\$ 0.1052
29	Variable Transportation Costs	Line 27 times Line 28	\$ 6,894	\$ 5,859	\$ -	\$ -	\$ 63	\$ 6,848	\$ 19,664
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	65,534	55,698	-	-	594	65,093	186,920
36	Fuel Loss Rate	Sch 30-FXW, Line 28 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)	65,305	55,503	-	-	592	64,866	186,266
38	Variable Transportation Rate	Sch 30-FXW, Line 15 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	\$ 85	\$ 72	\$ -	\$ -	\$ 1	\$ 84	\$ 242

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

Line	City Gate Delivered Costs	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	2019-2020 Winter
1	Gross Withdrawn Volume	Line 9	-	12,185	68,646	64,217	68,043	447	213,538
2	City Gate Delivered Volume	Line 38	-	11,979	67,482	63,128	66,890	439	209,918
3	Total Withdrawal Costs	Line 16	\$ -	\$ 24,319	\$ 136,996	\$ 128,158	\$ 135,794	\$ 892	\$ 426,158
4	Variable Transportation Costs	Sum Lines 30 and 40	\$ -	\$ 1,280	\$ 7,212	\$ 6,746	\$ 7,148	\$ 47	\$ 22,434
5	Total City Gate Delivered Costs	Line 3 plus Line 4	\$ -	\$ 25,599	\$ 144,208	\$ 134,904	\$ 142,942	\$ 939	\$ 448,592
6	Average Delivered Price	Line 5 divided by Line 2		\$ 2.137	\$ 2.137	\$ 2.137	\$ 2.137	\$ 2.137	\$ 2.137
7									
8	<u>Tennessee FS-MA Withdrawn Inventory (Segment 1)</u>								
9	Gross Withdrawn Volume	Sendout Optimization	-	12,185	68,646	64,217	68,043	447	213,538
10	Withdrawal Rate	Sch 30-FXW, Line 1 of Page 3		\$ 0.0087	\$ 0.0087	\$ 0.0087	\$ 0.0087	\$ 0.0087	\$ 0.0087
11	Withdrawal Charges	Line 9 times Line 10	\$ -	\$ 106	\$ 597	\$ 559	\$ 592	\$ 4	\$ 1,858
12	Inventory Rate	Sch 10-CAK		\$ 1.9870	\$ 1.9870	\$ 1.9870	\$ 1.9870	\$ 1.9870	\$ 1.9870
13	Withdrawn Inventory Value	Line 9 times Line 12	\$ -	\$ 24,213	\$ 136,399	\$ 127,599	\$ 135,202	\$ 888	\$ 424,300
14	Withdrawal Fuel Losses	Sch 30-FXW, Line 1 of Page 3 times Line 9	-	-	-	-	-	-	-
15	Net Withdrawn Volume	Line 9 minus Line 14	-	12,185	68,646	64,217	68,043	447	213,538
16	Total Withdrawal Costs	Line 11 plus Line 13	\$ -	\$ 24,319	\$ 136,996	\$ 128,158	\$ 135,794	\$ 892	\$ 426,158
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 Received Volume	Sendout Optimization	66,431	68,646	68,646	64,217	68,646	66,431	403,016
24	Received Volume	Line 15	-	12,185	68,646	64,217	68,043	447	213,538
25	Percentage Allocated	Line 24 divided by Line 23	0.00%	17.75%	100.00%	100.00%	99.12%	0.67%	52.98%
26	Received Volume	Line 24	-	12,185	68,646	64,217	68,043	447	213,538
27	Fuel Loss Rate	Sch 30-FXW, Line 33 of Page 2		1.35%	1.35%	1.35%	1.35%	1.35%	1.35%
28	Delivered Volume	Line 26 times (1 - Line 27)	-	12,021	67,719	63,350	67,125	441	210,655
29	Variable Transportation Rate	Sch 30-FXW, Line 20 of Page 2		\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052
30	Variable Transportation Costs	Line 28 times Line 29	\$ -	\$ 1,265	\$ 7,124	\$ 6,664	\$ 7,062	\$ 46	\$ 22,161
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	-	12,021	67,719	63,350	67,125	441	210,655
37	Fuel Loss Rate	Sch 30-FXW, Line 28 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)	-	11,979	67,482	63,128	66,890	439	209,918
39	Variable Transportation Rate	Sch 30-FXW, Line 15 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	\$ -	\$ 16	\$ 88	\$ 82	\$ 87	\$ 1	\$ 273

Source of Supply: Union Dawn Storage Inventory
Delivered to Northern via TransCanada, PNGTS and Granite Pipelines

Line	City Gate Delivered Costs	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	2019-2020 Winter
1	Gross Withdrawn Volume	Line 9	321,568	670,064	772,246	785,299	657,758	-	3,206,935
2	City Gate Delivered Volume	Line 64	310,102	646,173	744,712	757,300	634,305	-	3,092,592
3	Total Withdrawal Costs	Line 16	\$ 746,037	\$ 1,554,550	\$ 1,791,610	\$ 1,821,894	\$ 1,525,998	\$ -	\$ 7,440,089
4	Variable Transportation Costs	Sum Lines 30, 43, 56 and 66	\$ 808	\$ 1,683	\$ 1,940	\$ 1,972	\$ 1,652	\$ -	\$ 8,055
5	Total City Gate Delivered Costs	Line 3 plus Line 4	\$ 746,845	\$ 1,556,233	\$ 1,793,550	\$ 1,823,867	\$ 1,527,650	\$ -	\$ 7,448,144
6	Average Delivered Price	Line 5 divided by Line 2	\$ 2.408	\$ 2.408	\$ 2.408	\$ 2.408	\$ 2.408	\$ -	\$ 2.408
7									
8	<u>Washington 10 Withdrawn Inventory (Segment 1)</u>								
9	Gross Withdrawn Volume	Sendout Optimization	321,568	670,064	772,246	785,299	657,758	-	3,206,935
10	Withdrawal Rate	Sch 30-FXW, Line 3 of Page 3	\$ 0.005	\$ 0.005	\$ 0.005	\$ 0.005	\$ 0.005	\$ -	\$ 0.005
11	Withdrawal Charges	Line 9 times Line 10	\$ 1,608	\$ 3,350	\$ 3,861	\$ 3,926	\$ 3,289	\$ -	\$ 16,035
12	Inventory Rate	Sch 10-CAK	\$ 2,315	\$ 2,315	\$ 2,315	\$ 2,315	\$ 2,315	\$ -	\$ 2,315
13	Withdrawn Inventory Value	Line 9 times Line 12	\$ 744,430	\$ 1,551,199	\$ 1,787,749	\$ 1,817,968	\$ 1,522,709	\$ -	\$ 7,424,055
14	Withdrawal Fuel Losses	Sch 30-FXW, Line 3 of Page 3 times Line 1	\$ 1,929,413	\$ 4,020,386	\$ 4,633,484	\$ 4,711,792	\$ 3,946,533	\$ -	\$ 19,241,608
15	Net Withdrawn Volume	Line 9 minus Line 14	319,638	666,044	767,612	780,587	653,811	-	3,187,693
16	Total Withdrawal Costs	Line 11 plus Line 13	\$ 746,037	\$ 1,554,550	\$ 1,791,610	\$ 1,821,894	\$ 1,525,998	\$ -	\$ 7,440,089
17									
18	Transportation Fuel Losses and Variable Charges								
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 Received Volume	Sendout Optimization	448,732	669,022	768,550	785,704	736,419	818,443	4,226,870
24	Received Volume	Line 15	319,638	666,044	767,612	780,587	653,811	-	3,187,693
25	Percentage Allocated	Line 24 divided by Line 23	71.23%	99.55%	99.88%	99.35%	88.78%	0.00%	75.41%
26	Received Volume	Line 24	319,638	666,044	767,612	780,587	653,811	-	3,187,693
27	Fuel Loss Rate	Sch 30-FXW, Line 37 of Page 2	1.04%	1.04%	1.04%	1.04%	1.04%	-	1.04%
28	Delivered Volume	Line 26 times (1 - Line 27)	316,308	659,104	759,614	772,454	646,998	-	3,154,478
29	Variable Transportation Rate	Sch 30-FXW, Line 24 of Page 2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
30	Variable Transportation Costs	Line 28 times Line 29	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
31									
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 Received Volume	Sendout Optimization	444,056	662,050	760,542	777,517	728,745	813,655	4,186,566
37	Received Volume	Line 28	316,308	659,104	759,614	772,454	646,998	-	3,154,478
38	Percentage Allocated	Line 37 divided by Line 36	71.23%	99.55%	99.88%	99.35%	88.78%	0.00%	75.35%
39	Received Volume	Line 37	316,308	659,104	759,614	772,454	646,998	-	3,154,478
40	Fuel Loss Rate	Sch 30-FXW, Line 36 of Page 2	1.52%	1.52%	1.52%	1.52%	1.52%	-	1.52%
41	Delivered Volume	Line 39 times (1 - Line 40)	311,503	649,092	748,075	760,720	637,170	-	3,106,561
42	Variable Transportation Rate	Sch 30-FXW, Line 23 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 Received Volume	Sendout Optimization	437,311	651,994	748,989	765,707	717,676	801,295	4,122,972
50	Received Volume	Line 41	311,503	649,092	748,075	760,720	637,170	-	3,106,561
51	Percentage Allocated	Line 50 divided by Line 49	71.23%	99.55%	99.88%	99.35%	88.78%	0.00%	75.35%
52	Total Contract Received Volume	Sendout Optimization	311,503	649,092	748,075	760,720	637,170	-	3,106,561
53	Fuel Loss Rate	Sch 30-FXW, Line 30 of Page 2	0.10%	0.10%	0.10%	0.10%	0.10%	-	0.10%
54	Delivered Volume	Line 52 times (1 - Line 53)	311,192	648,443	747,327	759,959	636,533	-	3,103,455
55	Variable Transportation Rate	Sch 30-FXW, Line 17 of Page 2	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ -	\$ 0.0013
56	Variable Transportation Costs	Line 54 times Line 55	\$ 405	\$ 843	\$ 972	\$ 988	\$ 827	\$ -	\$ 4,034
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	311,192	648,443	747,327	759,959	636,533	-	3,103,455
63	Fuel Loss Rate	Sch 30-FXW, Line 28 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)	310,102	646,173	744,712	757,300	634,305	-	3,092,592
65	Variable Transportation Rate	Sch 30-FXW, Line 15 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	\$ 403	\$ 840	\$ 968	\$ 984	\$ 825	\$ -	\$ 4,020

Source of Supply: PNGTS (Westbrook, ME)
Delivered to Northern via Granite Pipeline

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	2019-2020 Winter
1	Purchased Volumes	Line 9	129,094	2,977	938	5,117	82,608	818,443	1,039,176
2	City Gate Delivered Volume	Line 65	125,242	2,889	910	4,964	80,143	797,692	1,011,841
3	Total Purchase Cost	Line 15							
4	Variable Transportation Costs	Sum Lines 30, 44, 58 and 67	\$ 326	\$ 8	\$ 2	\$ 13	\$ 209	\$ 2,078	\$ 2,635
5	Total City Gate Delivered Costs	Sum Lines 3 and 4							
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	<u>Portland Supply Costs</u>								
9	Purchased Volumes	Sendout Optimization	129,094	2,977	938	5,117	82,608	818,443	1,039,176
10	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2,324	\$ 2,485	\$ 2,588	\$ 2,556	\$ 2,473	\$ 2,277	\$ 2,301
11	NYMEX Cost	Line 9 times Line 10	\$ 300,013	\$ 7,399	\$ 2,428	\$ 13,079	\$ 204,289	\$ 1,863,594	\$ 2,390,802
12	NYMEX Basis Price	Sch 30-FXW, Line 10 of Page 1							
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 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 Received Volume	Sendout Optimization	448,732	669,022	768,550	785,704	736,419	818,443	4,226,870
24	Received Volume	Line 9	129,094	2,977	938	5,117	82,608	818,443	1,039,176
25	Percentage Allocated	Line 24 divided by Line 23	28.77%	0.45%	0.12%	0.65%	11.22%	100.00%	24.59%
26	Received Volume	Line 9	129,094	2,977	938	5,117	82,608	818,443	1,039,176
27	Fuel Loss Rate	Sch 30-FXW, Line 37 of Page 2	1.04%	1.04%	1.04%	1.04%	1.04%	0.59%	0.68%
28	Delivered Volume	Line 26 times (1 - Line 27)	127,748	2,946	928	5,064	81,747	813,655	1,032,088
29	Variable Transportation Rate	Sch 30-FXW, Line 24 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 Received Volume	Sendout Optimization	444,056	662,050	760,542	777,517	728,745	813,655	4,186,566
38	Received Volume	Line 28	127,748	2,946	928	5,064	81,747	813,655	1,032,088
39	Percentage Allocated	Line 38 divided by Line 37	28.77%	0.45%	0.12%	0.65%	11.22%	100.00%	24.65%
40	Received Volume	Line 28	127,748	2,946	928	5,064	81,747	813,655	1,032,088
41	Fuel Loss Rate	Sch 30-FXW, Line 36 of Page 2	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%
42	Delivered Volume	Line 40 times (1 - Line 41)	125,808	2,902	914	4,987	80,505	801,295	1,016,411
43	Variable Transportation Rate	Sch 30-FXW, Line 23 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 Received Volume	Sendout Optimization	437,311	651,994	748,989	765,707	717,676	801,295	4,122,972
52	Received Volume	Line 42	125,808	2,902	914	4,987	80,505	801,295	1,016,411
53	Percentage Allocated	Line 52 divided by Line 51	28.77%	0.45%	0.12%	0.65%	11.22%	100.00%	24.65%
54	Received Volume	Line 42	125,808	2,902	914	4,987	80,505	801,295	1,016,411
55	Fuel Loss Rate	Sch 30-FXW, Line 30 of Page 2	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
56	Delivered Volume	Line 54 times (1 - Line 55)	125,682	2,899	913	4,982	80,425	800,494	1,015,395
57	Variable Transportation Rate	Sch 30-FXW, Line 17 of Page 2	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013
58	Variable Transportation Costs	Line 56 times Line 57	\$ 163	\$ 4	\$ 1	\$ 6	\$ 105	\$ 1,041	\$ 1,320
59									
60	Granite State Gas Transmission (Contract 14-001-FT-NN)								
61	Receipt Point: Westbrook, Newington, Eliot								
62	Delivery Point: Northern City Gates								
63	Received Volume	Line 56	125,682	2,899	913	4,982	80,425	800,494	1,015,395
64	Fuel Loss Rate	Sch 30-FXW, Line 28 of Page 2	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
65	City Gate Delivered Volume	Line 63 times (1 - Line 64)	125,242	2,889	910	4,964	80,143	797,692	1,011,841
66	Variable Transportation Rate	Sch 30-FXW, Line 15 of Page 2	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013
67	Variable Transportation Costs	Line 65 times Line 66	\$ 163	\$ 4	\$ 1	\$ 6	\$ 104	\$ 1,037	\$ 1,315

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

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	2019-2020 Winter
1	Purchased Volumes	Line 9	225,000	232,500	232,500	217,500	232,500	-	1,140,000
2	City Gate Delivered Volume	Line 1	225,000	232,500	232,500	217,500	232,500	-	1,140,000
3	Total Purchase Cost	Line 15							
4	Variable Transportation Costs	N/A	\$	-	\$	-	\$	-	\$
5	Total City Gate Delivered Costs	Sum Lines 3 and 4							
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	<u>Maritimes Supply Costs</u>								
9	Purchased Volumes	Sendout Optimization	225,000	232,500	232,500	217,500	232,500	-	1,140,000
10	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2.324	\$ 2.485	\$ 2.588	\$ 2.556	\$ 2.473	\$ 2.277	\$ 2.485
11	NYMEX Cost	Line 9 times Line 10	\$ 522,900	\$ 577,763	\$ 601,710	\$ 555,930	\$ 574,973	\$	\$ 2,833,275
12	NYMEX Basis Price	Sch 30-FXW, Line 13 of Page 1							
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							

Source of Supply: PNGTS (Westbrook, ME)
Delivered to Northern via Granite Pipeline

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	2019-2020 Winter
1	Purchased Volumes	Line 9	-	232,500	232,500	217,500	-	-	682,500
2	City Gate Delivered Volume	Line 24	-	231,686	231,686	216,739	-	-	680,111
3	Total Purchase Cost	Line 15							
4	Variable Transportation Costs	Line 26	\$ -	\$ 301	\$ 301	\$ 282	\$ -	\$ -	\$ 884
5	Total City Gate Delivered Costs	Sum Lines 3 and 4							
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	<u>Portland Supply Costs</u>								
9	Purchased Volumes	Sendout Optimization	-	232,500	232,500	217,500	-	-	682,500
10	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2.324	\$ 2.485	\$ 2.588	\$ 2.556	\$ 2.473	\$ 2.277	\$ 2.543
11	NYMEX Cost	Line 9 times Line 10	\$ -	\$ 577,763	\$ 601,710	\$ 555,930	\$ -	\$ -	\$ 1,735,403
12	NYMEX Basis Price	Sch 30-FXW, Line 14 of Page 1							
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: Granite (Westbrook)								
21	Delivery Point: Northern City Gates								
22	Received Volume	Line 9	-	232,500	232,500	217,500	-	-	682,500
23	Fuel Loss Rate	Sch 30-FXW, Line 28 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)	-	231,686	231,686	216,739	-	-	680,111
25	Variable Transportation Rate	Sch 30-FXW, Line 15 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	\$ -	\$ 301	\$ 301	\$ 282	\$ -	\$ -	\$ 884

Source of Supply: Northern LNG Inventory
On-System Storage

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	2019-2020 Winter
1	Gross Withdrawn Volume	Line 9	1,755	24,580	51,214	1,696	31,347	3,369	113,960
2	City Gate Delivered Volume	Line 15	1,755	24,580	51,214	1,696	31,347	3,369	113,960
3	Total Withdrawal Costs	Line 16							
4	Variable Transportation Costs	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	Total City Gate Delivered Costs	Line 3 plus Line 4							
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	<u>Northern LNG Withdrawn Inventory</u>								
9	Gross Withdrawn Volume	Sendout Optimization	1,755	24,580	51,214	1,696	31,347	3,369	113,960
10	Withdrawal Rate	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11	Withdrawal Charges	Line 9 times Line 10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12	Inventory Rate	Sch 10-CAK							
13	Withdrawn Inventory Value	Line 9 times Line 12							
14	Withdrawal Fuel Losses	N/A	-	-	-	-	-	-	-
15	Net Withdrawn Volume	Line 9 minus Line 14	1,755	24,580	51,214	1,696	31,347	3,369	113,960
16	Total Withdrawal Costs	Line 11 plus Line 13							

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

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	2019-2020 Winter							
1	Purchased Volumes	Line 9	-	23,338	275,428	46,466	29,363	-	374,595							
2	City Gate Delivered Volume	Line 24	-	23,256	274,464	46,304	29,260	-	373,284							
3	Total Purchase Cost	Line 15														
4	Variable Transportation Costs	Line 26	\$	-	\$	30	\$	357	\$	60	\$	38	\$	-	\$	485
5	Total City Gate Delivered Costs	Sum Lines 3 and 4														
6	Average Delivered Price	Line 5 divided by Line 2														
7																
8	<u>Peaking Contract 1 Costs</u>															
9	Purchased Volumes	Sendout Optimization	-	23,338	275,428	46,466	29,363	-	374,595							
10	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$	2.324	\$	2.485	\$	2.588	\$	2.556	\$	2.473	\$	2.277	\$	2.569
11	NYMEX Cost	Line 9 times Line 10	\$	-	\$	57,995	\$	712,809	\$	118,768	\$	72,614	\$	-	\$	962,185
12	NYMEX Basis Price	Sch 30-FXW, Line 15 of Page 1														
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: Pleasant St.															
21	Delivery Point: Northern City Gates															
22	Received Volume	Line 9	-	23,338	275,428	46,466	29,363	-	374,595							
23	Fuel Loss Rate	Sch 30-FXW, Line 28 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)	-	23,256	274,464	46,304	29,260	-	373,284							
25	Variable Transportation Rate	Sch 30-FXW, Line 15 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	\$	-	\$	30	\$	357	\$	60	\$	38	\$	-	\$	485

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 Exchange Agreement

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	2020 Summer
2	Purchased Volumes	Line 9	-	-	-	-	-	518	518
3	City Gate Delivered Volume	Line 45	-	-	-	-	-	511	511
4	Total Purchase Cost	Line 15							
5	Variable Transportation Costs	Sum Lines 27, 37 and 47	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 41	\$ 41
6	Total City Gate Delivered Costs	Sum Lines 3 and 4							
7	Average Delivered Price	Line 5 divided by Line 2							
8									
9	<u>Niagara Supply Costs</u>								
10	Purchased Volumes	Sendout Optimization	-	-	-	-	-	518	518
11	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2.261	\$ 2.297	\$ 2.336	\$ 2.345	\$ 2.329	\$ 2.354	\$ 2.354
12	NYMEX Cost	Line 9 times Line 10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,219	\$ 1,219
13	NYMEX Basis Price	Sch 30-FXW, Line 3 of Page 1							
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	<u>Transportation Fuel Losses and Variable Charges</u>								
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	-	-	-	-	-	-	-
24	Fuel Loss Rate	Sch 30-FXW, Line 34 of Page 2	-	-	-	-	-	-	-
25	Delivered Volume	Line 23 times (1 - Line 24)	-	-	-	-	-	-	-
26	Variable Transportation Rate	Sch 30-FXW, Line 21 of Page 2	-	-	-	-	-	-	-
27	Variable Transportation Costs	Line 25 times Line 26	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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	-	-	-	-	-	518	518
34	Fuel Loss Rate	Sch 30-FXW, Line 34 of Page 2	-	-	-	-	-	0.95%	0.95%
35	Delivered Volume	Line 33 times (1 - Line 34)	-	-	-	-	-	513	513
36	Variable Transportation Rate	Sch 30-FXW, Line 21 of Page 2	-	-	-	-	-	\$ 0.0794	\$ 0.0794
37	Variable Transportation Costs	Line 35 times Line 36	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 41	\$ 41
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	-	-	-	-	-	513	513
44	Fuel Loss Rate	Sch 30-FXW, Line 28 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)	-	-	-	-	-	511	511
46	Variable Transportation Rate	Sch 30-FXW, Line 15 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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1	\$ 1

Source of Supply: Leidy Hub
Delivered to Northern via Texas Eastern, Algonquin and Bay State Exchange

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	2020 Summer
1	Purchased Volumes	Line 9	30,272	29,296	30,272	30,272	29,296	30,272	179,680
2	City Gate Delivered Volume	Line 40	29,762	28,802	29,762	29,762	28,802	29,762	176,654
3	Total Purchase Cost	Line 15							
4	Variable Transportation Costs	Sum Lines 29, 42	\$ 3,195	\$ 3,091	\$ 3,195	\$ 3,195	\$ 3,091	\$ 3,195	\$ 18,961
5	Total City Gate Delivered Costs	Sum Lines 3 and 4							
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	<u>Iroquois Receipts Supply Costs</u>								
9	Purchased Volumes	Sendout Optimization	30,272	29,296	30,272	30,272	29,296	30,272	179,680
10	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2.261	\$ 2.297	\$ 2.336	\$ 2.345	\$ 2.329	\$ 2.354	\$ 2.320
11	NYMEX Cost	Line 9 times Line 10	\$ 68,445	\$ 67,292	\$ 70,716	\$ 70,988	\$ 68,230	\$ 71,261	\$ 416,932
12	NYMEX Basis Price	Sch 30-FXW, Line 7 of Page 1							
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 5								
19	Iroquois Pipeline (Contract R181001)								
20	Receipt Point: Waddington								
21	Delivery Point: Wright (Interconnection with Tennessee)								
22	Total Contract Received Volume	Sendout Optimization	30,272	29,296	30,272	30,272	29,296	30,272	179,680
23	Received Volume	Line 9	30,272	29,296	30,272	30,272	29,296	30,272	179,680
24	Percentage Allocated	Line 23 divided by Line 22	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100%
25	Received Volume	Line 14	30,272	29,296	30,272	30,272	29,296	30,272	179,680
26	Fuel Loss Rate	Sch 30-FXW, Line 35 of Page 2	1.18%	1.18%	1.18%	1.18%	1.18%	1.18%	1.18%
27	Delivered Volume	Line 25 times (1 - Line 26)	29,915	28,950	29,915	29,915	28,950	29,915	177,560
28	Variable Transportation Rate	Sch 30-FXW, Line 22 of Page 2	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456
29	Variable Transportation Costs	Line 27 times Line 28	\$ 1,364	\$ 1,320	\$ 1,364	\$ 1,364	\$ 1,320	\$ 1,364	\$ 8,097
30									
31	Transporation Segment 6A								
32	Tennessee Gas Pipeline (Contract 95196)								
33	Receipt Point: Wright								
34	Delivery Point: Bay State City Gate (Delivered to Northern via Exchange Agreement)								
35	Total Contract Received Volume	Sendout Optimization	30,068	29,098	30,068	30,068	29,098	30,068	178,470
36	Received Volume	Line 22	29,915	28,950	29,915	29,915	28,950	29,915	177,560
37	Percentage Allocated	Line 36 divided by Line 35	99.49%	99.49%	99.49%	99.49%	99.49%	99.49%	99%
38	Received Volume	Line 27	29,915	28,950	29,915	29,915	28,950	29,915	177,560
39	Fuel Loss Rate	Sch 30-FXW, Line 27 of Page 2	0.51%	0.51%	0.51%	0.51%	0.51%	0.51%	0.51%
40	City Gate Delivered Volume	Line 38 times (1 - Line 39)	29,762	28,802	29,762	29,762	28,802	29,762	176,654
41	Variable Transportation Rate	Sch 30-FXW, Line 14 of Page 2	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615
42	Variable Transportation Costs	Line 40 times Line 41	\$ 1,830	\$ 1,771	\$ 1,830	\$ 1,830	\$ 1,771	\$ 1,830	\$ 10,864

Source of Supply: Texas Eastern Zone M-3
Delivered to Northern via Texas Eastern, Algonquin and Bay State Exchange

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	2020 Summer
1	Purchased Volumes	Line 9	153	148	153	153	148	153	910
2	City Gate Delivered Volume	Line 27	153	148	153	153	148	153	906
3	Total Purchase Cost	Line 15							
4	Variable Transportation Costs	Line 29							
5	Total City Gate Delivered Costs	Sum Lines 3 and 4							
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	<u>Iroquois Receipts Supply Costs</u>								
9	Purchased Volumes	Sendout Optimization	153	148	153	153	148	153	910
10	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2.261	\$ 2.297	\$ 2.336	\$ 2.345	\$ 2.329	\$ 2.354	\$ 2.320
11	NYMEX Cost	Line 9 times Line 10	\$ 347	\$ 341	\$ 358	\$ 360	\$ 346	\$ 361	\$ 2,112
12	NYMEX Basis Price	Sch 30-FXW, Line 6 of Page 1							
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 5								
19	Iroquois Pipeline (Contract R181001)								
20	Receipt Point: Waddington								
21	Delivery Point: Wright (Interconnection with Tennessee)								
22	Total Contract Received Volume	Sendout Optimization	30,068	29,098	30,068	30,068	29,098	30,068	178,470
23	Received Volume	Line 9	153	148	153	153	148	153	910
24	Percentage Allocated	Line 23 divided by Line 22	0.51%	0.51%	0.51%	0.51%	0.51%	0.51%	1%
25	Received Volume	Line 14	153	148	153	153	148	153	910
26	Fuel Loss Rate	Sch 30-FXW, Line 27 of Page 2	0.51%	0.51%	0.51%	0.51%	0.51%	0.51%	0.51%
27	City Gate Delivered Volume	Line 25 times (1 - Line 26)	153	148	153	153	148	153	906
28	Variable Transportation Rate	Sch 30-FXW, Line 14 of Page 2	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615
29	Variable Transportation Costs	Line 27 times Line 28	\$ 9	\$ 9	\$ 9	\$ 9	\$ 9	\$ 9	\$ 56

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-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	2020 Summer
1	Purchased Volumes	Line 9	8,911	8,624	8,911	8,911	8,624	8,911	52,894
2	City Gate Delivered Volume	Sum Lines 24	8,866	8,580	8,866	8,866	8,580	8,866	52,624
3	Total Purchase Cost	Line 15							
4	Variable Transportation Costs	Sum Lines 26	\$ 545	\$ 528	\$ 545	\$ 545	\$ 528	\$ 545	\$ 3,236
5	Total City Gate Delivered Costs	Sum Lines 3 and 4							
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	8,911	8,624	8,911	8,911	8,624	8,911	52,894
10	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2.261	\$ 2.297	\$ 2.336	\$ 2.345	\$ 2.329	\$ 2.354	\$ 2.320
11	NYMEX Cost	Line 9 times Line 10	\$ 20,149	\$ 19,809	\$ 20,817	\$ 20,897	\$ 20,085	\$ 20,978	\$ 122,735
12	NYMEX Basis Price	Sch 30-FXW, Line 5 of Page 1							
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	8,911	8,624	8,911	8,911	8,624	8,911	52,894
23	Fuel Loss Rate	Sch 30-FXW, Line 27 of Page 2	0.51%	0.51%	0.51%	0.51%	0.51%	0.51%	1.20%
24	City Gate Delivered Volume	Line 22 times (1 - Line 23)	8,866	8,580	8,866	8,866	8,580	8,866	52,624
25	Variable Transportation Rate	Sch 30-FXW, Line 14 of Page 2	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615
26	Variable Transportation Costs	Line 24 times Line 25	\$ 545	\$ 528	\$ 545	\$ 545	\$ 528	\$ 545	\$ 3,236

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

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	2020 Summer
1	Purchased Volumes	Line 9	68,646	66,431	68,646	68,646	66,431	68,646	407,445
2	City Gate Delivered Volume	Line 37	67,482	65,305	67,482	67,482	65,305	67,482	400,538
3	Total Purchase Cost	Line 15							
4	Variable Transportation Costs	Sum Lines 29 and 39	\$ 7,212	\$ 6,979	\$ 7,212	\$ 7,212	\$ 6,979	\$ 7,212	\$ 42,805
5	Total City Gate Delivered Costs	Sum Lines 3 and 4							
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	<u>Tennessee Zone 4 Supply Costs</u>								
9	Purchased Volumes	Sendout Optimization	68,646	66,431	68,646	68,646	66,431	68,646	407,445
10	Monthly NYMEX Price	Sch 30-FXW, Line 16 of Page 1	\$ 2.261	\$ 2.297	\$ 2.336	\$ 2.345	\$ 2.329	\$ 2.354	\$ 2.320
11	NYMEX Cost	Line 9 times Line 10	\$ 155,208	\$ 152,593	\$ 160,356	\$ 160,974	\$ 154,718	\$ 161,592	\$ 945,440
12	NYMEX Basis Price	Sch 30-FXW, Line 8 of Page 1							
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 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 Received Volume	Sendout Optimization	68,646	66,431	68,646	68,646	66,431	68,646	
23	Received Volume	Line 14	68,646	66,431	68,646	68,646	66,431	68,646	
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	68,646	66,431	68,646	68,646	66,431	68,646	407,445
26	Fuel Loss Rate	Sch 30-FXW, Line 33 of Page 2	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%
27	Delivered Volume	Line 25 times (1 - Line 26)	67,719	65,534	67,719	67,719	65,534	67,719	401,944
28	Variable Transportation Rate	Sch 30-FXW, Line 20 of Page 2	\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052
29	Variable Transportation Costs	Line 27 times Line 28	\$ 7,124	\$ 6,894	\$ 7,124	\$ 7,124	\$ 6,894	\$ 7,124	\$ 42,285
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	67,719	65,534	67,719	67,719	65,534	67,719	401,944
36	Fuel Loss Rate	Sch 30-FXW, Line 28 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)	67,482	65,305	67,482	67,482	65,305	67,482	400,538
38	Variable Transportation Rate	Sch 30-FXW, Line 15 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	\$ 88	\$ 88	\$ 85	\$ 88	\$ 521

Source of Supply: Northern LNG Inventory
On-System Storage

Denotes Confidential Information

Line	City Gate Delivered Costs	Reference	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	2020 Summer
1	Gross Withdrawn Volume	Line 9	1,860	1,800	1,860	1,860	1,800	1,860	11,040
2	City Gate Delivered Volume	Line 15	1,860	1,800	1,860	1,860	1,800	1,860	11,040
3	Total Withdrawal Costs	Line 16							
4	Variable Transportation Costs	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	Total City Gate Delivered Costs	Line 3 plus Line 4							
6	Average Delivered Price	Line 5 divided by Line 2							
7									
8	<u>Northern LNG Withdrawn Inventory</u>								
9	Gross Withdrawn Volume	Sendout Optimization	1,860	1,800	1,860	1,860	1,800	1,860	11,040
10	Withdrawal Rate	N/A	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11	Withdrawal Charges	Line 9 times Line 10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12	Inventory Rate	Sch 10-CAK							
13	Withdrawn Inventory Value	Line 9 times Line 12							
14	Withdrawal Fuel Losses	N/A	-	-	-	-	-	-	-
15	Net Withdrawn Volume	Line 9 minus Line 14	1,860	1,800	1,860	1,860	1,800	1,860	11,040
16	Total Withdrawal Costs	Line 11 plus Line 13							

Formula for Supplier Balancing Charge

Balancing Resources

Line	NU Storage Capacity Costs (Fixed)		NU Storage Space (Dth)	Reference
1	\$ 139,855	TGP	259,337	Schedule 20-FXW, Page 4
2	<u>\$ 2,840,000</u>	Union	<u>4,000,000</u>	Schedule 20-FXW, Page 4
3	\$ 2,979,855	TOTAL	4,259,337	LN 1 + LN 2
4	Weighted Average Capacity Cost		\$ 0.6996 per Dth	LN 3 Cost / LN3 Space
NU Storage Commodity Costs (Variable)				
5	TGP FS-MA	Withdraw/Inject	\$ 0.0174	Schedule 25-FXW, PG 9, LN 10 * 2
6	Union	Withdraw/Inject	\$ 0.0100	Schedule 25-FXW, PG 10, LN 10 * 2
7	Weighted Average Commodity Cost		\$ 0.0105 per Dth	LN 5, LN 6 (weighted)
8	Supplier Balancing Charge		\$ 0.71 per Dth	LN 4 + LN 7

Re-entry Rate & Conversion Rate
Volumes and Revenues

Month	Re-entry Surcharge		Conversion Surcharge	
	Volumes	Revenues	Volumes	Revenues
May-18	8,248	\$70	0	\$0
Jun-18	26,333	\$224	0	\$0
Jul-18	1,847	\$16	0	\$0
Aug-18	2,167	\$18	0	\$0
Sep-18	2,016	\$17	0	\$0
Oct-18	3,811	\$32	0	\$0
Nov-18	12,558	\$107	0	\$0
Dec-18	0	\$0	0	\$0
Jan-19	0	\$0	0	\$0
Feb-19	0	\$0	0	\$0
Mar-19	0	\$0	0	\$0
Apr-19	0	\$0	0	\$0
May-19	0	\$0	0	\$0
Jun-19	0	\$0	0	\$0
Total		\$190	0	\$0

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

NU Short-Term Debt Limit Calculation (11/1/19 - 10/31/2020)		
<u><i>Fuel Financing Purposes</i></u>		
NU ME winter gas costs	33,225	
NU NH winter gas costs	21,187	
Total	54,412	
30% of total winter gas costs	16,324	(a)
<u><i>Non-Fuel Financing Purposes</i></u>		
Estimated net utility plant @ 12/31/19	494,704	
15% of Net Utility Plant	74,206	(b)
<u><i>Short-Term Debt Limit</i></u>		
Short Term Debt Limit	90,529	(a) + (b)

REDACTED

Northern Utilities, Inc.
Natural Gas Commodity Price Forecast
Based upon NYMEX Settlement for August 30, 2019

Denotes Confidential Information

		Estimated Adders to NYMEX Last Day Settlement											
Line	Supply Source	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20
1	Tennessee Zone 0												
2	Tennessee Zone L												
3	Tennessee Niagara												
4	Iroquois Receipts												
5	Transco Zone 6, non-NY												
6	Texas Eastern Zone M-3												
7	Leidy Hub												
8	Tennessee Zone 4 Station 313 Pool												
9	Tennessee Zone 4 Storage Injection												
10	Union Dawn Storage - Dawn Supply												
11	Union Dawn Storage Injection												
12	LNG Contract												
13	Maritimes Delivered Baseload												
14	PNGTS Delivered Baseload												
15	Peaking Contract 1												
16	NYMEX	\$ 2.32	\$ 2.49	\$ 2.59	\$ 2.56	\$ 2.47	\$ 2.28	\$ 2.26	\$ 2.30	\$ 2.34	\$ 2.35	\$ 2.33	\$ 2.35

Northern Utilities, Inc.
Transportation Contract Rates
November 2019 through October 2020
Fixed Demand Rates

Line	Pipeline	Rate Schedule	Receipt	Delivery	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20
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 6	\$ 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 7	\$ 5.4177	\$ 5.4177	\$ 5.4177	\$ 5.4177	\$ 5.4177	\$ 5.2357	\$ 5.2357	\$ 5.2357	\$ 5.2357	\$ 5.2357	\$ 5.2357	\$ 5.2357
5	PNGTS	FT	N/A	N/A	Page 8	\$ 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 9	\$ 20.8034	\$ 20.8034	\$ 20.8034	\$ 20.8034	\$ 20.8034	\$ 20.8034	\$ 20.8034	\$ 20.8034	\$ 20.8034	\$ 20.8034	\$ 20.8034	\$ 20.8034
7	Tennessee	FT-A	Zone L	Zone 6	Page 9	\$ 18.4662	\$ 18.4662	\$ 18.4662	\$ 18.4662	\$ 18.4662	\$ 18.4662	\$ 18.4662	\$ 18.4662	\$ 18.4662	\$ 18.4662	\$ 18.4662	\$ 18.4662
8	Tennessee	FT-A	Zone 4	Zone 6	Page 9	\$ 7.2992	\$ 7.2992	\$ 7.2992	\$ 7.2992	\$ 7.2992	\$ 7.2992	\$ 7.2992	\$ 7.2992	\$ 7.2992	\$ 7.2992	\$ 7.2992	\$ 7.2992
9	Tennessee	FT-A	Zone 5	Zone 6	Page 9	\$ 6.4110	\$ 6.4110	\$ 6.4110	\$ 6.4110	\$ 6.4110	\$ 6.4110	\$ 6.4110	\$ 6.4110	\$ 6.4110	\$ 6.4110	\$ 6.4110	\$ 6.4110
10	Texas Eastern	FT-1/FTS	M3	M3	Page 12	\$ 8.5810	\$ 8.5810	\$ 8.5810	\$ 8.5810	\$ 8.5810	\$ 8.5810	\$ 8.5810	\$ 8.5810	\$ 8.5810	\$ 8.5810	\$ 8.5810	\$ 8.5810
11	TransCanada	FT	Parkway	E. Hereford	Page 17	\$ 12.5819	\$ 12.5819	\$ 12.5819	\$ 12.5819	\$ 12.5819	\$ 12.5819	\$ 12.5819	\$ 12.5819	\$ 12.5819	\$ 12.5819	\$ 12.5819	\$ 12.5819
12	Union	M12	Dawn	Parkway	Page 17	\$ 2.7930	\$ 2.7930	\$ 2.7930	\$ 2.7930	\$ 2.7930	\$ 2.7930	\$ 2.7930	\$ 2.7930	\$ 2.7930	\$ 2.7930	\$ 2.7930	\$ 2.7930

Variable Transportation Commodity Rates

Line	Pipeline	Rate Schedule	Receipt	Delivery	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20
13	Algonquin	AFT-1 (AFT-2)	N/A	N/A	Page 4, 21	\$ 0.1118	\$ 0.1118	\$ 0.1118	\$ 0.1118	\$ 0.1118	\$ 0.1118	\$ 0.1118	\$ 0.1118	\$ 0.1118	\$ 0.1118	\$ 0.1118	\$ 0.1118
14	Algonquin	AFT-1 (F-2/F-3)	N/A	N/A	Page 4, 21	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615	\$ 0.0615
15	Granite	FT-NN	N/A	N/A	Page 6, 21	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013
16	Iroquois	RTS-1	Zone 1	Zone 1	Pages 7, 21	\$ 0.0047	\$ 0.0047	\$ 0.0047	\$ 0.0047	\$ 0.0047	\$ 0.0047	\$ 0.0047	\$ 0.0047	\$ 0.0047	\$ 0.0047	\$ 0.0047	\$ 0.0047
17	PNGTS	FT	N/A	N/A	Page 22	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013	\$ 0.0013
18	Tennessee	FT-A	Zone 0	Zone 6	Page 8, 21	\$ 0.3143	\$ 0.3143	\$ 0.3143	\$ 0.3143	\$ 0.3143	\$ 0.3143	\$ 0.3143	\$ 0.3143	\$ 0.3143	\$ 0.3143	\$ 0.3143	\$ 0.3143
19	Tennessee	FT-A	Zone L	Zone 6	Page 10, 11, 21	\$ 0.2748	\$ 0.2748	\$ 0.2748	\$ 0.2748	\$ 0.2748	\$ 0.2748	\$ 0.2748	\$ 0.2748	\$ 0.2748	\$ 0.2748	\$ 0.2748	\$ 0.2748
20	Tennessee	FT-A	Zone 4	Zone 6	Page 10, 11, 21	\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052	\$ 0.1052
21	Tennessee	FT-A	Zone 5	Zone 6	Page 10, 11, 21	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794	\$ 0.0794
22	Texas Eastern	FT-1/FTS	M3	M3	Page 10, 11, 21	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456	\$ 0.0456
23	TransCanada	FT	Parkway	E. Hereford	Page 17	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
24	Union	M12	Dawn	Parkway	Page 17	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
25	LNG Trucking		Everett, MA	LNG Plant		\$ 1.2300	\$ 1.2300	\$ 1.2300	\$ 1.2300	\$ 1.2300	\$ 1.2300	\$ 1.2300	\$ 1.2300	\$ 1.2300	\$ 1.2300	\$ 1.2300	\$ 1.2300

Transportation Fuel Rates

Line	Pipeline	Rate Schedule	Receipt	Delivery	Reference	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20
26	Algonquin	AFT-1 (AFT-2)	N/A	N/A	Page 5	0.51%	0.64%	0.64%	0.64%	0.64%	0.51%	0.51%	0.51%	0.51%	0.51%	0.51%	0.51%
27	Algonquin	AFT-1 (F-2/F-3)	N/A	N/A	Page 5	0.51%	0.64%	0.64%	0.64%	0.64%	0.51%	0.51%	0.51%	0.51%	0.51%	0.51%	0.51%
28	Granite	FT-NN	N/A	N/A	Page 6	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%	0.35%
29	Iroquois	RTS-1	Zone 1	Zone 1	12 Month Avg.	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
30	PNGTS	FT	N/A	N/A	12 Month Avg.	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
31	Tennessee	FT-A	Zone 0	Zone 6	Page 11	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%
32	Tennessee	FT-A	Zone L	Zone 6	Page 11	4.51%	4.51%	4.51%	4.51%	4.51%	4.51%	4.51%	4.51%	4.51%	4.51%	4.51%	4.51%
33	Tennessee	FT-A	Zone 4	Zone 6	Page 11	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%
34	Tennessee	FT-A	Zone 5	Zone 6	Page 11	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%
35	Texas Eastern	FT-1/FTS	M3	M3	Page 14,15	1.18%	1.22%	1.22%	1.22%	1.22%	1.18%	1.18%	1.18%	1.18%	1.18%	1.18%	1.18%
36	TransCanada	FT	Parkway	E. Hereford	12 Month Avg.	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%	1.52%
37	Union	M12	Dawn	Parkway	Page 22	1.04%	1.04%	1.04%	1.04%	1.04%	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%

Northern Utilities, Inc. Underground Storage Contract Rates November 2019 through October 2020										
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 12	\$ 0.0205	\$ 1.4938	\$ 0.0087	0.00%	\$ 0.0087	1.51%
2	Union	Storage	1	Page 24	\$ 0.0592	\$ -	\$ 0.005	0.60%	\$ 0.005	0.60%

Note 1 The demand charge for Union Storage shall be \$236,666.67 per month divided by Maximum Storage Balance of 4,000,000 Dth.
The Withdrawal Rate and Injection Rate are equal to \$0.007 CDN/GJ divided by 1.055056 (GJ/Dth conversion) times exchange rate.

Rate Schedule AFT-1
Firm Transportation Service

Maximum	Base-----\$/Dth -----	
Reservation Charge:	Tariff	Total
Conversion From:	Rate 1/	Rate
(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

	Base \$/Dth
Maximum Commodity Charge:	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

	Base \$/Dth
Maximum Authorized Overrun	Tariff
Commodity Charge:	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.

FUEL REIMBURSEMENT PERCENTAGES AND DEFERRAL SURCHARGE RATE

<u>Period</u>	<u>Duration</u>	<u>FRP</u>	<u>Surcharge Rate 2/</u>
SYSTEM SERVICES: 1/			
Winter	December 1 - March 31	0.64%	\$0.0490
Spring, Summer And Fall	April 1 - November 30	0.51%	\$0.0490
INCREMENTAL RAMAPO SERVICE: 1/			
Winter	December 1 - March 31	1.53%	\$0.0938
Spring, Summer And Fall	April 1 - November 30	0.76%	\$0.0938
INCREMENTAL AIM SERVICE: 1/			
Winter	December 1 - March 31	4.17%	\$0.0948
Spring, Summer And Fall	April 1 - November 30	1.88%	\$0.0948
INCREMENTAL ATLANTIC BRIDGE SERVICE: 1/			
Winter	December 1 - March 31	3.84%	\$0.1444
Spring, Summer And Fall	April 1 - November 30	2.86%	\$0.1444

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

2/ The Surcharge Rate must be added to the applicable AFT/AIT Commodity Charge in order to illustrate the total adjusted AFT/AIT Commodity Charge.

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

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.

Iroquois Gas Transmission System, L.P.
FERC Gas Tariff
Second Revised Volume No. 1

Fourth Revised Sheet No. 4
Superseding
Third Revised Sheet No. 4

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

	Minimum	RP16-301 Rates 2/ Maximum			RP19-445 Rates Maximum	
		Effective 9/1/2016	Effective 9/1/2017	Effective 9/1/2018	Effective 3/1/2019	Effective 4/1/2020
RTS DEMAND (Monthly):						
Zone 1	\$0.0000	\$ 6.1928	\$ 5.9982	\$ 5.5997	\$5.4177	\$5.2357
Zone 2	\$0.0000	\$ 5.3381	\$ 5.1678	\$ 4.7998	\$4.6438	\$4.4878
Inter-Zone	\$0.0000	\$10.4755	\$ 9.8672	\$ 8.8026	\$8.5165	\$8.2304
RTS COMMODITY (Daily):						
Zone 1	\$0.0034	\$ 0.0034	\$ 0.0034	\$ 0.0034	\$0.0034	\$0.0034
Zone 2	\$0.0022	\$ 0.0022	\$ 0.0022	\$ 0.0022	\$0.0022	\$0.0022
Inter-Zone	\$0.0056	\$ 0.0056	\$ 0.0056	\$ 0.0056	\$0.0056	\$0.0056
ITS COMMODITY (Daily):						
Zone 1	\$0.0034	\$ 0.2070	\$ 0.2006	\$ 0.1875	\$0.1815	\$0.1755
Zone 2	\$0.0022	\$ 0.1777	\$ 0.1721	\$ 0.1600	\$0.1549	\$0.1497
Inter-Zone	\$0.0056	\$ 0.3500	\$ 0.3300	\$ 0.2950	\$0.2856	\$0.2762
VOLUMETRIC CAPACITY RELEASE (Daily) 3/:						
Zone 1	\$0.0000	\$ 0.2036	\$ 0.1972	\$ 0.1841	\$0.1781	\$0.1721
Zone 2	\$0.0000	\$ 0.1755	\$ 0.1699	\$ 0.1578	\$0.1527	\$0.1475
Inter-Zone	\$0.0000	\$ 0.3444	\$ 0.3244	\$ 0.2894	\$0.2800	\$0.2706

**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

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RATES PER DEKATHERM

FIRM TRANSPORTATION RATES
RATE SCHEDULE FOR FT-ABase
Reservation Rates

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$4.9656		\$10.3766	\$13.9580	\$14.2050	\$15.6084	\$16.5676	\$20.7866
L		\$4.4083						
1	\$7.4753		\$7.1656	\$9.5360	\$13.5088	\$13.3040	\$15.0039	\$18.4494
2	\$13.9581		\$9.4788	\$4.9299	\$4.6086	\$5.8968	\$8.1104	\$10.4695
3	\$14.2050		\$7.5081	\$4.9697	\$3.5853	\$5.5074	\$9.9605	\$11.5097
4	\$18.0356		\$16.6272	\$6.3364	\$9.6295	\$4.7135	\$5.0976	\$7.2824
5	\$21.5048		\$15.1110	\$6.6468	\$8.0427	\$5.2363	\$4.9117	\$6.3942
6	\$24.8770		\$17.3562	\$11.9451	\$13.1593	\$9.2952	\$4.8900	\$4.2331

Daily Base
Reservation Rate 1/

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$0.1633		\$0.3411	\$0.4589	\$0.4670	\$0.5132	\$0.5447	\$0.6834
L		\$0.1449						
1	\$0.2458		\$0.2356	\$0.3135	\$0.4441	\$0.4374	\$0.4933	\$0.6066
2	\$0.4589		\$0.3116	\$0.1621	\$0.1515	\$0.1939	\$0.2666	\$0.3442
3	\$0.4670		\$0.2468	\$0.1634	\$0.1179	\$0.1811	\$0.3275	\$0.3784
4	\$0.5930		\$0.5466	\$0.2083	\$0.3166	\$0.1550	\$0.1676	\$0.2394
5	\$0.7070		\$0.4968	\$0.2185	\$0.2644	\$0.1722	\$0.1615	\$0.2102
6	\$0.8179		\$0.5706	\$0.3927	\$0.4326	\$0.3056	\$0.1608	\$0.1392

Maximum Reservation
Rates 2 /, 3 /

RECEIPT ZONE	DELIVERY ZONE							
	0	L	1	2	3	4	5	6
0	\$4.9824		\$10.3934	\$13.9748	\$14.2218	\$15.6252	\$16.5844	\$20.8034
L		\$4.4251						
1	\$7.4921		\$7.1824	\$9.5528	\$13.5256	\$13.3208	\$15.0207	\$18.4662
2	\$13.9749		\$9.4956	\$4.9467	\$4.6254	\$5.9136	\$8.1272	\$10.4863
3	\$14.2218		\$7.5249	\$4.9865	\$3.6021	\$5.5242	\$9.9773	\$11.5265
4	\$18.0524		\$16.6440	\$6.3532	\$9.6463	\$4.7303	\$5.1144	\$7.2992
5	\$21.5216		\$15.1278	\$6.6636	\$8.0595	\$5.2531	\$4.9285	\$6.4110
6	\$24.8938		\$17.3730	\$11.9619	\$13.1761	\$9.3120	\$4.9068	\$4.2499

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 \$0.0168.

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Pro Forma Sheet No. 15

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	\$0.2391	\$0.2282	\$0.2716
L		\$0.0012						
1	\$0.0042		\$0.0081	\$0.0147	\$0.0179	\$0.2033	\$0.2073	\$0.2367
2	\$0.0167		\$0.0087	\$0.0012	\$0.0028	\$0.0658	\$0.1055	\$0.1169
3	\$0.0207		\$0.0169	\$0.0026	\$0.0002	\$0.0879	\$0.1217	\$0.1329
4	\$0.0250		\$0.0205	\$0.0087	\$0.0105	\$0.0407	\$0.0576	\$0.0932
5	\$0.0284		\$0.0256	\$0.0100	\$0.0118	\$0.0573	\$0.0567	\$0.0705
6	\$0.0346		\$0.0300	\$0.0143	\$0.0163	\$0.0881	\$0.0478	\$0.0290

 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	\$0.0038		\$0.0121	\$0.0183	\$0.0225	\$0.2397	\$0.2288	\$0.2722
L		\$0.0018						
1	\$0.0048		\$0.0087	\$0.0153	\$0.0185	\$0.2039	\$0.2079	\$0.2373
2	\$0.0173		\$0.0093	\$0.0018	\$0.0034	\$0.0664	\$0.1061	\$0.1175
3	\$0.0213		\$0.0175	\$0.0032	\$0.0008	\$0.0885	\$0.1223	\$0.1335
4	\$0.0256		\$0.0211	\$0.0093	\$0.0111	\$0.0413	\$0.0582	\$0.0938
5	\$0.0290		\$0.0262	\$0.0106	\$0.0124	\$0.0579	\$0.0573	\$0.0711
6	\$0.0352		\$0.0306	\$0.0149	\$0.0169	\$0.0887	\$0.0484	\$0.0296

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 **\$0.0006**.

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Superseding
Fourteenth Revised Sheet No. 32

FUEL AND EPCR

F&LR 1/, 2/, 3/, 4/	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	0.46%		1.71%	2.68%	3.32%	3.86%	4.36%	5.18%
	L		0.17%						
	1	0.62%		1.21%	2.17%	2.71%	3.25%	3.95%	4.51%
	2	2.61%		1.30%	0.16%	0.41%	0.88%	1.57%	2.18%
	3	3.32%		2.64%	0.41%	0.02%	1.27%	1.89%	2.52%
	4	3.86%		3.01%	1.29%	1.56%	0.43%	0.73%	1.35%
	5	4.56%		3.95%	1.57%	1.89%	0.72%	0.72%	0.95%
	6	5.46%		4.72%	2.18%	2.52%	1.26%	0.55%	0.21%

Broad Run Expansion Project – Market Component (Z3-Z1): 5/ 4.62%

EPCR 3/, 4/	RECEIPT ZONE	DELIVERY ZONE							
		0	L	1	2	3	4	5	6
	0	\$0.0033		\$0.0129	\$0.0199	\$0.0248	\$0.0299	\$0.0340	\$0.0408
	L		\$0.0011						
	1	\$0.0045		\$0.0090	\$0.0165	\$0.0202	\$0.0251	\$0.0307	\$0.0353
	2	\$0.0199		\$0.0097	\$0.0010	\$0.0029	\$0.0065	\$0.0118	\$0.0162
	3	\$0.0248		\$0.0202	\$0.0029	\$0.0000	\$0.0095	\$0.0140	\$0.0187
	4	\$0.0299		\$0.0231	\$0.0096	\$0.0117	\$0.0031	\$0.0054	\$0.0101
	5	\$0.0340		\$0.0307	\$0.0118	\$0.0140	\$0.0053	\$0.0052	\$0.0070
	6	\$0.0408		\$0.0353	\$0.0162	\$0.0187	\$0.0094	\$0.0040	\$0.0014

Broad Run Expansion Project – Market Component (Z3-Z1): 5/ \$0.0308

- 1/ Included in the above F&LR is the Losses component of the F&LR equal to -0.04%.
- 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 0.00%.
- 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.
- 5/ The incremental F&LR and EPCR set forth above are applicable to a Shipper(s) utilizing capacity on the Broad Run Expansion Project – Market Component facilities, from any receipt point(s) to any delivery point(s) located on the project's transportation path. Any service provided to a Shipper(s) outside the project's transportation path shall be subject to the greater of the incremental F&LR and EPCR for the project or the applicable F&LR and EPCR for the applicable receipt(s) and delivery point(s) as shown in the rate matrices above. Included in the above F&LR is the Losses component of the F&LR equal to -0.04%.

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Pro Forma Sheet No. 61

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	\$1.8222	\$1.8222 1/		
Space Rate	\$0.0185	\$0.0185 1/		
Injection Rate	\$0.0073	\$0.0073	1.75%	\$0.0000
Withdrawal Rate	\$0.0073	\$0.0073		
Overrun Rate	\$0.2187	\$0.2187 1/		
FIRM STORAGE SERVICE (FS) - MARKET AREA				
=====				
Deliverability Rate	\$1.3386	\$1.3386 1/		
Space Rate	\$0.0183	\$0.0183 1/		
Injection Rate	\$0.0087	\$0.0087	1.75%	\$0.0000
Withdrawal Rate	\$0.0087	\$0.0087		
Overrun Rate	\$0.1607	\$0.1607 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 0.01%.

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*		FT-1 RESERVATION CHARGE ADJUSTMENT	
	\$/dth		\$/dth	
ACCESS AREA	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM
STX-AAB	8.3250	0.0000	0.2737	0.0000
WLA-AAB	4.3840	0.0000	0.1441	0.0000
ELA-AAB	2.9600	0.0000	0.0973	0.0000
ETX-AAB	3.0590	0.0000	0.1006	0.0000
STX-STX	5.7610	0.0000	0.1894	0.0000
STX-WLA	7.1850	0.0000	0.2362	0.0000
STX-ELA	8.3340	0.0000	0.2740	0.0000
STX-ETX	8.3340	0.0000	0.2740	0.0000
WLA-WLA	3.2450	0.0000	0.1067	0.0000
WLA-ELA	4.3930	0.0000	0.1444	0.0000
WLA-ETX	4.3930	0.0000	0.1444	0.0000
ELA-ELA	2.9690	0.0000	0.0976	0.0000
ETX-ETX	3.0680	0.0000	0.1009	0.0000
ETX-ELA	2.9690	0.0000	0.0976	0.0000
MARKET AREA	MAXIMUM	MINIMUM	MAXIMUM	MINIMUM
M1-M1	3.7800	0.0000	0.1243	0.0000
M1-M2	8.4490	0.0000	0.2778	0.0000
M1-M3	15.0690	0.0000	0.4954	0.0000
M2-M2	6.5010	0.0000	0.2137	0.0000
M2-M3	13.1090	0.0000	0.4310	0.0000
M3-M3	8.4410	0.0000	0.2775	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	0.0072	0.0080	0.0118	0.0118	0.0290	0.0598	0.0857
from WLA	0.0080	0.0042	0.0083	0.0083	0.0255	0.0563	0.0822
from ELA	0.0118	0.0083	0.0070	0.0070	0.0242	0.0550	0.0809
from ETX	0.0118	0.0083	0.0070	0.0070	0.0242	0.0550	0.0809
from M1	0.0290	0.0255	0.0242	0.0242	0.0172	0.0480	0.0739
from M2	0.0598	0.0563	0.0550	0.0550	0.0480	0.0335	0.0590
from M3	0.0857	0.0822	0.0809	0.0809	0.0739	0.0590	0.0279
USAGE-1 - MINIMUM							
from STX	0.0059	0.0067	0.0105	0.0105	0.0264	0.0573	0.0831
from WLA	0.0067	0.0030	0.0071	0.0071	0.0230	0.0539	0.0797
from ELA	0.0105	0.0071	0.0058	0.0058	0.0217	0.0526	0.0784
from ETX	0.0105	0.0071	0.0058	0.0058	0.0217	0.0526	0.0784
from M1	0.0264	0.0230	0.0217	0.0217	0.0159	0.0468	0.0726
from M2	0.0573	0.0539	0.0526	0.0526	0.0468	0.0322	0.0577
from M3	0.0831	0.0797	0.0784	0.0784	0.0726	0.0577	0.0267
USAGE-1 - BACKHAUL MAXIMUM							
from STX	0.0052						
from WLA		0.0027					
from ELA			0.0050				
from ETX				0.0050			
from M1				0.0223	0.0153		
from M2				0.0520	0.0449	0.0310	
from M3						0.0556	0.0258
USAGE-1 - BACKHAUL MINIMUM							
from STX	0.0039						
from WLA		0.0015					
from ELA			0.0038				
from ETX				0.0038			
from M1				0.0198	0.0140		
from M2				0.0495	0.0437	0.0297	
from M3						0.0543	0.0246
USAGE-2	0.1884	0.1884	0.1884	0.1884	0.3299	0.5142	0.7577

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

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	-0.29	-0.37	-0.83	-0.83	-0.78	-1.36	-1.78
Applicable	from WLA	0.38	0.08	-0.33	-0.33	-0.28	-0.86	-1.28
Shrinkage	from ELA	0.24	0.00	0.01	0.01	0.06	-0.52	-0.94
Adjustment	from ETX	0.20	0.00	0.01	0.01	0.06	-0.52	-0.94
Percentage	from M1	-0.78	-0.28	0.06	0.06	0.05	-0.53	-0.95
	from M2	-1.36	-0.86	-0.52	-0.52	-0.53	-0.25	-0.65
	from M3	-1.78	-1.28	-0.94	-0.94	-0.95	-0.65	-0.06
	from STX	0.80	0.88	1.29	1.29	2.30	3.34	4.03
Applicable	from WLA	0.88	0.58	1.05	1.05	2.06	3.10	3.79
Shrinkage	from ELA	1.29	1.05	1.06	1.06	2.07	3.11	3.80
Percentage	from ETX	1.29	1.05	1.06	1.06	2.07	3.11	3.80
	from M1	2.30	2.06	2.07	2.07	1.01	2.05	2.74
	from M2	3.34	3.10	3.11	3.11	2.05	1.55	2.25
	from M3	4.03	3.79	3.80	3.80	2.74	2.25	1.22
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				1.06			
Percentage	from M1				1.06	0.00		
	from M2				1.06	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				1.06			
	from M1				1.06	0.00		
	from M2				1.06	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 %		-1.13 %		1.73 %		
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 %		-0.03 %		0.05 %		

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.

CURRENTLY EFFECTIVE PERCENTAGES FOR APPLICABLE SHRINKAGE FOR ASA RATE SCHEDULES								
Effective During the Spring, Summer and Fall Periods: April 1 through November 30								
FOR TRANSPORTATION SERVICE		STX	WLA	ELA	ETX	M1	M2	M3
		(%)	(%)	(%)	(%)	(%)	(%)	(%)
	from STX	0.93	1.04	1.64	1.64	2.49	3.59	4.34
Base	from WLA	0.53	0.53	1.13	1.13	1.98	3.08	3.83
Applicable	from ELA	0.91	0.91	0.91	0.91	1.76	2.86	3.61
Shrinkage	from ETX	0.93	0.91	0.91	0.91	1.76	2.86	3.61
Percentage	from M1	2.49	1.98	1.76	1.76	0.85	1.95	2.70
	from M2	3.59	3.08	2.86	2.86	1.95	1.42	2.17
	from M3	4.34	3.83	3.61	3.61	2.70	2.17	1.07
	from STX	0.03	-0.04	-0.41	-0.41	-0.18	-0.78	-1.19
Applicable	from WLA	0.47	0.32	-0.03	-0.03	0.20	-0.40	-0.81
Shrinkage	from ELA	0.32	0.19	0.18	0.18	0.41	-0.19	-0.60
Adjustment	from ETX	0.30	0.19	0.18	0.18	0.41	-0.19	-0.60
Percentage	from M1	-0.18	0.20	0.41	0.41	0.23	-0.37	-0.78
	from M2	-0.78	-0.40	-0.19	-0.19	-0.37	-0.08	-0.49
	from M3	-1.19	-0.81	-0.60	-0.60	-0.78	-0.49	0.11
	from STX	0.96	1.00	1.23	1.23	2.31	2.81	3.15
Applicable	from WLA	1.00	0.85	1.10	1.10	2.18	2.68	3.02
Shrinkage	from ELA	1.23	1.10	1.09	1.09	2.17	2.67	3.01
Percentage	from ETX	1.23	1.10	1.09	1.09	2.17	2.67	3.01
	from M1	2.31	2.18	2.17	2.17	1.08	1.58	1.92
	from M2	2.81	2.68	2.67	2.67	1.58	1.34	1.68
	from M3	3.15	3.02	3.01	3.01	1.92	1.68	1.18
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				1.09			
Percentage	from M1				1.09	0.00		
	from M2				1.09	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				1.09			
	from M1				1.09	0.00		
	from M2				1.09	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)		2.70 %		-0.94 %		1.76 %		
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 %		-0.03 %		0.05 %		

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.

Canadian Transportation Rates

Line	Item	Units	Currently Approved Tolls	Reference
1	Union Parkway Belt to East Hereford on TCPL			
2	Demand Toll	\$CAD / GJ	\$ 14.75026	Page 19
3	Delivery Pressure Demand Toll	\$CAD / GJ	\$ 0.67038	Page 18
4	Abandonment Surcharge	\$CAD / GJ	\$ 1.31704	Page 19
5	Total Demand Toll	\$CAD / GJ	\$ 16.73768	Sum of Above
6	\$USD to \$CAD	Ratio	1.3303	6/12/19 Bank of Canada
7	Total Demand Toll	\$US / GJ	\$ 12.5819	Line 5 divided by Line 6
8	GJ per Dth	Ratio	1.055056	
9	Total Demand Toll	\$US / Dth	\$ 13.2746	Line 7 divided by Line 8
10				
11	Dawn to Parkway on Union Pipeline			
12	Total Demand Toll	\$CAD / GJ	\$ 3.7160	Page 20
13	\$USD to \$CAD	Ratio	1.3303	6/12/19 Bank of Canada
14	Total Demand Toll	\$US / GJ	\$ 2.7934	Line 12 divided by Line 13
15	GJ per Dth	Ratio	1.055056	
16	Total Demand Toll	\$US / Dth	\$ 2.9472	Line 14 divided by Line 15

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)
1	Union Parkway Belt to Union EDA	8.00558	0.2632	0.53199	0.0175

Delivery Pressure

Line No.	Particulars	Monthly Toll (\$/GJ/Month)	Daily Equivalent (\$/GJ)
	(a)	(b)	(c)
2	Average Delivery Pressure Toll	0.67038	0.0220

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)
3	Union Dawn Receipt Point Surcharge	0.14587	0.0048

Short Notice Balancing (SNB) Service

Line No.	Particulars	Monthly Toll (\$/GJ/Month)	Daily Equivalent (\$/GJ)
	(a)	(b)	(c)
4	SNB Toll	3.43648	0.1130

Note: This SNB Toll is a representative toll for the Eastern Region.

Energy Deficient Gas Allowance (EDGA) Service

Line No.	Particulars	Capacity Charge (\$/GJ/D)
	(a)	(b)
5	Western Section	1.2222
6	Eastern Section	0.2573

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 NDA	Enbridge CDA	-	0.3109	-	0.0279
2	Union NDA	Enbridge Parkway CDA	-	0.3140	-	0.0283
3	Union NDA	Enbridge EDA	-	0.3374	-	0.0310
4	Union NDA	KPUC EDA	-	0.3974	-	0.0378
5	Union NDA	Energir EDA	-	0.4369	-	0.0423
6	Union NDA	Enbridge SWDA	-	0.4158	-	0.0399
7	Union NDA	Union SWDA	-	0.4174	-	0.0401
8	Union NDA	Chippawa	-	0.3746	-	0.0352
9	Union NDA	Cornwall	-	0.3613	-	0.0337
10	Union NDA	East Hereford	-	0.5211	-	0.0520
11	Union NDA	Emerson 1	-	0.7626	-	0.0804
12	Union NDA	Emerson 2	-	0.7626	-	0.0804
13	Union NDA	Iroquois	-	0.3464	-	0.0320
14	Union NDA	Kirkwall	-	0.3312	-	0.0303
15	Union NDA	Napierville	-	0.4302	-	0.0416
16	Union NDA	Niagara Falls	-	0.3736	-	0.0351
17	Union NDA	North Bay Junction	-	0.1518	-	0.0099
18	Union NDA	Phillipsburg	-	0.4380	-	0.0425
19	Union NDA	Spruce	-	0.6995	-	0.0731
20	Union NDA	St. Clair	-	0.4228	-	0.0412
21	Union NDA	Welwyn	-	0.8732	-	0.0931
22	Union NDA	Dawn Export	-	0.4158	-	0.0399
23	Union Parkway Belt	Empress	44.68817	1.4692	4.46213	0.1467
24	Union Parkway Belt	TransGas SSDA	38.24166	1.2573	3.78505	0.1244
25	Union Parkway Belt	Centram SSDA	35.60058	1.1704	3.50735	0.1153
26	Union Parkway Belt	Centram MDA	31.60535	1.0391	3.08790	0.1015
27	Union Parkway Belt	Centrat MDA	31.29480	1.0289	3.05505	0.1004
28	Union Parkway Belt	Union WDA	24.40938	0.8025	2.33174	0.0767
29	Union Parkway Belt	Nipigon WDA	21.58275	0.7096	2.03488	0.0669
30	Union Parkway Belt	Union NDA	10.40311	0.3420	0.86049	0.0283
31	Union Parkway Belt	Calstock NDA	16.66773	0.5480	1.51840	0.0499
32	Union Parkway Belt	Tunis NDA	12.79873	0.4208	1.11203	0.0366
33	Union Parkway Belt	Energir NDA	9.92283	0.3262	0.81000	0.0266
34	Union Parkway Belt	Union SSM DA	14.89778	0.4898	1.33255	0.0438
35	Union Parkway Belt	Union NCDA	5.21920	0.1716	0.31573	0.0104
36	Union Parkway Belt	Union CDA	3.39085	0.1115	0.12380	0.0041
37	Union Parkway Belt	Union ECDA	2.65538	0.0873	0.04654	0.0015
38	Union Parkway Belt	Union EDA	7.27780	0.2393	0.53199	0.0175
39	Union Parkway Belt	Union Parkway Belt	2.48413	0.0817	0.02859	0.0009
40	Union Parkway Belt	Enbridge CDA	3.72330	0.1224	0.15878	0.0052
41	Union Parkway Belt	Enbridge Parkway CDA	2.48413	0.0817	0.02859	0.0009
42	Union Parkway Belt	Enbridge EDA	9.31997	0.3064	0.74673	0.0246
43	Union Parkway Belt	KPUC EDA	7.00009	0.2301	0.50279	0.0165
44	Union Parkway Belt	Energir EDA	11.96865	0.3935	1.02474	0.0337
45	Union Parkway Belt	Enbridge SWDA	5.85551	0.1925	0.38264	0.0126
46	Union Parkway Belt	Union SWDA	5.90905	0.1943	0.38842	0.0128
47	Union Parkway Belt	Chippawa	4.49163	0.1477	0.23938	0.0079
48	Union Parkway Belt	Cornwall	9.45715	0.3109	0.76103	0.0250
49	Union Parkway Belt	East Hereford	14.75026	0.4849	1.31704	0.0433
50	Union Parkway Belt	Emerson 1	29.48227	0.9693	2.86464	0.0942
51	Union Parkway Belt	Emerson 2	29.48227	0.9693	2.86464	0.0942
52	Union Parkway Belt	Iroquois	8.82783	0.2902	0.69502	0.0229
53	Union Parkway Belt	Kirkwall	3.05201	0.1003	0.08821	0.0029
54	Union Parkway Belt	Napierville	11.74023	0.3860	1.00101	0.0329
55	Union Parkway Belt	Niagara Falls	4.45604	0.1465	0.23573	0.0078
56	Union Parkway Belt	North Bay Junction	7.82590	0.2573	0.58978	0.0194
57	Union Parkway Belt	Phillipsburg	11.99968	0.3945	1.02808	0.0338
58	Union Parkway Belt	Spruce	31.29480	1.0289	3.05505	0.1004
59	Union Parkway Belt	St. Clair	6.20956	0.2042	0.41975	0.0138
60	Union Parkway Belt	Welwyn	35.60058	1.1704	3.50735	0.1153
61	Union Parkway Belt	Dawn Export	5.85551	0.1925	0.38264	0.0126
62	Union SSM DA	Empress	-	1.0386	-	0.1122
63	Union SSM DA	TransGas SSDA	-	0.8457	-	0.0900
64	Union SSM DA	Centram SSDA	-	0.7667	-	0.0809
65	Union SSM DA	Centram MDA	-	0.6471	-	0.0671
66	Union SSM DA	Centrat MDA	-	0.6467	-	0.0670
67	Union SSM DA	Union WDA	-	0.8702	-	0.0928
68	Union SSM DA	Nipigon WDA	-	0.9373	-	0.1006
69	Union SSM DA	Union NDA	-	0.6827	-	0.0712
70	Union SSM DA	Calstock NDA	-	0.8702	-	0.0928
71	Union SSM DA	Tunis NDA	-	0.7544	-	0.0794
72	Union SSM DA	Energir NDA	-	0.6684	-	0.0695
73	Union SSM DA	Union SSM DA	-	0.0743	-	0.0009
74	Union SSM DA	Union NCDA	-	0.5323	-	0.0533
75	Union SSM DA	Union CDA	-	0.4473	-	0.0435
76	Union SSM DA	Union ECDA	-	0.4549	-	0.0444
77	Union SSM DA	Union EDA	-	0.5944	-	0.0604
78	Union SSM DA	Union Parkway Belt	-	0.4497	-	0.0438
79	Union SSM DA	Enbridge CDA	-	0.4823	-	0.0475
80	Union SSM DA	Enbridge Parkway CDA	-	0.4497	-	0.0438
81	Union SSM DA	Enbridge EDA	-	0.6561	-	0.0674

Effective
2019-04-01
Rate M12
Page 1 of 4

ENBRIDGE GAS INC.
UNION SOUTH
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) <u>Rate/GJ</u>	<u>Fuel and Commodity Charges</u>		
		<u>Union Supplied Fuel</u>	<u>Shipper Supplied Fuel</u>	
		<u>Fuel and Commodity Charge</u> <u>Rate/GJ</u>	<u>Fuel</u> <u>Ratio %</u>	<u>Commodity Charge</u> <u>Rate/GJ</u>
<u>Firm Transportation (1), (5)</u>				
Dawn to Parkway	\$3.716	Monthly fuel and commodity rates shall be in accordance with schedule "C".	Monthly fuel ratios shall be in accordance with schedule "C".	
Dawn to Kirkwall	\$3.154			
Kirkwall to Parkway	\$0.561			
<u>M12-X Firm Transportation</u>				
Between Dawn, Kirkwall and Parkway	\$4.590	Monthly fuel and commodity rates shall be in accordance with schedule "C".	Monthly fuel ratios shall be in accordance with schedule "C".	
<u>Limited Firm/Interruptible Transportation (1)</u>				
Dawn to Parkway – Maximum	\$8.918	Monthly fuel and commodity rates shall be in accordance with schedule "C".	Monthly fuel ratios shall be in accordance with schedule "C".	
Dawn to Kirkwall – Maximum	\$8.918			
Parkway (TCPL / EGT) to Parkway (Cons) / Lisgar (2)	n/a	n/a	0.158%	

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

FY 2019 GAS ANNUAL CHARGES
CORRECTION FOR ANNUAL CHARGES UNIT CHARGE
June 18, 2019

The annual charges unit charge (ACA) to be applied to in fiscal year 2020 for recovery of FY 2019 Current year and 2018 True-Up is **\$0.0013** per Dekatherm (Dth). The new ACA surcharge will become effective October 1, 2019.

The following calculations were used to determine the FY 2019 unit charge:

2019 CURRENT:

Estimated Program Cost \$72,947,000 divided by 56,271,363,511 Dth = 0.0012963432

2018 TRUE-UP:

Debit/Credit Cost (\$1,595,692) divided by 49,876,999,197 Dth = (0.0000319925)

TOTAL UNIT CHARGE = 0.0012643507

If you have any questions, please contact Raven A. Rodriguez at (202)502-6276 or e-mail at Raven.Rodriguez@ferc.gov.

SCHEDULE "C"**UNION GAS LIMITED****M12 Monthly Transportation Fuel Ratios and Fuel Rates**

Firm or Interruptible Transportation Commodity

Effective October 1, 2018

Month	VT1 Easterly Dawn to Parkway (TCPL), Parkway (EGT) With Dawn Compression		VT1 Easterly Dawn to Kirkwall, Lisgar, Parkway (Consumers) With Dawn Compression		M12-X Westerly Kirkwall to Dawn	
	Fuel Ratio (%)	Fuel Rate (\$/GJ)	Fuel Ratio (%)	Fuel Rate (\$/GJ)	Fuel Ratio (%)	Fuel Rate (\$/GJ)
April	0.879	0.030	0.546	0.018	0.158	0.005
May	0.626	0.021	0.373	0.013	0.158	0.005
June	0.523	0.017	0.275	0.010	0.158	0.005
July	0.508	0.017	0.262	0.009	0.158	0.005
August	0.405	0.014	0.159	0.005	0.158	0.005
September	0.401	0.014	0.159	0.005	0.158	0.005
October	0.750	0.026	0.461	0.015	0.158	0.005
November	0.894	0.030	0.624	0.021	0.158	0.005
December	1.012	0.035	0.743	0.026	0.158	0.005
January	1.166	0.040	0.882	0.030	0.158	0.005
February	1.107	0.037	0.831	0.028	0.158	0.005
March	1.033	0.035	0.742	0.026	0.158	0.005

Month	M12-X Easterly Kirkwall to Parkway (TCPL), Parkway (EGT)		M12-X Easterly Kirkwall to Lisgar, Parkway (Consumers)		M12-X Westerly Parkway to Kirkwall, Dawn	
	Fuel Ratio (%)	Fuel Rate (\$/GJ)	Fuel Ratio (%)	Fuel Rate (\$/GJ)	Fuel Ratio (%)	Fuel Rate (\$/GJ)
April	0.491	0.016	0.158	0.005	0.301	0.011
May	0.411	0.014	0.158	0.005	0.301	0.011
June	0.406	0.014	0.158	0.005	0.301	0.011
July	0.404	0.014	0.158	0.005	0.301	0.011
August	0.404	0.014	0.158	0.005	0.301	0.011
September	0.400	0.014	0.158	0.005	0.301	0.011
October	0.448	0.016	0.158	0.005	0.301	0.011
November	0.427	0.015	0.158	0.005	0.158	0.005
December	0.428	0.015	0.158	0.005	0.158	0.005
January	0.442	0.016	0.158	0.005	0.158	0.005
February	0.434	0.015	0.158	0.005	0.158	0.005
March	0.449	0.016	0.158	0.005	0.158	0.005

Northern Utilities, Inc. Normal Year Weather - Sales Service Load and Company Managed Sales Commodity Volumes by Supply Source (Dth) November 2019 through October 2020														
Description	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Winter	Summer
Pipeline Supplies														
Tennessee Long-Haul Pipeline Path	295,414	315,349	315,349	295,004	315,349	59,945	0	0	0	0	0	0	1,596,410	0
Algonquin Receipts Pipeline Path	37,530	38,781	38,781	36,279	38,781	37,530	38,781	37,530	38,781	38,781	37,530	38,781	227,682	230,184
Iroquois Receipts Pipeline Path	188,367	194,474	194,474	181,927	194,474	0	0	0	0	0	0	0	953,715	0
Tennessee Niagara Pipeline Path	54,169	55,974	55,974	52,363	55,974	18,052	0	0	0	0	0	511	292,506	511
Atlantic Bridge Ramapo Pipeline Path	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PXP Dawn Pipeline Path	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WXP Dawn Pipeline Path	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal Pipeline	575,480	604,578	604,578	565,573	604,578	115,527	38,781	37,530	38,781	38,781	37,530	39,292	3,070,314	230,695
Underground Storage														
Tennessee Storage	0	11,979	67,482	63,128	66,890	439	0	0	0	0	0	0	209,918	0
FS-MA Path (TGP Zone 4 313 Pool Supply)	65,305	55,503	0	0	592	64,866	67,482	65,305	67,482	67,482	65,305	67,482	186,266	400,538
Tennessee FS-MA Storage Path	65,305	67,482	67,482	63,128	67,482	65,305	67,482	65,305	67,482	67,482	65,305	67,482	396,184	400,538
Union Dawn Storage	310,102	646,173	744,712	757,300	634,305	0	0	0	0	0	0	0	3,092,592	0
Union Dawn Storage Path (Dawn Supply)	125,242	2,889	910	4,964	80,143	797,692	411,348	258,061	207,680	208,997	235,738	556,569	1,011,841	1,878,393
Union Dawn Storage Path	435,345	649,062	745,622	762,264	714,449	797,692	411,348	258,061	207,680	208,997	235,738	556,569	4,104,433	1,878,393
Subtotal Storage	500,650	716,544	813,104	825,392	781,931	862,997	478,830	323,366	275,162	276,479	301,043	624,051	4,500,617	2,278,931
Peaking Supplies														
Baseload Delivered Supplies	225,000	464,186	464,186	434,239	232,500	0	0	0	0	0	0	0	1,820,111	0
Lewiston LNG	1,755	24,580	51,214	1,696	31,347	3,369	1,860	1,800	1,860	1,860	1,800	1,860	113,960	11,040
Peaking Contract 1	0	23,256	274,464	46,304	29,260	0	0	0	0	0	0	0	373,284	0
Incremental Delivered Supplies	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal Peaking	226,755	512,022	789,864	482,239	293,106	3,369	1,860	1,800	1,860	1,860	1,800	1,860	2,307,356	11,040
Total Delivered (Dth)	1,302,884	1,833,144	2,207,546	1,873,204	1,679,615	981,893	519,471	362,696	315,803	317,120	340,373	665,203	9,878,286	2,520,666

Northern Utilities, Inc. Design Year Weather - Planning Load Commodity Volumes by Supply Source (Dth) November 2019 through October 2020														
Description	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Winter	Summer
Pipeline Supplies														
Tennessee Long-Haul Pipeline Path	380,787	406,378	406,378	380,160	406,378	73,583	0	0	0	0	0	2,901	2,053,663	2,901
Algonquin Receipts Pipeline Path	37,530	38,781	38,781	36,279	38,781	37,530	38,781	37,530	38,781	38,781	37,530	38,781	227,682	230,184
Iroquois Receipts Pipeline Path	194,019	200,314	200,314	187,391	200,314	0	0	0	0	0	0	0	982,351	0
Tennessee Niagara Pipeline Path	69,805	72,132	72,132	67,478	72,132	23,448	0	0	0	0	0	2,327	377,126	2,327
Atlantic Bridge Ramapo Pipeline Path	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PXP Dawn Pipeline Path	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WXP Dawn Pipeline Path	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal Pipeline	682,141	717,604	717,604	671,307	717,604	134,562	38,781	37,530	38,781	38,781	37,530	44,009	3,640,823	235,412
Underground Storage														
Tennessee Storage	0	14,548	81,955	76,668	81,236	534	0	0	0	0	0	0	254,941	0
TGP Zone 4 300 Leg Supply	79,311	67,407	0	0	719	78,778	81,955	79,311	81,955	81,955	79,311	81,955	226,216	486,443
Tennessee FS-MA Storage Path	79,311	81,955	81,955	76,668	81,955	79,311	81,955	79,311	81,955	81,955	79,311	81,955	481,156	486,443
Union Dawn Storage	508,933	823,222	1,084,584	962,735	477,907	0	0	0	0	0	0	0	3,857,381	0
Dawn Supply	136,017	150,376	1,566	120,741	483,325	987,214	496,735	343,941	294,848	294,184	386,877	792,544	1,879,239	2,609,128
Union Dawn Storage Path	644,949	973,598	1,086,150	1,083,477	961,232	987,214	496,735	343,941	294,848	294,184	386,877	792,544	5,736,620	2,609,128
Subtotal Storage	724,261	1,055,553	1,168,105	1,160,144	1,043,187	1,066,526	578,690	423,252	376,803	376,139	466,188	874,499	6,217,776	3,095,571
Peaking Supplies														
Baseload Delivered Supplies	225,000	464,186	464,186	434,239	232,500	0	0	0	0	0	0	0	1,820,111	0
Lewiston LNG	15,497	40,783	52,415	1,696	1,814	1,755	1,860	1,800	1,860	1,860	1,800	1,860	113,960	11,040
Peaking Contract 1	0	19,272	358,471	185,382	34,775	0	0	0	0	0	0	0	597,900	0
Incremental Delivered Supplies	0	70,309	808	44,299	84,454	0	0	0	0	0	0	0	199,870	0
Subtotal Peaking	240,497	594,550	875,881	665,616	353,543	1,755	1,860	1,800	1,860	1,860	1,800	1,860	2,731,841	11,040
Total Delivered (Dth)	1,646,898	2,367,707	2,761,590	2,497,068	2,114,335	1,202,842	619,331	462,582	417,444	416,780	505,518	920,368	12,590,440	3,342,023

Northern Utilities, Inc. Normal Year Weather - Sales Service Load and Company Managed Sales Capacity Utilization by Supply Source November 2019 through October 2020									
Description	Winter Projected Volume (Dth)	Winter Maximum Volume (Dth)	Winter Capacity Utilization	Summer Projected Volume (Dth)	Summer Maximum Volume (Dth)	Summer Capacity Utilization	Annual Projected Volume (Dth)	Annual Maximum Volume (Dth)	Annual Capacity Utilization
Pipeline Supplies									
Tennessee Long-Haul Pipeline Path	1,596,410	1,851,404	86%	0	1,871,749	0%	1,596,410	3,723,154	43%
Algonquin Receipts Pipeline Path	227,682	227,682	100%	230,184	230,184	100%	457,866	457,866	100%
Iroquois Receipts Pipeline Path	953,715	1,142,082	84%	0	1,155,317	0%	953,715	2,297,399	42%
Tennessee Niagara Pipeline Path	292,506	328,622	89%	511	332,234	0%	293,017	660,856	44%
Subtotal Pipeline	3,070,314	3,549,791	86%	230,695	3,589,484	6%	3,301,009	7,139,275	46%
Underground Storage									
Tennessee Storage	209,918			0			209,918		
FS-MA Path (TGP Zone 4 313 Pool Supply)	186,266			400,538			586,803		
Tennessee FS-MA Storage Path	396,184	396,184	100%	400,538	400,538	100%	796,721	796,721	100%
Union Dawn Storage	3,092,592			0			3,092,592		
Union Dawn Storage Path (Dawn Supply)	1,011,841			1,878,393			2,890,234		
Union Dawn Storage Path	4,104,433	5,973,820	69%	1,878,393	6,039,466	31%	5,982,827	12,013,285	50%
Subtotal Storage	4,500,617	6,370,003	71%	2,278,931	6,440,003	35%	6,779,548	12,810,007	53%
Peaking Supplies									
Baseload Delivered Supplies	1,820,111	1,820,111	100%	0	0		1,820,111	1,820,111	100%
Lewiston LNG	113,960	113,960	100%	11,040	11,040	100%	125,000	125,000	100%
Peaking Contract 1	373,284	597,900	62%	0	0		373,284	597,900	62%
Subtotal Peaking	2,307,356	2,531,971	91%	11,040	11,040	100%	2,318,396	2,543,011	91%
Portfolio Utilization	9,878,286	12,451,766	79%	2,520,666	10,040,527	25%	12,398,952	22,492,293	55%
Incremental Delivered Supplies	0	N/A		0	N/A		0	N/A	
Total Delivered	9,878,286	N/A		2,520,666	N/A		12,398,952	N/A	

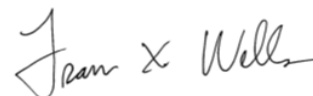
Northern Utilities, Inc. Design Year Weather - Planning Load Capacity Utilization by Supply Source November 2019 through October 2020									
Description	Winter Projected Volume (Dth)	Winter Maximum Volume (Dth)	Winter Capacity Utilization	Summer Projected Volume (Dth)	Summer Maximum Volume (Dth)	Summer Capacity Utilization	Annual Projected Volume (Dth)	Annual Maximum Volume (Dth)	Annual Capacity Utilization
Pipeline Supplies									
Tennessee Long-Haul Pipeline Path	2,053,663	2,385,830	86%	2,901	2,412,048	0%	2,056,564	4,797,879	43%
Algonquin Receipts Pipeline Path	227,682	227,682	100%	230,184	230,184	100%	457,866	457,866	100%
Iroquois Receipts Pipeline Path	982,351	1,176,370	84%	0	1,189,981	0%	982,351	2,366,351	42%
Tennessee Niagara Pipeline Path	377,126	423,483	89%	2,327	428,136	1%	379,453	851,619	45%
Subtotal Pipeline	3,640,823	4,213,365	86%	235,412	4,260,350	6%	3,876,234	8,473,715	46%
Underground Storage									
Tennessee Storage	254,941			0			254,941		
TGP Zone 4 300 Leg Supply	226,216			486,443			712,659		
Tennessee FS-MA Storage Path	481,156	481,156	100%	486,443	486,443	100%	967,599	967,600	100%
Union Dawn Storage	3,857,381			0			3,857,381		
Dawn Supply	1,879,239			2,609,128			4,488,366		
Union Dawn Storage Path	5,736,620	7,255,064	79%	2,609,128	7,334,790	36%	8,345,747	14,589,854	57%
Subtotal Storage	6,217,776	7,736,220	80%	3,095,571	7,821,233	40%	9,313,347	15,557,453	60%
Peaking Supplies									
Baseload Delivered Supplies	1,820,111	1,820,111	100%	0	0		1,820,111	1,820,111	100%
Lewiston LNG	113,960	113,960	100%	11,040	11,040	100%	125,000	125,000	100%
Peaking Contract 1	597,900	597,900	100%	0	0		597,900	597,900	100%
Subtotal Peaking	2,531,971	2,531,971	100%	11,040	11,040	100%	2,543,011	2,543,011	100%
Portfolio Utilization	12,590,440	14,481,556	87%	3,342,023	12,092,623	28%	15,932,462	26,574,179	60%
Incremental Delivered Supplies	199,870	N/A		0	N/A		0	N/A	
Total Delivered	12,790,310	N/A		3,342,023	N/A		15,932,462	N/A	

Northern Utilities Inc.
Forecast of Upcoming Winter Period Design Day Report
2019 / 2020 Winter Period
(Therms)

Demand	
NH Firm Sales	484,690
NH Non-Capacity Exempt Transportation	129,640
NH Capacity Exempt Transportation	92,310
NH Interruptible Sales	0
NH Interruptible Transportation	0
 NH Design Day Demand	 706,640
 ME Firm Sales	 633,110
ME Non-Capacity Exempt Transportation	123,520
ME Capacity Exempt Transportation	126,380
ME Interruptible Sales	0
ME Interruptible Transportation	0
 ME Design Day Demand	 883,010
 Total Firm Sales	 1,117,800
Total Non-Capacity Exempt Transportation	253,160
Total Capacity Exempt Transportation	218,690
Total Interruptible Sales	0
Total Interruptible Transportation	0
 Total Design Day Demand	 1,589,650
 Supplies	
Capacity Exempt Transportation	218,690
Pipeline	231,210
Storage	425,070
On-System LNG	65,000
Off-System Peaking Contracts & Delivered Baseload	548,080
Additional Granite Capacity	84,080
Additional Marketer Supplies	17,520
Total	1,589,650
 Effective Degree Day	
New Hampshire	80.1
Maine	78.9
Probability	1 in 30

Report Prepared By
Title
Signature

Francis X. Wells
Manager, Energy Planning



Northern Utilities, Inc.
New Hampshire Division
Migration to Transportation Only Service by Rate Class
November 2019 through October 2020

C&I Rate Class	Annual Sales Service Deliveries (Dth)	Percentage of Sales Service Total by Rate Class	Sales Service Percentage by Rate Class
G40	976,465	40%	87%
G50	173,261	7%	86%
G41	724,442	30%	53%
G51	229,346	9%	46%
G42	104,541	4%	17%
G52	243,899	10%	15%
Special Contracts	-	0%	0%
Total C&I	2,451,954	100%	36%

C&I Rate Class	Annual Transport- Only Deliveries (Dth)	Percentage of Transport Only Total by Rate Class	Transportation Service Percentage by Rate Class
T40	151,142	3%	13%
T50	27,226	1%	14%
T41	653,597	15%	47%
T51	273,574	6%	54%
T42	510,405	12%	83%
T52	1,382,096	32%	85%
Special Contracts	1,327,865	31%	100%
Total C&I	4,325,904	100%	64%

C&I Rate Class	Annual Total Deliveries (Dth)	Percentage of Total by Rate Class
G40	1,127,606	17%
G50	200,487	3%
G41	1,378,039	20%
G51	502,920	7%
G42	614,946	9%
G52	1,625,995	24%
Special Contracts	1,327,865	20%
Total C&I	6,777,858	100%

Northern Utilities Inc.
New Hampshire 7 Day Cold Snap Analysis
Winter 2019-2020

Coldest 7 Consecutive Days

Based on historic Portsmouth weather data

<u>Date</u>	<u>EDD</u>
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	5,323
Weekly Baseload	37,259
Heating Increment*	677
Effective Degree Days	479
Total Heat Load	324,225
<u>Projected Cold Snap Demand</u>	<u>361,484</u>

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 Zone 0 and Zone L Pools	13,109
Tennessee Niagara	2,327
Iroquois Receipts	6,434
Leidy Hub Supply (Texas Eastern, Algonquin)	965
Transco Zone 6, non-NY Supply (Algonquin)	286
Tennessee Firm Storage	2,644
Union Dawn Storage	39,863
Maritimes Delivered Baseload	7,474
PNGTS Delivered Baseload (Dec-Feb)	7,474
Peaking Contract 1	39,860
Total Daily Pipeline	120,436
Pipeline for 7 days	843,052
<u>New Hampshire Allocation</u>	<u>377,856</u>

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:

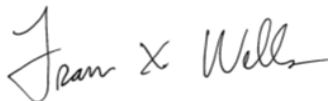
Number of Days	7
Number of Loads	5
Delivery Reliability	70%
Assumed Number of LNG Deliveries	25
Dth Per Load	900
Total Storage Credit	22,050
<u>NH Storage Credit - 7 Days</u>	<u>9,883</u>

Summary

Maximum projected design week demand	361,484
Amount to be furnished by natural gas pipeline	377,856
Remaining Balance	-16,372
Storage available	5,441
Credit from LNG delivery supply contract	9,883
Total available storage and LNG deliveries	15,324
Net Surplus/(Deficiency)	31,696

Report Prepared By
Title
Signature

Francis X. Wells
Manager, Energy Planning



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	\$0.1425	\$0.2185	\$0.1931	Page 3 of Summary
2	Winter Commodity Cost of Gas Rate	\$0.3613	\$0.3985	\$0.3861	Page 3 of Summary
3	Winter Indirect Cost of Gas	\$0.0321	\$0.0321	\$0.0321	Page 3 of Summary, Removing any Prior Period Over-Collection or Supplier Refunds
4	Winter Cost of Gas Rate (Exclusive of Credits)	\$0.5359	\$0.6491	\$0.6113	Sum Lines 1 through 3
5	Winter Cost of Gas Rate for Incumbent Sales Customers	\$0.4950	\$0.6082	\$0.5704	Page 3 of Summary
6	Winter Re-Entry Surcharge	\$0.0409	\$0.0409	\$0.0409	Positive Difference between Line 4 and Line 5
7	Projected Sales (therms)	12,929,447	25,746,910	38,676,357	Page 3 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	\$0.0508	\$0.1181	\$0.0956	Page 7 of Summary
9	Summer Commodity Cost of Gas Rate	\$0.2201	\$0.2201	\$0.2201	Page 7 of Summary
10	Summer Indirect Cost of Gas	\$0.0140	\$0.0140	\$0.0140	Page 7 of Summary, Removing any Prior Period Over-Collection or Supplier Refunds
11	Summer Cost of Gas Rate (Exclusive of Credits)	\$0.2849	\$0.3522	\$0.3297	Sum Lines 8 through 10
12	Summer Cost of Gas Rate for Incumbent Sales Customers	\$0.2443	\$0.3116	\$0.2891	Page 7 of Summary
13	Summer Re-Entry Surcharge	\$0.0406	\$0.0406	\$0.0406	Positive Difference between Line 11 and Line 12
14	Projected Sales (therms)	10,364,576	5,459,005	15,823,581	Page 7 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)	Reference
1	LLF Winter Demand Cost of Gas Rate	\$0.2185	\$0.2185	Page 3 of Summary
2	LLF Winter Commodity Cost of Gas Rate	\$0.3985	\$0.3985	Page 3 of Summary
3	LLF Winter Indirect Cost of Gas	\$0.0321	\$0.0321	Page 3 of Summary, Removing any Prior Period Over-Collection or Supplier Refunds
4	Floor Price (LLF Winter Cost of Gas Rate, Exclusive of Credits)	\$0.6491	\$0.6491	Sum Lines 1 through 3.
5	Total Incremental Cost	\$0.7487	\$0.7487	See Line 15 of Incremental Commodity Price Worksheet
6	Total Conversion Rate	\$0.7487	\$0.7487	Maximum of Line 4 and Line 5
7	Winter Gas Adjustment Factor for Incumbent Sales Customers	\$0.4950	\$0.6082	Page 3 of Summary
8	Conversion Surcharge	\$0.2537	\$0.1405	Positive Difference between Line 6 and Line 7

Incremental Commodity Price Worksheet

Line	Month	NYMEX	Projected PNGTS Delivered Basis	Projected FOM Index	Projected Non-Capacity Assigned Delivery Service Loads	Comments
1	Nov-19	\$ 2.320	\$ 2.370	\$ 4.690	233,141	
2	Dec-19	\$ 2.490	\$ 5.240	\$ 7.730	240,004	
3	Jan-20	\$ 2.590	\$ 7.020	\$ 9.610	263,618	
4	Feb-20	\$ 2.560	\$ 6.980	\$ 9.540	246,605	
5	Mar-20	\$ 2.470	\$ 3.750	\$ 6.220	250,162	
6	Apr-20	\$ 2.280	\$ 1.560	\$ 3.840	219,048	
7	Winter Period Weighed Average Baseload Price (\$/Dth)			\$ 7.044	1,452,579	Average, Weighted by Loads, Lines 1 through 6
8	Load Shape Price Factor			1.024		See Load Shape Price Factor Worksheet
9	Winter Period Incremental Load Shape Price (\$/Dth)			\$ 7.213		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)			\$ 7.385		Line 9 times (1 plus Line 10) plus Line 11
13	New Hampshire Division City-Gate Sendout to Sales Ratio			1.0138		See Att 2 to Sch 10B
14	Northern Retail Meter Price (\$/Dth)			\$ 7.487		Line 12 times Line 13
15	Northern Retail Meter Price (\$/therm)			\$ 0.7487		Line 14 divided by 10

Load Shape Price Factor Worksheet

Historic Delivery Service Loads					Delivery Service Loads Not Subject to Capacity Assignment			2018-2019 Cost Analysis		
Month	Date	Capacity Assigned	Capacity Exempt	Total	Capacity Assigned	Capacity Exempt	Total	AGT City-Gate Price	AGT City-Gate Cost	
Nov-18	11/1/2018	3,306	7,111	10,417	-	7,111	7,111	\$ 2.905	\$ 20,657	
Nov-18	11/2/2018	3,015	6,683	9,698	-	6,683	6,683	\$ 2.835	\$ 18,946	
Nov-18	11/3/2018	3,323	7,359	10,682	-	7,359	7,359	\$ 2.980	\$ 21,930	
Nov-18	11/4/2018	3,742	8,675	12,417	-	8,675	8,675	\$ 2.980	\$ 25,852	
Nov-18	11/5/2018	3,848	8,190	12,038	-	8,190	8,190	\$ 2.980	\$ 24,406	
Nov-18	11/6/2018	3,312	8,002	11,314	-	8,002	8,002	\$ 3.265	\$ 26,127	
Nov-18	11/7/2018	3,235	8,245	11,480	-	8,245	8,245	\$ 3.535	\$ 29,146	
Nov-18	11/8/2018	3,898	9,560	13,458	-	9,560	9,560	\$ 3.755	\$ 35,898	
Nov-18	11/9/2018	3,483	8,074	11,557	-	8,074	8,074	\$ 3.640	\$ 29,389	
Nov-18	11/10/2018	3,896	7,577	11,473	-	7,577	7,577	\$ 4.330	\$ 32,808	
Nov-18	11/11/2018	4,278	7,336	11,614	-	7,336	7,336	\$ 4.330	\$ 31,765	
Nov-18	11/12/2018	4,012	8,397	12,409	-	8,397	8,397	\$ 4.330	\$ 36,359	
Nov-18	11/13/2018	4,438	8,126	12,564	-	8,126	8,126	\$ 4.560	\$ 37,055	
Nov-18	11/14/2018	5,284	9,976	15,260	-	9,976	9,976	\$ 8.240	\$ 82,202	
Nov-18	11/15/2018	4,702	8,375	13,077	-	8,375	8,375	\$ 10.155	\$ 85,048	
Nov-18	11/16/2018	4,328	7,950	12,278	-	7,950	7,950	\$ 5.555	\$ 44,162	
Nov-18	11/17/2018	3,768	7,139	10,907	-	7,139	7,139	\$ 6.705	\$ 47,867	
Nov-18	11/18/2018	4,113	6,685	10,798	-	6,685	6,685	\$ 6.705	\$ 44,823	
Nov-18	11/19/2018	4,245	7,734	11,979	-	7,734	7,734	\$ 6.705	\$ 51,856	
Nov-18	11/20/2018	4,565	7,315	11,880	-	7,315	7,315	\$ 11.815	\$ 86,427	
Nov-18	11/21/2018	5,001	7,970	12,971	-	7,970	7,970	\$ 13.320	\$ 106,160	
Nov-18	11/22/2018	5,587	6,039	11,626	-	6,039	6,039	\$ 9.015	\$ 54,442	
Nov-18	11/23/2018	4,755	5,618	10,373	-	5,618	5,618	\$ 9.015	\$ 50,646	
Nov-18	11/24/2018	3,792	4,670	8,462	-	4,670	4,670	\$ 9.015	\$ 42,100	
Nov-18	11/25/2018	4,048	7,172	11,220	-	7,172	7,172	\$ 9.015	\$ 64,656	
Nov-18	11/26/2018	4,406	7,740	12,146	-	7,740	7,740	\$ 9.015	\$ 69,776	
Nov-18	11/27/2018	4,573	8,440	13,013	-	8,440	8,440	\$ 4.620	\$ 38,993	
Nov-18	11/28/2018	4,330	8,270	12,600	-	8,270	8,270	\$ 5.760	\$ 47,635	
Nov-18	11/29/2018	4,450	8,963	13,413	-	8,963	8,963	\$ 5.975	\$ 53,554	

Load Shape Price Factor Worksheet

Historic Delivery Service Loads				Delivery Service Loads Not Subject to Capacity Assignment			2018-2019 Cost Analysis		
Month	Date	Capacity Assigned	Capacity Exempt	Total	Capacity Assigned	Capacity Exempt	Total	AGT City-Gate Price	AGT City-Gate Cost
Nov-18	11/30/2018	4,067	8,038	12,105	-	8,038	8,038	\$ 5.400	\$ 43,405
Dec-18	12/1/2018	5,958	7,229	13,187	-	7,229	7,229	\$ 5.035	\$ 36,398
Dec-18	12/2/2018	5,573	7,336	12,909	-	7,336	7,336	\$ 5.035	\$ 36,937
Dec-18	12/3/2018	6,283	8,301	14,584	-	8,301	8,301	\$ 5.035	\$ 41,796
Dec-18	12/4/2018	8,127	9,612	17,739	-	9,612	9,612	\$ 11.600	\$ 111,499
Dec-18	12/5/2018	7,547	8,801	16,348	-	8,801	8,801	\$ 10.480	\$ 92,234
Dec-18	12/6/2018	7,094	8,546	15,640	-	8,546	8,546	\$ 6.900	\$ 58,967
Dec-18	12/7/2018	8,129	7,936	16,065	-	7,936	7,936	\$ 8.925	\$ 70,829
Dec-18	12/8/2018	8,443	7,954	16,397	-	7,954	7,954	\$ 7.775	\$ 61,842
Dec-18	12/9/2018	7,586	8,020	15,606	-	8,020	8,020	\$ 7.775	\$ 62,356
Dec-18	12/10/2018	8,382	8,699	17,081	-	8,699	8,699	\$ 7.775	\$ 67,635
Dec-18	12/11/2018	6,927	8,745	15,672	-	8,745	8,745	\$ 6.955	\$ 60,821
Dec-18	12/12/2018	8,293	9,313	17,606	-	9,313	9,313	\$ 9.195	\$ 85,633
Dec-18	12/13/2018	7,472	9,305	16,777	-	9,305	9,305	\$ 7.150	\$ 66,531
Dec-18	12/14/2018	5,504	6,980	12,484	-	6,980	6,980	\$ 5.045	\$ 35,214
Dec-18	12/15/2018	5,521	6,654	12,175	-	6,654	6,654	\$ 4.620	\$ 30,741
Dec-18	12/16/2018	6,286	5,326	11,612	-	5,326	5,326	\$ 4.620	\$ 24,606
Dec-18	12/17/2018	7,212	7,827	15,039	-	7,827	7,827	\$ 4.620	\$ 36,161
Dec-18	12/18/2018	7,938	8,720	16,658	-	8,720	8,720	\$ 8.050	\$ 70,196
Dec-18	12/19/2018	6,146	8,748	14,894	-	8,748	8,748	\$ 4.850	\$ 42,428
Dec-18	12/20/2018	4,831	7,282	12,113	-	7,282	7,282	\$ 3.845	\$ 27,999
Dec-18	12/21/2018	3,945	5,840	9,785	-	5,840	5,840	\$ 3.640	\$ 21,258
Dec-18	12/22/2018	6,057	6,667	12,724	-	6,667	6,667	\$ 4.575	\$ 30,502
Dec-18	12/23/2018	6,624	6,572	13,196	-	6,572	6,572	\$ 4.575	\$ 30,067
Dec-18	12/24/2018	5,647	4,677	10,324	-	4,677	4,677	\$ 4.575	\$ 21,397
Dec-18	12/25/2018	6,728	5,336	12,064	-	5,336	5,336	\$ 4.575	\$ 24,412
Dec-18	12/26/2018	7,132	7,602	14,734	-	7,602	7,602	\$ 4.575	\$ 34,779
Dec-18	12/27/2018	6,823	7,597	14,420	-	7,597	7,597	\$ 3.570	\$ 27,121
Dec-18	12/28/2018	5,852	6,736	12,588	-	6,736	6,736	\$ 3.400	\$ 22,902

Load Shape Price Factor Worksheet

Historic Delivery Service Loads				Delivery Service Loads Not Subject to Capacity Assignment			2018-2019 Cost Analysis		
Month	Date	Capacity Assigned	Capacity Exempt	Total	Capacity Assigned	Capacity Exempt	Total	AGT City-Gate Price	AGT City-Gate Cost
Dec-18	12/29/2018	6,515	6,645	13,160	-	6,645	6,645	\$ 3.400	\$ 22,593
Dec-18	12/30/2018	6,911	4,792	11,703	-	4,792	4,792	\$ 3.400	\$ 16,293
Dec-18	12/31/2018	5,809	4,084	9,893	-	4,084	4,084	\$ 3.400	\$ 13,886
Jan-19	1/1/2019	6,753	4,745	11,498	-	4,745	4,745	\$ 3.390	\$ 16,086
Jan-19	1/2/2019	7,103	7,851	14,954	-	7,851	7,851	\$ 3.390	\$ 26,615
Jan-19	1/3/2019	6,861	7,456	14,317	-	7,456	7,456	\$ 2.965	\$ 22,107
Jan-19	1/4/2019	6,020	7,019	13,039	-	7,019	7,019	\$ 2.710	\$ 19,021
Jan-19	1/5/2019	6,279	6,632	12,911	-	6,632	6,632	\$ 3.260	\$ 21,620
Jan-19	1/6/2019	7,909	5,868	13,777	-	5,868	5,868	\$ 3.260	\$ 19,130
Jan-19	1/7/2019	8,074	8,363	16,437	-	8,363	8,363	\$ 3.260	\$ 27,263
Jan-19	1/8/2019	7,082	8,271	15,353	-	8,271	8,271	\$ 2.885	\$ 23,862
Jan-19	1/9/2019	7,092	7,793	14,885	-	7,793	7,793	\$ 3.355	\$ 26,146
Jan-19	1/10/2019	8,721	8,950	17,671	-	8,950	8,950	\$ 6.600	\$ 59,070
Jan-19	1/11/2019	9,901	9,351	19,252	-	9,351	9,351	\$ 7.095	\$ 66,345
Jan-19	1/12/2019	9,008	8,393	17,401	-	8,393	8,393	\$ 5.435	\$ 45,616
Jan-19	1/13/2019	8,665	8,142	16,807	-	8,142	8,142	\$ 5.435	\$ 44,252
Jan-19	1/14/2019	8,514	8,352	16,866	-	8,352	8,352	\$ 5.435	\$ 45,393
Jan-19	1/15/2019	8,006	8,435	16,441	-	8,435	8,435	\$ 6.970	\$ 58,792
Jan-19	1/16/2019	8,299	8,554	16,853	-	8,554	8,554	\$ 7.510	\$ 64,241
Jan-19	1/17/2019	8,528	9,002	17,530	-	9,002	9,002	\$ 11.375	\$ 102,398
Jan-19	1/18/2019	6,986	7,412	14,398	-	7,412	7,412	\$ 9.820	\$ 72,786
Jan-19	1/19/2019	8,458	6,674	15,132	-	6,674	6,674	\$ 13.560	\$ 90,499
Jan-19	1/20/2019	10,368	7,046	17,414	-	7,046	7,046	\$ 13.560	\$ 95,544
Jan-19	1/21/2019	11,815	9,547	21,362	-	9,547	9,547	\$ 13.560	\$ 129,457
Jan-19	1/22/2019	9,091	9,222	18,313	-	9,222	9,222	\$ 13.560	\$ 125,050
Jan-19	1/23/2019	6,063	7,634	13,697	-	7,634	7,634	\$ 4.265	\$ 32,559
Jan-19	1/24/2019	5,929	7,250	13,179	-	7,250	7,250	\$ 3.525	\$ 25,556
Jan-19	1/25/2019	7,480	8,435	15,915	-	8,435	8,435	\$ 8.585	\$ 72,414
Jan-19	1/26/2019	7,573	7,851	15,424	-	7,851	7,851	\$ 7.720	\$ 60,610

Load Shape Price Factor Worksheet

Historic Delivery Service Loads					Delivery Service Loads Not Subject to Capacity Assignment			2018-2019 Cost Analysis	
Month	Date	Capacity Assigned	Capacity Exempt	Total	Capacity Assigned	Capacity Exempt	Total	AGT City-Gate Price	AGT City-Gate Cost
Jan-19	1/27/2019	6,981	7,696	14,677	-	7,696	7,696	\$ 7.720	\$ 59,413
Jan-19	1/28/2019	9,111	8,763	17,874	-	8,763	8,763	\$ 7.720	\$ 67,650
Jan-19	1/29/2019	8,813	9,136	17,949	-	9,136	9,136	\$ 8.170	\$ 74,641
Jan-19	1/30/2019	9,939	9,166	19,105	-	9,166	9,166	\$ 10.040	\$ 92,027
Jan-19	1/31/2019	10,518	9,504	20,022	-	9,504	9,504	\$ 9.210	\$ 87,532
Feb-19	2/1/2019	9,737	9,830	19,567	-	9,830	9,830	\$ 6.540	\$ 64,288
Feb-19	2/2/2019	7,766	7,831	15,597	-	7,831	7,831	\$ 4.040	\$ 31,637
Feb-19	2/3/2019	6,691	7,512	14,203	-	7,512	7,512	\$ 4.040	\$ 30,348
Feb-19	2/4/2019	5,483	7,895	13,378	-	7,895	7,895	\$ 4.040	\$ 31,896
Feb-19	2/5/2019	5,953	7,667	13,620	-	7,667	7,667	\$ 2.885	\$ 22,119
Feb-19	2/6/2019	7,172	8,606	15,778	-	8,606	8,606	\$ 3.955	\$ 34,037
Feb-19	2/7/2019	6,735	7,549	14,284	-	7,549	7,549	\$ 2.685	\$ 20,269
Feb-19	2/8/2019	7,280	7,448	14,728	-	7,448	7,448	\$ 2.875	\$ 21,413
Feb-19	2/9/2019	8,239	8,409	16,648	-	8,409	8,409	\$ 5.050	\$ 42,465
Feb-19	2/10/2019	7,711	8,355	16,066	-	8,355	8,355	\$ 5.050	\$ 42,193
Feb-19	2/11/2019	8,790	9,080	17,870	-	9,080	9,080	\$ 5.050	\$ 45,854
Feb-19	2/12/2019	8,064	8,826	16,890	-	8,826	8,826	\$ 4.955	\$ 43,733
Feb-19	2/13/2019	7,547	8,900	16,447	-	8,900	8,900	\$ 3.400	\$ 30,260
Feb-19	2/14/2019	7,373	8,777	16,150	-	8,777	8,777	\$ 3.750	\$ 32,914
Feb-19	2/15/2019	6,230	7,287	13,517	-	7,287	7,287	\$ 3.015	\$ 21,970
Feb-19	2/16/2019	7,372	7,646	15,018	-	7,646	7,646	\$ 3.855	\$ 29,475
Feb-19	2/17/2019	7,658	8,210	15,868	-	8,210	8,210	\$ 3.855	\$ 31,650
Feb-19	2/18/2019	9,445	8,930	18,375	-	8,930	8,930	\$ 3.855	\$ 34,425
Feb-19	2/19/2019	9,136	9,583	18,719	-	9,583	9,583	\$ 3.855	\$ 36,942
Feb-19	2/20/2019	8,116	8,624	16,740	-	8,624	8,624	\$ 3.580	\$ 30,874
Feb-19	2/21/2019	6,431	7,819	14,250	-	7,819	7,819	\$ 2.940	\$ 22,988
Feb-19	2/22/2019	6,714	7,572	14,286	-	7,572	7,572	\$ 3.375	\$ 25,556
Feb-19	2/23/2019	5,559	7,095	12,654	-	7,095	7,095	\$ 3.955	\$ 28,061
Feb-19	2/24/2019	6,295	7,336	13,631	-	7,336	7,336	\$ 3.955	\$ 29,014

Load Shape Price Factor Worksheet

Historic Delivery Service Loads				Delivery Service Loads Not Subject to Capacity Assignment			2018-2019 Cost Analysis		
Month	Date	Capacity Assigned	Capacity Exempt	Total	Capacity Assigned	Capacity Exempt	Total	AGT City-Gate Price	AGT City-Gate Cost
Feb-19	2/25/2019	8,146	8,718	16,864	-	8,718	8,718	\$ 3.955	\$ 34,480
Feb-19	2/26/2019	9,995	10,028	20,023	-	10,028	10,028	\$ 6.850	\$ 68,692
Feb-19	2/27/2019	9,389	9,767	19,156	-	9,767	9,767	\$ 6.500	\$ 63,486
Feb-19	2/28/2019	8,488	9,255	17,743	-	9,255	9,255	\$ 5.705	\$ 52,800
Mar-19	3/1/2019	6,986	7,648	14,634	-	7,648	7,648	\$ 4.930	\$ 37,705
Mar-19	3/2/2019	7,287	7,628	14,915	-	7,628	7,628	\$ 6.980	\$ 53,243
Mar-19	3/3/2019	6,399	7,060	13,459	-	7,060	7,060	\$ 6.980	\$ 49,279
Mar-19	3/4/2019	7,900	8,511	16,411	-	8,511	8,511	\$ 6.980	\$ 59,407
Mar-19	3/5/2019	8,681	8,653	17,334	-	8,653	8,653	\$ 8.815	\$ 76,276
Mar-19	3/6/2019	9,525	9,534	19,059	-	9,534	9,534	\$ 9.435	\$ 89,953
Mar-19	3/7/2019	8,865	9,294	18,159	-	9,294	9,294	\$ 6.985	\$ 64,919
Mar-19	3/8/2019	7,398	7,837	15,235	-	7,837	7,837	\$ 4.230	\$ 33,151
Mar-19	3/9/2019	6,378	6,569	12,947	-	6,569	6,569	\$ 3.270	\$ 21,481
Mar-19	3/10/2019	6,553	6,570	13,123	-	6,570	6,570	\$ 3.270	\$ 21,484
Mar-19	3/11/2019	6,846	7,609	14,455	-	7,609	7,609	\$ 3.270	\$ 24,881
Mar-19	3/12/2019	7,428	7,972	15,400	-	7,972	7,972	\$ 3.600	\$ 28,699
Mar-19	3/13/2019	6,782	7,775	14,557	-	7,775	7,775	\$ 3.010	\$ 23,403
Mar-19	3/14/2019	6,122	7,411	13,533	-	7,411	7,411	\$ 2.830	\$ 20,973
Mar-19	3/15/2019	4,378	6,159	10,537	-	6,159	6,159	\$ 2.780	\$ 17,122
Mar-19	3/16/2019	6,160	6,858	13,018	-	6,858	6,858	\$ 3.240	\$ 22,220
Mar-19	3/17/2019	7,038	7,554	14,592	-	7,554	7,554	\$ 3.240	\$ 24,475
Mar-19	3/18/2019	7,214	8,334	15,548	-	8,334	8,334	\$ 3.240	\$ 27,002
Mar-19	3/19/2019	6,969	8,647	15,616	-	8,647	8,647	\$ 3.120	\$ 26,979
Mar-19	3/20/2019	6,144	7,887	14,031	-	7,887	7,887	\$ 3.100	\$ 24,450
Mar-19	3/21/2019	6,089	8,010	14,099	-	8,010	8,010	\$ 2.955	\$ 23,670
Mar-19	3/22/2019	6,171	7,084	13,255	-	7,084	7,084	\$ 2.950	\$ 20,898
Mar-19	3/23/2019	6,138	7,551	13,689	-	7,551	7,551	\$ 3.035	\$ 22,917
Mar-19	3/24/2019	5,206	7,379	12,585	-	7,379	7,379	\$ 3.035	\$ 22,395
Mar-19	3/25/2019	6,835	8,547	15,382	-	8,547	8,547	\$ 3.035	\$ 25,940

Load Shape Price Factor Worksheet

Historic Delivery Service Loads					Delivery Service Loads Not Subject to Capacity Assignment			2018-2019 Cost Analysis		
Month	Date	Capacity Assigned	Capacity Exempt	Total	Capacity Assigned	Capacity Exempt	Total	AGT City-Gate Price	AGT City-Gate Cost	
Mar-19	3/26/2019	7,014	8,644	15,658	-	8,644	8,644	\$ 3.465	\$ 29,951	
Mar-19	3/27/2019	6,765	8,390	15,155	-	8,390	8,390	\$ 2.930	\$ 24,583	
Mar-19	3/28/2019	5,224	7,170	12,394	-	7,170	7,170	\$ 2.725	\$ 19,538	
Mar-19	3/29/2019	4,681	6,755	11,436	-	6,755	6,755	\$ 2.565	\$ 17,327	
Mar-19	3/30/2019	4,586	6,284	10,870	-	6,284	6,284	\$ 2.565	\$ 16,118	
Mar-19	3/31/2019	5,340	6,902	12,242	-	6,902	6,902	\$ 2.565	\$ 17,704	
Apr-19	4/1/2019	4,886	8,427	13,313	-	8,427	8,427	\$ 3.120	\$ 26,292	
Apr-19	4/2/2019	4,248	7,642	11,890	-	7,642	7,642	\$ 2.860	\$ 21,856	
Apr-19	4/3/2019	4,014	7,333	11,347	-	7,333	7,333	\$ 2.685	\$ 19,689	
Apr-19	4/4/2019	4,593	8,029	12,622	-	8,029	8,029	\$ 2.695	\$ 21,638	
Apr-19	4/5/2019	4,209	7,896	12,105	-	7,896	7,896	\$ 2.730	\$ 21,556	
Apr-19	4/6/2019	3,158	6,463	9,621	-	6,463	6,463	\$ 2.535	\$ 16,384	
Apr-19	4/7/2019	3,569	6,896	10,465	-	6,896	6,896	\$ 2.535	\$ 17,481	
Apr-19	4/8/2019	4,931	8,269	13,200	-	8,269	8,269	\$ 2.535	\$ 20,962	
Apr-19	4/9/2019	4,800	8,254	13,054	-	8,254	8,254	\$ 2.885	\$ 23,813	
Apr-19	4/10/2019	4,654	8,530	13,184	-	8,530	8,530	\$ 3.215	\$ 27,424	
Apr-19	4/11/2019	4,124	7,984	12,108	-	7,984	7,984	\$ 2.725	\$ 21,756	
Apr-19	4/12/2019	3,293	6,594	9,887	-	6,594	6,594	\$ 2.595	\$ 17,111	
Apr-19	4/13/2019	2,382	5,846	8,228	-	5,846	5,846	\$ 2.530	\$ 14,790	
Apr-19	4/14/2019	3,319	6,805	10,124	-	6,805	6,805	\$ 2.530	\$ 17,217	
Apr-19	4/15/2019	3,909	7,598	11,507	-	7,598	7,598	\$ 2.530	\$ 19,223	
Apr-19	4/16/2019	3,963	8,789	12,752	-	8,789	8,789	\$ 2.680	\$ 23,555	
Apr-19	4/17/2019	3,884	8,013	11,897	-	8,013	8,013	\$ 2.845	\$ 22,797	
Apr-19	4/18/2019	3,798	7,709	11,507	-	7,709	7,709	\$ 2.400	\$ 18,502	
Apr-19	4/19/2019	2,192	5,570	7,762	-	5,570	5,570	\$ 2.210	\$ 12,310	
Apr-19	4/20/2019	2,481	5,501	7,982	-	5,501	5,501	\$ 2.210	\$ 12,157	
Apr-19	4/21/2019	2,898	6,643	9,541	-	6,643	6,643	\$ 2.210	\$ 14,681	
Apr-19	4/22/2019	3,290	7,172	10,462	-	7,172	7,172	\$ 2.210	\$ 15,850	
Apr-19	4/23/2019	3,710	7,318	11,028	-	7,318	7,318	\$ 2.375	\$ 17,380	

Load Shape Price Factor Worksheet

		Historic Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment			2018-2019 Cost Analysis	
Month	Date	Capacity Assigned	Capacity Exempt	Total	Capacity Assigned	Capacity Exempt	Total	AGT City-Gate Price	AGT City-Gate Cost
Apr-19	4/24/2019	3,732	7,172	10,904	-	7,172	7,172	\$ 2.375	\$ 17,034
Apr-19	4/25/2019	3,660	7,611	11,271	-	7,611	7,611	\$ 2.430	\$ 18,495
Apr-19	4/26/2019	3,735	6,840	10,575	-	6,840	6,840	\$ 2.375	\$ 16,245
Apr-19	4/27/2019	3,378	5,920	9,298	-	5,920	5,920	\$ 2.410	\$ 14,267
Apr-19	4/28/2019	3,505	7,486	10,991	-	7,486	7,486	\$ 2.410	\$ 18,041
Apr-19	4/29/2019	3,920	7,684	11,604	-	7,684	7,684	\$ 2.410	\$ 18,518
Apr-19	4/30/2019	4,032	8,126	12,158	-	8,126	8,126	\$ 2.535	\$ 20,599
Winter Period		1,113,919	1,400,725	2,514,644	-	1,400,725	1,400,725	\$ 5.071	\$ 7,103,423
Weighted Average Daily Price								\$ 5.071	
Straight Average Daily Price								\$ 4.952	
Load Shape Price Factor								1.024	

Month	Projected Delivery Service Loads			Delivery Service Loads Not Subject to Capacity Assignment		
	Capacity Assigned	Capacity Exempt	Total	Capacity Assigned	Capacity Exempt	Total
Nov-18	165,415	233,141	398,556	-	233,141	233,141
Dec-18	206,092	240,004	446,097	-	240,004	240,004
Jan-19	230,795	263,618	494,414	-	263,618	263,618
Feb-19	206,226	246,605	452,831	-	246,605	246,605
Mar-19	199,199	250,162	449,360	-	250,162	250,162
Apr-19	152,076	219,048	371,123	-	219,048	219,048
Winter	1,159,803	1,452,579	2,612,382	-	1,452,579	1,452,579

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	\$22.20	\$0.6920	\$0.6920	
3 R-10 Rate at 40% of R5	\$8.88	\$0.2768	\$0.2768	
4 Program Subsidy	\$13.32	\$0.4152	\$0.4152	
5 Average Annual Therms		288	313	601
6				
7 Peak Period Subsidy	\$79.92	\$119.78	\$129.76	\$329.46
8				
9 Off Peak Period				
10 R-5 Base Rates	\$22.20	\$0.6099	\$0.6099	
11 R10 Rate at 40% of R5	\$8.88	\$0.2440	\$0.2440	
12 Program Subsidy	\$13.32	\$0.3659	\$0.3659	
13 Average Annual Therms		108	12	120
14				
15 Off Peak Period Subsidy	\$79.92	\$39.52	\$4.39	\$123.83
16				
17 Estimated Annual Subsidy				\$453.29
18				
19 Number of Estimated 2019/20 Participants				773
20				
21 Annual Subsidy times Number of Participants (Ln 17 *Ln 19)				\$350,409
22 Prior Year Ending Balance 10/31/2019 - RLIARA Page 2				(\$123,791)
23 Estimated Annual Administrative Costs				\$0
24 Estimated Non-Distribution Regulatory Assessment (Based off of NHPUC invoice dated August 8, 2019)				\$39,094
25 Total Program Costs				\$265,711
26				
27 Estimated weather normalized firm therms billed for				
28 the twelve months ended 10/31/20 sales and transportation				74,751,212
29 (Attachment 2 to Schedule 10B, Page 2 of 3, "Total Division"				
30 subtract "Special Contracts").				
31 Total Residential Low Income Assistance and Regulatory Assessment Costs Charge				\$0.0036

**NORTHERN UTILITIES, INC., NEW HAMPSHIRE DIVISION
NOVEMBER 2017 THROUGH OCTOBER 2018
RESIDENTIAL LOW INCOME ASSISTANCE AND REGULATORY ASSESSMENT COSTS (RLIARA) RECONCILIATION**

			Recast (1)	Recast	Recast	Recast	Recast	Recast	Recast	Recast	Estimate	Estimate	Estimate	
1	FOR THE MONTH OF:	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Total
2	DAYS IN MONTH	30	31	31	28	31	30	31	30	31	31	30	31	365
3														Average
4	RLIA Participant Count	632	796	783	905	960	940	901	686	668	686	666	653	773
5														Total
6	Beginning Balance	(\$241,450)	(\$237,074)	(\$250,975)	(\$243,939)	(\$196,445)	(\$178,624)	(\$161,136)	(\$146,348)	(\$136,183)	(\$126,119)	(\$123,928)	(\$121,790)	(\$241,450)
7														
8	Add: Actual Costs	\$22,017	\$18,404	\$44,874	\$86,239 (2)	\$52,648	\$39,060	\$27,022	\$13,809	\$11,937	\$11,382	\$11,049	\$11,821	\$350,262
9														
10	Add: Regulatory Assessments	\$11,421	\$11,421	\$11,421	\$11,421	\$11,421	\$11,421	\$11,421	\$11,421	\$11,421	\$3,258	\$3,258	\$3,258	\$112,559
11														
12	Less: Collected Revenue	\$28,068	\$42,710	\$48,123	\$49,685	\$45,429	\$32,216	\$22,952	\$14,418	\$12,693	\$11,878	\$11,606	\$16,544	(\$336,323)
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	(\$236,080)	(\$249,960)	(\$242,803)	(\$195,964)	(\$177,805)	(\$160,359)	(\$145,645)	(\$135,537)	(\$125,519)	(\$123,357)	(\$121,228)	(\$123,255)	
17														
18	Month's Average Balance	(\$158,766)	(\$66,292)	(\$96,604)	(\$127,747)	(\$154,965)	(\$171,559)	(\$172,935)	(\$166,596)	(\$158,500)	(\$124,738)	(\$122,578)	(\$122,523)	
19														
20	Interest Rate	5.00%	5.00%	5.25%	5.25%	5.25%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.25%	
21														
22	Interest Applied	(\$995)	(\$1,015)	(\$1,136)	(\$481)	(\$819)	(\$777)	(\$703)	(\$646)	(\$600)	(\$572)	(\$562)	(\$536)	
23														
24	Ending Balance	(\$237,074)	(\$250,975)	(\$243,939)	(\$196,445)	(\$178,624)	(\$161,136)	(\$146,348)	(\$136,183)	(\$126,118.53)	(\$123,928)	(\$121,790)	(\$123,791)	

() Over Collection

(1) Recast to correct January 2019 lost revenue.

NORTHERN UTILITIES, INC., NEW HAMPSHIRE DIVISION
Calculation of Distribution and Non-Distribution Revenues of the NHPUC Annual Regulatory Assessment
NHPUC Assessment Invoice dated August 8, 2019

	July 2019	August 2019	September 2019	October 2019	November 2019	December 2019	January 2020	February 2020	March 2020	April 2020	May 2020	June 2020	Total Fiscal Year
Distribution	\$30,747.00	\$30,747.00	\$30,747.00	\$30,747.00	\$30,747.00	\$30,747.00	\$30,747.00	\$30,747.00	\$30,747.00	\$30,747.00	\$30,747.00	\$30,747.00	\$368,964.00
Non-Distribution	\$3,257.83	\$3,257.83	\$3,257.83	\$3,257.83	\$3,257.83	\$3,257.83	\$3,257.83	\$3,257.83	\$3,257.83	\$3,257.83	\$3,257.83	\$3,257.83	\$39,094.00
Total	\$102,014.50			\$102,014.50			\$102,014.50			\$102,014.50			\$408,058.00

(1) The \$368,964.00 for Distribution represents the amount established 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
July-19	\$109,630	\$5,111	\$28,988	\$143,729
August-19	\$21,362	\$32,590	\$129,644	\$183,595
September-19	\$23,851	\$36,387	\$143,702	\$203,939
October-19	\$26,547	\$40,500	\$156,904	\$223,951
November-19	\$29,243	\$44,613	\$172,839	\$246,696
December-19	\$31,939	\$48,727	\$191,508	\$272,174
January-20	\$11,078	\$5,369	\$14,893	\$31,340
February-20	\$22,156	\$10,738	\$29,787	\$62,681
March-20	\$32,382	\$15,694	\$48,176	\$96,252
April-20	\$43,460	\$21,063	\$58,428	\$122,950
May-20	\$54,538	\$26,432	\$73,321	\$154,291
June-20	\$65,616	\$31,801	\$92,856	\$190,273
July-20	\$76,693	\$37,170	\$103,108	\$216,971
August-20	\$87,771	\$42,539	\$118,001	\$248,311
September-20	\$97,997	\$47,495	\$136,390	\$281,883
October-20	\$109,075	\$52,864	\$146,642	\$308,581
Total	\$843,336	\$499,093	\$1,645,187	\$2,987,616

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

	Residential	Low-Income	Gen Service	Total
July-19	\$110,391	0	\$33,338	\$143,729
August-19	\$25,546	0	\$158,049	\$183,595
September-19	\$28,529	0	\$175,410	\$203,939
October-19	\$33,379	0	\$190,571	\$223,951
November-19	\$40,212	0	\$206,483	\$246,696
December-19	\$46,211	0	\$225,963	\$272,174
January-20	\$12,781	0	\$18,559	\$31,340
February-20	\$25,603	0	\$37,077	\$62,681
March-20	\$37,203	0	\$59,049	\$96,252
April-20	\$49,828	0	\$73,123	\$122,950
May-20	\$60,893	0	\$93,398	\$154,291
June-20	\$72,346	0	\$117,926	\$190,273
July-20	\$82,454	0	\$134,517	\$216,971
August-20	\$93,193	0	\$155,118	\$248,311
September-20	\$104,591	0	\$177,292	\$281,883
October-20	\$117,885	0	\$190,696	\$308,581
Total	\$941,046	\$0	\$2,046,570	\$2,987,616

EEC Rate Calculation

EEC Rate for Residential Customers

EEC Reconciliation Adjustment	\$141,763	Page 3 Nov '18 - Oct '19 Totals- Nov. 2019 Beginning Balance before Adjustment
Funds Shift to On Bill Financing Mechanism - Residential	\$75,000	Adjustment
Revised EEC Reconciliation Adjustment	\$216,763	
EEC Costs	\$661,947	Page 3 Nov '19 - Oct '20 Totals- Column 2
EEC Performance Incentive	\$46,323	Page 3 Nov '19 - Oct '20 Totals- Column 3
EEC Low-Income Costs	\$81,253	Nov '19 - Oct '20 Totals- Column 4
EEC Allocated Low-Income Performance Incentive	\$5,254	Page 3 Nov '19 - Oct '20 Totals- Column 5
Total	\$1,011,540	

Forecasted Annual Throughput Volumes for Residential Customers 20,251,274 Page 3 Nov '19 - Oct '20 Totals- Column 6

Energy Efficiency Charge for Residential Customers	\$0.0499
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EEC Rate for Commercial and Industrial Customers (C&I)

EEC Reconciliation Adjustment	(\$374,633)	Page 4 Nov '18 - Oct '19 Totals- Nov 2019 Beginning Balance Before Adjustment
Funds Shift to On Bill Financing Mechanism - C&I	\$150,000	Adjustment
Revised EEC Reconciliation Adjustment	(\$224,633)	
EEC Costs	\$1,185,950	Page 4 Nov '19 - Oct '20 Totals- Column 2
EEC Performance Incentive	\$62,727	Page 4 Nov '19 - Oct '20 Totals- Column 3
EEC Low-Income Costs	\$303,252	Page 4 Nov '19 - Oct '20 Totals- Column 4
EEC Allocated Low-Income Performance Incentive	\$17,104	Page 4 Nov '19 - Oct '20 Totals- Column 5
Total	\$1,344,400	

Forecasted Annual Therm Throughput Volumes for C&I Customers 54,499,939 Page 4 Nov '19 - Oct '20 Totals- Column 6

Energy Efficiency Charge for C&I Customers	\$0.0247
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Northern Utilities, Inc. New Hampshire Division Calculation of the EEC Charge, a Component of the Local Distribution Adjustment Charge To Be Effective November 1, 2019 through October 31, 2020 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-18	Actual	\$69,787	\$0.0433	\$13,671	\$59,424	\$3,647	\$655.04	\$38	\$119,880	\$94,834	4.75%	\$377	\$120,258	173,410	31
September-18	Actual	\$120,258	\$0.0433	\$14,124	\$75,713	\$3,647	\$13,660.74	\$795	\$199,949	\$160,103	4.75%	\$625	\$200,574	326,341	30
October-18	Actual	\$200,574	\$0.0433	\$25,381	\$68,653	\$3,647	\$4,030.76	\$235	\$251,758	\$226,166	5.00%	\$960	\$252,719	586,358	31
November-18	Actual	\$252,719	\$0.0501	\$76,050	\$28,089	\$3,647	\$10,337.03	\$602	\$219,344	\$236,031	5.00%	\$970	\$220,314	1,636,547	30
December-18	Actual	\$220,314	\$0.0501	\$149,370	\$9,125	\$3,647	\$20,375.61	\$1,186	\$105,277	\$162,795	5.00%	\$691	\$105,968	2,981,495	31
January-19	Actual	\$75,968	\$0.0501	\$163,191	\$60,476	\$3,633	\$1,369.97	\$80	(\$21,664)	\$27,152	5.25%	\$121	(\$21,543)	3,258,067	31
February-19	Actual	(\$21,543)	\$0.0501	\$177,904	\$163,887	\$3,633	\$15,885.23	\$925	(\$15,117)	(\$18,330)	5.25%	(\$74)	(\$15,191)	3,551,021	28
March-19	Actual	(\$15,191)	\$0.0501	\$155,401	\$45,245	\$3,633	\$9,608.81	\$559	(\$11,546)	(\$63,368)	5.25%	(\$283)	(\$111,828)	3,101,793	31
April-19	Actual	(\$111,828)	\$0.0501	\$102,686	\$97,972	\$3,633	\$1,740.13	\$101	(\$111,068)	(\$111,448)	5.50%	(\$504)	(\$111,571)	2,049,591	30
May-19	Actual	(\$111,571)	\$0.0501	\$59,962	\$32,932	\$15,465	(\$1,326.82)	(\$77)	(\$124,541)	(\$118,056)	5.50%	\$301	(\$124,240)	1,196,802	31
June-19	Actual	(\$124,240)	\$0.0501	\$28,905	\$149,545	\$3,633	\$11,965.68	\$696	\$12,696	(\$55,772)	5.50%	(\$252)	\$12,443	576,966	30
July-19	Actual	\$12,443	\$0.0501	\$19,621	\$109,630	\$3,633	\$761.19	\$44	\$106,891	\$59,667	5.50%	\$207	\$107,098	391,722	31
August-19	Forecast	\$107,098	\$0.0501	\$17,366	\$21,362	\$3,633	\$4,185	\$220	\$119,131	\$113,115	5.50%	\$528	\$119,660	346,627	31
September-19	Forecast	\$119,660	\$0.0501	\$16,992	\$23,851	\$3,633	\$4,679	\$220	\$135,050	\$127,355	5.50%	\$576	\$135,626	339,165	30
October-19	Forecast	\$135,626	\$0.0501	\$31,781	\$26,547	\$3,633	\$6,833	\$289	\$141,146	\$138,386	5.25%	\$617	\$141,763	634,345	31
November-19	Forecast	\$216,763	1	\$75,777	\$29,243	\$3,633	\$10,970	\$422	\$185,253	\$201,008	5.25%	\$867	\$186,120	1,518,579	30
December-19	Forecast	\$186,120	\$0.0499	\$122,539	\$31,939	\$3,633	\$14,272	\$502	\$113,927	\$150,024	5.25%	\$669	\$114,596	2,455,688	31
January-20	Forecast	\$114,596	\$0.0499	\$191,456	\$11,078	\$3,906	\$1,703	\$600	(\$59,572)	\$27,512	5.25%	\$122	(\$59,450)	3,836,788	31
February-20	Forecast	(\$59,450)	\$0.0499	\$180,992	\$22,156	\$3,906	\$3,447	\$608	(\$210,325)	(\$134,888)	5.25%	(\$561)	(\$210,887)	3,627,098	29
March-20	Forecast	(\$210,887)	\$0.0499	\$152,514	\$32,382	\$3,906	\$4,821	\$581	(\$321,711)	(\$266,299)	5.25%	(\$1,184)	(\$322,895)	3,056,387	31
April-20	Forecast	(\$322,895)	\$0.0499	\$113,924	\$43,460	\$3,906	\$6,368	\$572	(\$382,514)	(\$352,704)	5.25%	(\$1,518)	(\$384,031)	2,283,056	30
May-20	Forecast	(\$384,031)	\$0.0499	\$53,591	\$54,538	\$3,906	\$6,355	\$455	(\$372,368)	(\$378,200)	5.25%	(\$1,682)	(\$374,050)	1,073,960	31
June-20	Forecast	(\$374,050)	\$0.0499	\$32,869	\$65,616	\$3,906	\$6,731	\$401	(\$330,266)	(\$352,158)	5.25%	(\$1,515)	(\$331,782)	658,694	30
July-20	Forecast	(\$331,782)	\$0.0499	\$21,060	\$76,693	\$3,906	\$5,761	\$293	(\$266,189)	(\$298,986)	5.25%	(\$1,330)	(\$267,519)	422,051	31
August-20	Forecast	(\$267,519)	\$0.0499	\$16,856	\$87,771	\$3,906	\$5,422	\$241	(\$187,034)	(\$227,276)	5.25%	(\$1,011)	(\$188,045)	337,788	31
September-20	Forecast	(\$188,045)	\$0.0499	\$18,982	\$97,997	\$3,906	\$6,594	\$263	(\$98,267)	(\$143,156)	5.25%	(\$616)	(\$98,883)	380,406	30
October-20	Forecast	(\$98,883)	\$0.0499	\$29,979	\$109,075	\$3,906	\$8,810	\$315	(\$6,756)	(\$52,820)	5.25%	(\$235)	(\$6,991)	600,779	31
Nov 19 thru Oct 20 Totals				\$1,010,539	\$661,947	\$46,323	\$81,253	\$5,254						20,251,274	

Forecast therm Sales from Company Forecast as seen in Schedule 17, Page 2 of 3, filed on September 17, 2019 in the Cost of Gas Docket.

Actual Performance Incentives includes reconciliations from prior year(s).

(1) Includes \$75,000 adjustment for Funds Shift for On Bill Financing Mechanism

Northern Utilities, Inc.																
New Hampshire Division																
Calculation of the EEC Charge, a Component of the Local Distribution Adjustment Charge																
To Be Effective November 1, 2019 through October 31, 2020																
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)/Under	Therm Sales	# of Days
August-18	Actual	(\$306,653)		\$0.0184	\$43,338	\$49,028	\$3,951	\$10,221	\$595	(\$286,197)	(\$296,425)	4.75%	(\$1,191)	(\$287,387)	2,488,952	31
September-18	Actual	(\$287,387)		\$0.0184	\$43,546	\$21,512	\$3,951	\$99,067	\$5,766	(\$200,638)	(\$244,012)	4.75%	(\$953)	(\$201,590)	2,366,613	30
October-18	Actual	(\$201,590)		\$0.0184	\$59,046	\$60,302	\$3,951	\$21,897	\$1,274	(\$173,212)	(\$187,401)	5.00%	(\$796)	(\$174,008)	3,185,345	31
November-18	Actual	(\$174,008)		\$0.0264	\$120,926	\$65,466	\$3,951	\$31,578	\$1,838	(\$192,101)	(\$183,055)	5.00%	(\$752)	(\$192,854)	4,999,360	30
December-18	Actual	(\$192,854)		\$0.0264	\$177,526	\$279,400	\$3,951	\$45,962	\$2,675	(\$38,393)	(\$115,623)	5.00%	(\$491)	(\$38,884)	6,725,407	31
January-19	Actual	(\$91,884)		\$0.0264	\$202,743	\$14,990	\$4,684	\$3,229	\$188	(\$271,536)	(\$181,710)	5.25%	(\$810)	(\$272,346)	7,679,625	31
February-19	Actual	(\$272,346)		\$0.0264	\$204,351	\$24,628	\$4,684	\$34,628	\$2,015	(\$410,742)	(\$341,544)	5.25%	(\$1,376)	(\$412,118)	7,740,715	28
March-19	Actual	(\$412,118)		\$0.0264	\$190,686	\$52,217	\$4,684	\$22,375	\$1,302	(\$522,225)	(\$467,171)	5.25%	(\$2,083)	(\$524,308)	7,222,952	31
April-19	Actual	(\$524,308)		\$0.0264	\$139,172	\$52,133	\$4,684	\$4,476	\$260	(\$601,927)	(\$563,117)	5.50%	(\$2,546)	(\$604,472)	5,271,578	30
May-19	Actual	(\$604,472)		\$0.0264	\$106,110	\$28,838	\$3,793	(\$4,456)	(\$259)	(\$682,666)	(\$643,569)	5.50%	(\$3,919)	(\$686,585)	4,019,262	31
June-19	Actual	(\$686,585)		\$0.0264	\$71,282	\$23,478	\$4,684	\$55,997	\$3,259	(\$670,449)	(\$678,517)	5.50%	(\$3,067)	(\$673,516)	2,700,062	30
July-19	Actual	(\$673,516)		\$0.0264	\$65,835	\$28,988	\$4,684	\$4,350	\$253	(\$701,076)	(\$687,296)	5.50%	(\$3,298)	(\$704,375)	2,493,737	31
August-19	Forecast	(\$704,375)		\$0.0264	\$62,119	\$129,644	\$4,684	\$28,405	\$1,494	(\$602,266)	(\$653,320)	5.50%	(\$3,052)	(\$605,318)	2,352,981	31
September-19	Forecast	(\$605,318)		\$0.0264	\$60,684	\$143,702	\$4,684	\$31,708	\$1,494	(\$484,415)	(\$544,867)	5.50%	(\$2,463)	(\$486,878)	2,298,638	30
October-19	Forecast	(\$486,878)		\$0.0264	\$82,519	\$156,904	\$4,684	\$33,667	\$1,425	(\$372,717)	(\$429,797)	5.25%	(\$1,916)	(\$374,633)	3,125,708	31
November-19	Forecast	(\$224,633)	1	\$0.0247	\$115,039	\$172,839	\$4,684	\$33,644	\$1,293	(\$127,212)	(\$175,923)	5.25%	(\$759)	(\$127,971)	4,657,464	30
December-19	Forecast	(\$127,971)		\$0.0247	\$146,435	\$191,508	\$4,684	\$34,455	\$1,212	(\$42,547)	(\$85,259)	5.25%	(\$380)	(\$42,927)	5,928,546	31
January-20	Forecast	(\$42,927)		\$0.0247	\$203,971	\$14,893	\$5,336	\$3,666	\$1,292	(\$221,710)	(\$132,319)	5.25%	(\$588)	(\$222,299)	8,257,918	31
February-20	Forecast	(\$222,299)		\$0.0247	\$189,461	\$29,787	\$5,336	\$7,291	\$1,285	(\$368,061)	(\$295,180)	5.25%	(\$1,228)	(\$369,289)	7,670,505	29
March-20	Forecast	(\$369,289)		\$0.0247	\$170,267	\$48,176	\$5,336	\$10,873	\$1,311	(\$473,860)	(\$421,574)	5.25%	(\$1,875)	(\$475,734)	6,893,412	31
April-20	Forecast	(\$475,734)		\$0.0247	\$130,132	\$58,428	\$5,336	\$14,695	\$1,321	(\$526,087)	(\$500,911)	5.25%	(\$2,156)	(\$528,243)	5,268,511	30
May-20	Forecast	(\$528,243)		\$0.0247	\$83,798	\$73,321	\$5,336	\$20,077	\$1,438	(\$511,869)	(\$520,056)	5.25%	(\$2,313)	(\$514,182)	3,392,622	31
June-20	Forecast	(\$514,182)		\$0.0247	\$60,599	\$92,856	\$5,336	\$25,070	\$1,492	(\$450,026)	(\$482,104)	5.25%	(\$2,075)	(\$452,101)	2,453,418	30
July-20	Forecast	(\$452,101)		\$0.0247	\$56,839	\$103,108	\$5,336	\$31,409	\$1,600	(\$367,487)	(\$409,794)	5.25%	(\$1,822)	(\$369,309)	2,301,159	31
August-20	Forecast	(\$369,309)		\$0.0247	\$57,117	\$118,001	\$5,336	\$37,117	\$1,652	(\$264,321)	(\$316,815)	5.25%	(\$1,409)	(\$265,729)	2,312,418	31
September-20	Forecast	(\$265,729)		\$0.0247	\$58,284	\$136,390	\$5,336	\$40,901	\$1,630	(\$139,756)	(\$202,743)	5.25%	(\$872)	(\$140,628)	2,359,690	30
October-20	Forecast	(\$140,628)		\$0.0247	\$74,206	\$146,642	\$5,336	\$44,054	\$1,577	(\$17,224)	(\$78,926)	5.25%	(\$351)	(\$17,575)	3,004,273	31
Nov 19 thru Oct 20 Totals					\$1,346,148	\$1,185,950	\$62,727	\$303,252	\$17,104						54,499,938	

Forecast therm Sales from Company Forecast as seen in Schedule 17, Page 2 of 3, filed on September 17, 2019 in the Cost of Gas Docket.

Actual Performance Incentives includes reconciliations from prior year(s).

(1) Includes \$150,000 adjustment for Funds Shift for On Bill Financing Mechanism

Northern Utilities, Inc. Calculation of Lost Revenue Rate (LRR) Effective November 1, 2019			
Line	Sector		Reference
Residential Classes- R5, R6, R10, R11			
1	Sector Ending Balance-October 31, 2019	\$ 13,709	Page 2, Ln 2, Nov-2019
2	Lost Distribution Revenue-November 2019 through October 2020	\$ 219,706	Page 2, Ln 12, Total
3	Interest- November 2019 through October 2020	\$ (1,699)	Page 2, Ln 25, Total
4	Total to be recovered	\$ 231,716	Line 1+ Line 2+Line 3
5	Sector Sales - Therms- November 2019 through October 2020	<u>20,251,274</u>	Page 2, Line 15
6	Lost Revenue Rate (\$ per therm)	\$0.0114	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, 2019	(11,550)	Page 2, Ln 29, Nov-2019
8	Lost Distribution Revenue-November 2019 through October 2020	\$ 118,441	Page 2, Ln 40, Total
9	Interest- November 2019 through October 2020	\$ (526)	Page 2, Ln 53, Total
10	Total to be recovered	\$ 106,365	Line 7+Line 8+Line 9
11	Sector Sales - Therms- November 2019 through October 2020	<u>54,499,938</u>	Page 2, Line 43
12	Lost Revenue Rate (\$ per therm)	\$0.0019	Line 10 / Line 11

Northern Utilities, Inc.
Lost Revenue Reconciliation
2020

Line	Sector / Description	Unit	Estimate Nov-19	Estimate Dec-19	Estimate Jan-20	Estimate Feb-20	Estimate Mar-20	Estimate Apr-20	Estimate May-20	Estimate Jun-20	Estimate Jul-20	Estimate Aug-20	Estimate Sep-20	Estimate Oct-20	Total
1	RESIDENTIAL														
2	Beginning Balance - (Over)/Under	\$'s	\$ 13,709	\$ 13,212	\$ 3,084	\$ (22,806)	\$ (46,199)	\$ (62,885)	\$ (70,393)	\$ (65,876)	\$ (56,059)	\$ (42,894)	\$ (28,013)	\$ (12,782)	
3	COSTS														
4	Incremental Annualized Savings	Therms	17,381	18,984	1,706	3,411	4,986	6,691	8,397	10,103	11,809	13,514	15,089	16,794	128,865
5	Incremental Monthly Savings	Therms	1,448	1,582	142	284	415	558	700	842	984	1,126	1,257	1,400	10,739
6															-
7	Cumulative Savings - Current	Therms	1,448	3,030	3,173	3,457	3,872	4,430	5,130	5,972	6,956	8,082	9,339	10,739	65,627
8	Cumulative Savings - Prior	Therms	22,786	22,786	22,786	22,786	22,786	22,786	22,786	22,786	22,786	22,786	22,786	22,786	273,433
9	Cumulative LBR Savings	Therms	24,235	25,817	25,959	26,243	26,658	27,216	27,916	28,758	29,742	30,868	32,125	33,525	339,060
10															
11	Average Distribution Rate	\$/Therm	\$ 0.6915	\$ 0.6915	\$ 0.6915	\$ 0.6915	\$ 0.6915	\$ 0.6915	\$ 0.6108	\$ 0.6108	\$ 0.6108	\$ 0.6108	\$ 0.6108	\$ 0.6108	
12	Lost Distribution Revenue	\$'s	\$ 16,759	\$ 17,853	\$ 17,951	\$ 18,147	\$ 18,435	\$ 18,820	\$ 17,052	\$ 17,566	\$ 18,167	\$ 18,855	\$ 19,623	\$ 20,478	\$ 219,706
13															
14	REVENUE														
15	Sector Sales	Therms	1,518,579	2,455,688	3,836,788	3,627,098	3,056,387	2,283,056	1,073,960	658,694	422,051	337,788	380,406	600,779	20,251,274
16	Lost Revenue Rate	\$/Therm	<u>\$0.0114</u>	<u>\$0.0114</u>	<u>\$0.0114</u>	<u>\$0.0114</u>	<u>\$0.0114</u>	<u>\$0.0114</u>	<u>\$0.0114</u>	<u>\$0.0114</u>	<u>\$0.0114</u>	<u>\$0.0114</u>	<u>\$0.0114</u>	<u>\$0.0114</u>	
17	Revenue	\$'s	\$ 17,312	\$ 27,995	\$ 43,739	\$ 41,349	\$ 34,843	\$ 26,027	\$ 12,243	\$ 7,509	\$ 4,811	\$ 3,851	\$ 4,337	\$ 6,849	\$ 230,865
18															
19	(Over)/Under-Recovery (Exc interest)		\$ 13,155	\$ 3,070	\$ (22,705)	\$ (46,007)	\$ (62,607)	\$ (70,092)	\$ (65,585)	\$ (55,819)	\$ (42,704)	\$ (27,889)	\$ (12,727)	\$ 847	
20															
21	INTEREST														
22	Average Monthly Balance		\$ 13,432	\$ 8,141	\$ (9,811)	\$ (34,407)	\$ (54,403)	\$ (66,488)	\$ (67,989)	\$ (60,848)	\$ (49,382)	\$ (35,391)	\$ (20,370)	\$ (5,967)	
23	Interest Rate-WSJ Prime Rate	Annual %	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	Total
24	Days per Month		30	31	31	29	31	30	31	30	31	31	30	31	366
25	Computed Interest	\$'s	\$ 57	\$ 14	\$ (101)	\$ (191)	\$ (278)	\$ (302)	\$ (292)	\$ (240)	\$ (190)	\$ (124)	\$ (55)	\$ 4	\$ (1,699)
26															
27	Ending Balance	\$'s	\$ 13,212	\$ 3,084	\$ (22,806)	\$ (46,199)	\$ (62,885)	\$ (70,393)	\$ (65,876)	\$ (56,059)	\$ (42,894)	\$ (28,013)	\$ (12,782)	\$ 851	
28	COMMERCIAL & INDUSTRIAL														
29	Beginning Balance - (Over)/Under	\$'s	\$ (11,550)	\$ (9,600)	\$ (9,443)	\$ (13,673)	\$ (16,677)	\$ (18,045)	\$ (16,085)	\$ (15,058)	\$ (12,019)	\$ (8,428)	\$ (4,558)	\$ (443)	
30															
31	COSTS														
32	Incremental Annualized Savings	Therms	34,374	37,544	3,535	7,070	10,332	13,867	17,402	20,937	24,472	28,006	31,269	34,804	263,612
33	Incremental Monthly Savings	Therms	2,865	3,129	295	589	861	1,156	1,450	1,745	2,039	2,334	2,606	2,900	21,968
34															-
35	Cumulative Savings - Current	Therms	2,865	5,993	6,288	6,877	7,738	8,894	10,344	12,088	14,128	16,462	19,067	21,968	132,710
36	Cumulative Savings - Prior	Therms	51,631	51,631	51,631	51,631	51,631	51,631	51,631	51,631	51,631	51,631	51,631	51,631	619,568
37	Cumulative LBR Savings	Therms	54,495	57,624	57,918	58,508	59,369	60,524	61,974	63,719	65,758	68,092	70,698	73,598	752,278
38															
39	Average Distribution Rate	\$/Therm	\$ 0.1989	\$ 0.1989	\$ 0.1989	\$ 0.1989	\$ 0.1989	\$ 0.1989	\$ 0.1217	\$ 0.1217	\$ 0.1217	\$ 0.1217	\$ 0.1217	\$ 0.1217	
40	Lost Distribution Revenue	\$'s	\$ 10,840	\$ 11,463	\$ 11,521	\$ 11,638	\$ 11,810	\$ 12,040	\$ 7,540	\$ 7,752	\$ 8,000	\$ 8,284	\$ 8,601	\$ 8,954	\$ 118,441
41															
42	REVENUE														
43	Sector Sales	Therms	4,657,464	5,928,546	8,257,918	7,670,505	6,893,412	5,268,511	3,392,622	2,453,418	2,301,159	2,312,418	2,359,690	3,004,273	54,499,938
44	Lost Revenue Rate	\$/Therm	<u>\$0.0019</u>	<u>\$0.0019</u>	<u>\$0.0019</u>	<u>\$0.0019</u>	<u>\$0.0019</u>	<u>\$0.0019</u>	<u>\$0.0019</u>	<u>\$0.0019</u>	<u>\$0.0019</u>	<u>\$0.0019</u>	<u>\$0.0019</u>	<u>\$0.0019</u>	
45	Revenue	\$'s	\$ 8,849	\$ 11,264	\$ 15,690	\$ 14,574	\$ 13,097	\$ 10,010	\$ 6,446	\$ 4,661	\$ 4,372	\$ 4,394	\$ 4,483	\$ 5,708	\$ 103,550
46															
47	(Over)/Under-Recovery (Exc interest)	\$'s	\$ (9,559)	\$ (9,401)	\$ (13,612)	\$ (16,608)	\$ (17,965)	\$ (16,016)	\$ (14,991)	\$ (11,967)	\$ (8,391)	\$ (4,538)	\$ (441)	\$ 2,803	
48															
49	INTEREST														
50	Average Monthly Balance		\$ (10,554)	\$ (9,501)	\$ (11,528)	\$ (15,140)	\$ (17,321)	\$ (17,030)	\$ (15,538)	\$ (13,512)	\$ (10,205)	\$ (6,483)	\$ (2,500)	\$ 1,180	
51	Interest Rate-WSJ Prime Rate	Annual %	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	Total
52	Days per Month		30	31	31	29	31	30	31	30	31	31	30	31	366
53	Computed Interest	\$'s	\$ (41)	\$ (42)	\$ (61)	\$ (69)	\$ (80)	\$ (69)	\$ (67)	\$ (51)	\$ (37)	\$ (20)	\$ (2)	\$ 12	\$ (526)
54															
55	Ending Balance	\$'s	\$ (9,600)	\$ (9,443)	\$ (13,673)	\$ (16,677)	\$ (18,045)	\$ (16,085)	\$ (15,058)	\$ (12,019)	\$ (8,428)	\$ (4,558)	\$ (443)	\$ 2,815	
	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 Excess	(5) Winter Distribution Rates First Excess	(6) = (4) X (5) Winter Distribution	(7) Billing Determinants - Summer First Excess	(8) Summer Distribution Rates First Excess	(9) = (7) X (8) Summer Distribution
				Therms	Therms	Therms \$/thm	Therms	Therms	Therms \$/thm
R-5 Residential, Heating	287,086	\$22.20	\$6,373,309	5,341,166	6,827,281	\$ 0.6920	2,678,186	386,967	\$ 0.6099
R-10 Residential Heating, Low Income	8,564	\$8.88	\$76,048	173,482	168,962	\$ 0.6920	78,682	17,691	\$ 0.6099
R-6 Residential, Non-Heating	15,843	\$22.20	\$351,715	46,057	89,086	\$ 0.6470	51,595	29,715	\$ 0.6470
Total Residential Service	311,493		\$6,801,072	5,560,705	7,085,329		2,808,463	434,373	
G-40 Low Annual, High Winter Use	60,370	\$75.09	\$4,533,183	1,668,106	5,900,405	\$ 0.1865	730,588	797,131	\$ 0.1865
G-50 Low Annual, Low Winter Use	9,691	\$75.09	\$727,697	185,040	735,257	\$ 0.1865	215,754	593,809	\$ 0.1865
G-41 Medium Annual, High Winter Use	7,812	\$222.64	\$1,739,264	8,977,469	646	\$ 0.2425	2,538,020		\$ 0.1895
G-51 Medium Annual, Low Winter Use	3,157	\$222.64	\$702,874	1,438,249	933,449	\$ 0.1712	1,234,311	636,883	\$ 0.1337
G-42 High Annual, High Winter Use	387	\$1,335.81	\$516,958	3,841,929		\$ 0.1984	1,673,749		\$ 0.1206
G-52 High Annual, Low Winter Use	402	\$1,335.81	\$536,996	7,009,575		\$ 0.1720	7,739,445		\$ 0.0792
Total General Service	81,819		\$8,756,973	23,120,368	7,569,757		14,131,866	2,027,823	
Total Company	393,312		\$15,558,045	28,681,073	14,655,086		16,940,329	2,462,196	

Notes:

Column (1), Column (4) and Column (7): 2018 actual billing determinants.

Column (2), Column (5) and Column (8): Winter and Summer distribution rates effective May 1, 2019.

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

Based on Actual Billing Determinants for 2018 at Current Distribution Rates- Winter

	(1) Total Volumetric Revenue	(2) Total Winter therms	(3)=(1)X(2) Average Distribution Rate \$/therm
R-5	\$8,420,566	12,168,447	\$0.6920
R-10	\$236,971	342,444	\$0.6920
R-6	\$87,438	135,143	\$0.6470
Total Residential Service	\$8,744,974	12,646,035	\$0.6915
G-40	\$1,411,527	7,568,510	\$0.1865
G-50	\$171,635	920,297	\$0.1865
G-41	\$2,177,036	8,978,115	\$0.2425
G-51	\$376,818	2,371,698	\$0.1589
G-42	\$762,239	3,841,929	\$0.1984
G-52	\$1,205,647	7,009,575	\$0.1720
Total General Service	\$6,104,902	30,690,124	\$0.1989

Based on Actual Billing Determinants for 2018 at Current Distribution Rates- Summer

	(1) Total Volumetric Revenue	(2) Total Summer therms	(3)=(1)X(2) Average Distribution Rate \$/therm
R-5	\$1,869,437	3,065,153	\$0.6099
R-10	\$58,778	96,373	\$0.6099
R-6	\$52,607	81,309	\$0.6470
Total Residential Service	\$1,980,822	3,242,836	\$0.6108
G-40	\$284,920	1,527,719	\$0.1865
G-50	\$150,983	809,562	\$0.1865
G-41	\$480,955	2,538,020	\$0.1895
G-51	\$234,257	1,871,194	\$0.1252
G-42	\$201,854	1,673,749	\$0.1206
G-52	\$612,964	7,739,445	\$0.0792
Total General Service	\$1,965,933	16,159,690	\$0.1217
Total	\$ 18,796,631	62,738,684	

	(10)=(3)	(11) = (6) + (9)	12=(10)+(11)	(13)=(4)+(7)
	Total Calculated Customer Revenue	Total Volumetric Revenue	Total Distribution Revenue	Total Annual Therms
R-5	\$6,373,309	\$10,290,003	\$16,663,312	15,233,601
R-10	\$76,048	\$295,749	\$371,797	438,817
R-6	\$351,715	\$140,045	\$491,759	216,453
Total Residential Service	\$6,801,072	\$10,725,796	\$17,526,869	15,888,870
G-40	\$4,533,183	\$1,696,447	\$6,229,630	9,096,229
G-50	\$727,697	\$322,619	\$1,050,316	1,729,859
G-41	\$1,739,264	\$2,657,991	\$4,397,255	11,516,135
G-51	\$702,874	\$611,074	\$1,313,949	4,242,893
G-42	\$516,958	\$964,093	\$1,481,051	5,515,678
G-52	\$536,996	\$1,818,611	\$2,355,607	14,749,020
Total General Service	\$8,756,973	\$8,070,835	\$16,827,807	46,849,814
Total Company	\$15,558,045	\$18,796,631	\$34,354,676	62,738,684

**Northern Utilities, Inc.
Gas Savings for LRR Calculation**

Planned Gas Savings - 2020		Annual
		Therms
1. Residential Programs		
2. Home Energy Assistance		21,368
3. EnergyStar® Homes		15,065
4. Home Perf w/ EnergyStar®		17,165
5. EnergyStar® Appliances		58,268
6. Home Energy Reports		19,340
7. Residential		131,206
8.		
9. Commercial & Industrial Programs		
10. Large Business Energy Solutions		190,942
11. Small Business Energy Solutions		80,964
12. Education (Gas)		-
13. Commercial & Industrial		271,906

LBR Savings Allocation		Unit	Estimate Nov-19	Estimate Dec-19	Estimate Jan-20	Estimate Feb-20	Estimate Mar-20	Estimate Apr-20	Estimate May-20	Estimate Jun-20	Estimate Jul-20	Estimate Aug-20	Estimate Sep-20	Estimate Oct-20	Estimate Nov-20	Estimate Dec-20	Nov-19 to Oct- 20 Total	Jan-20 to Dec- 20 Total
14. Residential Programs			14.1%	15.4%	1.3%	2.6%	3.8%	5.1%	6.4%	7.7%	9.0%	10.3%	11.5%	12.8%	14.1%	15.4%	100.0%	100.0%
15. Annualized Therms	Therms		17,381	18,984	1,706	3,411	4,986	6,691	8,397	10,103	11,809	13,514	15,089	16,794	18,500	20,206	128,865	131,206
16.																		
17. Monthly Incremental	Therms		1,448	1,582	142	284	415	558	700	842	984	1,126	1,257	1,400	1,542	1,684	10,739	10,934
18. Monthly Cumulative	Therms		24,235	25,817	25,959	26,243	26,658	27,216	27,916	28,758	29,742	30,868	32,125	33,525	35,067	36,750	339,060	360,826
19.																		
20. Commercial & Industrial Programs			14%	15%	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		34,374	37,544	3,535	7,070	10,332	13,867	17,402	20,937	24,472	28,006	31,269	34,804	38,339	41,874	263,612	271,906
22.																		
23. Monthly Incremental	Therms		2,865	3,129	295	589	861	1,156	1,450	1,745	2,039	2,334	2,606	2,900	3,195	3,489	21,968	22,659
24. Monthly Cumulative	Therms		54,495	57,624	57,918	58,508	59,369	60,524	61,974	63,719	65,758	68,092	70,698	73,598	76,793	80,283	752,278	797,234

Northern Utilities, Inc.
Lost Revenue Reconciliation
2019

Northern Utilities, Inc. - NH
 New Hampshire Division
 Schedule 38-SED - LRR
 Page 5 of 6

Line	Sector / Description	Unit	Recast Jan-19	Recast Feb-19	Recast Mar-19	Recast Apr-19	Recast May-19	Recast Jun-19	Recast Jul-19	Estimate Aug-19	Estimate Sep-19	Estimate Oct-19	Total
1	RESIDENTIAL												
2	Beginning Balance - (Over)/Under	\$'s	\$ 10,135	\$ (2,638)	\$ (17,406)	\$ (28,736)	\$ (32,158)	\$ (30,388)	\$ (23,653)	\$ (15,253)	\$ (6,079)	\$ 3,892	
3	COSTS												
4	Incremental Annualized Savings	Therms	1,603	3,205	4,684	6,287	7,889	9,492	11,094	12,697	14,176	15,779	86,905
5	Incremental Monthly Savings	Therms	134	267	390	524	657	791	925	1,058	1,181	1,315	7,242
6													
7	Cumulative Savings - Current	Therms	134	401	791	1,315	1,972	2,763	3,688	4,746	5,927	7,242	28,979
8	Cumulative Savings - Prior	Therms	15,544	15,544	15,544	15,544	15,544	15,544	15,544	15,544	15,544	15,538	155,434
9	Cumulative LBR Savings	Therms	15,678	15,945	16,335	16,859	17,516	18,307	19,232	20,290	21,471	22,786	184,419
10													
11	Average Distribution Rate	\$/Therm	\$ 0.6655	\$ 0.6655	\$ 0.6655	\$ 0.6655	\$ 0.5879	\$ 0.5879	\$ 0.5879	\$ 0.5879	\$ 0.5879	\$ 0.5879	
12	Lost Distribution Revenue (Actual thru July)	\$'s	\$ 10,693	\$ 10,871	\$ 11,131	\$ 11,479	\$ 10,529	\$ 10,994	\$ 11,538	\$ 11,928	\$ 12,623	\$ 13,396	\$ 115,181
13													
14	REVENUE												
15	Sector Sales	Therms	3,258,067	3,551,022	3,101,792	2,049,591	1,196,803	576,966	425,956	378,689	370,740	505,546	15,415,172
16	Lost Revenue Rate	\$/Therm	\$0.0072	\$0.0072	\$0.0072	\$0.0072	\$0.0072	\$0.0072	\$0.0072	\$0.0072	\$0.0072	\$0.0072	
17	Revenue	\$'s	\$ 23,454	\$ 25,569	\$ 22,332	\$ 14,756	\$ 8,618	\$ 4,153	\$ 3,067	\$ 2,727	\$ 2,669	\$ 3,640	\$ 110,985
18													
19	(Over)/Under-Recovery (Exc interest)	\$	\$ (2,626)	\$ (17,336)	\$ (28,608)	\$ (32,013)	\$ (30,246)	\$ (23,546)	\$ (15,182)	\$ (6,051)	\$ 3,874	\$ 13,648	
20													
21	INTEREST												
22	Average Monthly Balance	\$	\$ 3,754	\$ (9,987)	\$ (23,007)	\$ (30,374)	\$ (31,202)	\$ (26,967)	\$ (19,417)	\$ (10,652)	\$ (1,103)	\$ 8,770	
23	Interest Rate-WSJ Prime Rate	Annual %	5.25%	5.25%	5.25%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.25%	Total
24	Days per Month		31	28	31	30	31	30	31	31	30	31	365
25	Computed Interest	\$'s	\$ (12)	\$ (70)	\$ (128)	\$ (145)	\$ (141)	\$ (106)	\$ (71)	\$ (28)	\$ 18	\$ 61	\$ (622)
26													
27	Ending Balance	\$'s	\$ (2,638)	\$ (17,406)	\$ (28,736)	\$ (32,158)	\$ (30,388)	\$ (23,653)	\$ (15,253)	\$ (6,079)	\$ 3,892	\$ 13,709	
28	COMMERCIAL & INDUSTRIAL												
29	Beginning Balance - (Over)/Under	\$'s	\$ (21,857)	\$ (24,502)	\$ (27,131)	\$ (28,907)	\$ (27,749)	\$ (28,000)	\$ (26,206)	\$ (22,778)	\$ (19,133)	\$ (15,173)	
30													
31	COSTS												
32	Incremental Annualized Savings	Therms	3,169	6,339	9,264	12,433	15,603	18,772	21,941	25,110	28,036	31,205	171,872
33	Incremental Monthly Savings	Therms	264	528	772	1,036	1,300	1,564	1,828	2,093	2,336	2,600	14,323
34													
35	Cumulative Savings - Current	Therms	264	792	1,564	2,600	3,901	5,465	7,293	9,386	11,722	14,323	57,311
36	Cumulative Savings - Prior	Therms	37,308	37,308	37,308	37,308	37,308	37,308	37,308	37,308	37,308	37,308	373,080
37	Cumulative LBR Savings	Therms	37,572	38,100	38,872	39,908	41,209	42,773	44,601	46,694	49,030	51,631	430,391
38													
39	Average Distribution Rate	\$/Therm	\$ 0.1913	\$ 0.1913	\$ 0.1913	\$ 0.1913	\$ 0.1165	\$ 0.1165	\$ 0.1165	\$ 0.1165	\$ 0.1165	\$ 0.1165	
40	Lost Distribution Revenue	\$'s	\$ 8,216	\$ 8,317	\$ 8,465	\$ 8,663	\$ 5,506	\$ 5,691	\$ 5,907	\$ 6,155	\$ 6,431	\$ 6,738	\$ 70,088
41													
42	REVENUE												
43	Sector Sales	Therms	7,679,623	7,740,712	7,222,952	5,271,578	4,019,264	2,700,062	1,695,103	1,729,228	1,715,826	2,188,463	41,962,812
44	Lost Revenue Rate	\$/Therm	\$0.0014	\$0.0014	\$0.0014	\$0.0014	\$0.0014	\$0.0014	\$0.0014	\$0.0014	\$0.0014	\$0.0014	
45	Lost Distribution Revenue (Actual thru July)	\$'s	\$ 10,752	\$ 10,837	\$ 10,112	\$ 7,381	\$ 5,627	\$ 3,779	\$ 2,373	\$ 2,421	\$ 2,402	\$ 3,064	\$ 58,747
46													
47	(Over)/Under-Recovery (Exc interest)	\$'s	\$ (24,393)	\$ (27,022)	\$ (28,778)	\$ (27,625)	\$ (27,870)	\$ (26,088)	\$ (22,672)	\$ (19,044)	\$ (15,104)	\$ (11,498)	
48													
49	INTEREST												
50	Average Monthly Balance	\$	\$ (23,125)	\$ (25,762)	\$ (27,955)	\$ (28,266)	\$ (27,810)	\$ (27,044)	\$ (24,439)	\$ (20,911)	\$ (17,119)	\$ (13,335)	
51	Interest Rate-WSJ Prime Rate	Annual %	5.25%	5.25%	5.25%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.25%	Total
52	Days per Month		31	28	31	30	31	30	31	31	30	31	365
53	Computed Interest	\$'s	\$ (109)	\$ (109)	\$ (128)	\$ (125)	\$ (130)	\$ (118)	\$ (106)	\$ (89)	\$ (68)	\$ (51)	\$ (1,033)
54													
55	Ending Balance	\$'s	\$ (24,502)	\$ (27,131)	\$ (28,907)	\$ (27,749)	\$ (28,000)	\$ (26,206)	\$ (22,778)	\$ (19,133)	\$ (15,173)	\$ (11,550)	

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 savings will be provided in the June 2020 filing. The Average Distribution rate for Residential and C&I Classes for the months of January through April 2019 are from the 2019 Plan Compliance Filing (LRR Page 4 of 22) in Docket No. DE 17-136 on June 1, 2019.

Calculation of Lost Revenues - Northern Utilities, Inc.
Year 2020

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

	Annualized Therm Savings	"Installed" Savings												Total
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Residential														
Jan	1,706	142	142	142	142	142	142	142	142	142	142	142	142	1,706
Feb	3,411		284	284	284	284	284	284	284	284	284	284	284	3,127
Mar	4,986			415	415	415	415	415	415	415	415	415	415	4,155
Apr	6,691				558	558	558	558	558	558	558	558	558	5,019
May	8,397					700	700	700	700	700	700	700	700	5,598
Jun	10,103						842	842	842	842	842	842	842	5,893
Jul	11,809							984	984	984	984	984	984	5,904
Aug	13,514								1,126	1,126	1,126	1,126	1,126	5,631
Sep	15,089									1,257	1,257	1,257	1,257	5,030
Oct	16,794										1,400	1,400	1,400	4,199
Nov	18,500											1,542	1,542	3,083
Dec	20,206												1,684	1,684
Total	131,206	142	426	842	1,400	2,099	2,941	3,925	5,051	6,309	7,708	9,250	10,934	51,028
		142	569	1,410	2,810	4,909	7,850	11,776	16,827	23,136	30,844	40,094	51,028	
Proposed Distribution Rate		\$ 0.6915	\$ 0.6915	\$ 0.6915	\$ 0.6915	\$ 0.6108	\$ 0.6108	\$ 0.6108	\$ 0.6108	\$ 0.6108	\$ 0.6108	\$ 0.6915	\$ 0.6915	
Lost Revenue		\$ 98	\$ 393	\$ 975	\$ 1,943	\$ 2,999	\$ 4,795	\$ 7,193	\$ 10,279	\$ 14,132	\$ 18,841	\$ 27,726	\$ 35,287	\$ 124,661
C&I														
Jan	3,535	295	295	295	295	295	295	295	295	295	295	295	295	3,535
Feb	7,070		589	589	589	589	589	589	589	589	589	589	589	6,480
Mar	10,332			861	861	861	861	861	861	861	861	861	861	8,610
Apr	13,867				1,156	1,156	1,156	1,156	1,156	1,156	1,156	1,156	1,156	10,400
May	17,402					1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	11,601
Jun	20,937						1,745	1,745	1,745	1,745	1,745	1,745	1,745	12,213
Jul	24,472							2,039	2,039	2,039	2,039	2,039	2,039	12,236
Aug	28,006								2,334	2,334	2,334	2,334	2,334	11,669
Sep	31,269									2,606	2,606	2,606	2,606	10,423
Oct	34,804										2,900	2,900	2,900	8,701
Nov	38,339											3,195	3,195	6,390
Dec	41,874												3,489	3,489
Total	271,906	295	884	1,745	2,900	4,351	6,095	8,135	10,468	13,074	15,975	19,169	22,659	105,749
		295	1,178	2,923	5,823	10,174	16,269	24,404	34,872	47,946	63,921	83,090	105,749	
Proposed Distribution Rate		\$ 0.1963	\$ 0.1963	\$ 0.1963	\$ 0.1963	\$ 0.1216	\$ 0.1216	\$ 0.1216	\$ 0.1216	\$ 0.1216	\$ 0.1216	\$ 0.1963	\$ 0.1963	
Lost Revenue		\$ 58	\$ 231	\$ 574	\$ 1,143	\$ 1,238	\$ 1,979	\$ 2,968	\$ 4,242	\$ 5,832	\$ 7,775	\$ 16,307	\$ 20,754	\$ 63,101
Total Lost Revenue														\$ 187,762

CALCULATION OF ENVIRONMENTAL RESPONSE COST RATE

November 1, 2019 through October 31, 2020

Total ERC Costs for the Period	<u><u>\$435,575</u></u> (See 2019 ERC Filing)
Less Current (Over) Collection (Estimated)	<u>(\$12,257) (See page 2 of 2)</u>
Total ERC Cost to be Recovered	<u><u>\$423,318</u></u>
Forecasted Firm Sales & Firm Transportation Volumes (Attachment 2 to Schedule 10B, Page 2 of 3, "Total Division" subtract "Special Contracts").	<u>74,751,212</u>
ERC Recovery Rate	<u><u>\$0.0057</u></u>

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

Month	Actual or Forecast	Beginning Balance (Over)/Under	Revenue	Prior Period ERC Costs To be recovered	Ending Balance (Over)/Under
August	Actual	\$58,616	\$16,026	\$429,241	\$42,590
September	Actual	\$42,590	\$16,163		\$26,427
October	Actual	\$26,427	\$22,619		\$3,808
November-'18	Actual	\$3,808	\$38,941		\$394,108
December	Actual	\$394,108	\$56,301		\$337,807
January- '19	Actual	\$337,807	\$63,434		\$274,372
February	Actual	\$274,372	\$65,494		\$208,879
March	Actual	\$208,879	\$59,880		\$148,998
April	Actual	\$148,998	\$42,469		\$106,529
May	Actual	\$106,529	\$30,252		\$76,277
June	Actual	\$76,277	\$19,019		\$57,259
July	Actual	\$57,259	\$16,750		\$40,509
August	Est.	\$40,509	\$15,658		\$24,851
September	Est.	\$24,851	\$15,299		\$9,552
October	Est.	\$9,552	\$21,808		(\$12,257)

**NORTHERN UTILITIES, INC. - NEW HAMPSHIRE DIVISION
REMEDATION ADJUSTMENT CLAUSE COMPLIANCE FILING
2019-2020 ENVIRONMENTAL 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	11/24-10/25	11/25-10/26
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	July 17 - June 18 Expenses Amortization (1/7)	\$ 283,143								\$ 40,449	\$ 40,449	\$ 40,449	\$ 40,449	\$ 40,449	\$ 40,449	\$ 40,449	
9	July 18 - June 19 Expenses Amortization (1/7)	\$ 203,357									\$ 29,051	\$ 29,051	\$ 29,051	\$ 29,051	\$ 29,051	\$ 29,051	\$ 29,051
10	Subtotal (Line 1 through Line 7)	\$ 3,329,253	\$ 17,316	\$ 40,033	\$ 65,091	\$ 70,931	\$ 86,959	\$ 398,371	\$ 406,108	\$ 429,241	\$ 435,575	\$ 410,517	\$ 404,677	\$ 388,648	\$ 77,236	\$ 69,500	\$ 29,051
11	Add: Excess amortization from prior years (from schedule 5, Line 10)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12	Less: Excess amortization to be deferred (from schedule 5, Line 9)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
13	Total Environmental Response cost to be recovered (ERC)	\$ 3,329,253	\$ 17,316	\$ 40,033	\$ 65,091	\$ 70,931	\$ 86,959	\$ 398,371	\$ 406,108	\$ 429,241	\$ 435,575	\$ 410,517	\$ 404,677	\$ 388,648	\$ 77,236	\$ 69,500	\$ 29,051
14	July 2010 - June 2011 Unamortized beginning balance	\$ 121,209		\$ 103,893	\$ 86,578	\$ 69,262	\$ 51,947	\$ 34,631	\$ 17,316								
15	July 2011 - June 2012 Unamortized beginning balance			\$ 159,020	\$ 136,303	\$ 113,586	\$ 90,869	\$ 68,151	\$ 45,434	\$ 22,717							
16	July 2012 - June 2013 Unamortized beginning balance				\$ 175,406	\$ 150,348	\$ 125,290	\$ 100,232	\$ 75,174	\$ 50,116	\$ 25,058						
17	July 2013 - June 2014 Unamortized beginning balance					\$ 40,881	\$ 35,041	\$ 29,201	\$ 23,361	\$ 17,521	\$ 11,680						
18	July 2014 - June 2015 Unamortized beginning balance						\$ 112,198	\$ 96,170	\$ 80,141	\$ 64,113	\$ 48,085	\$ 32,057	\$ 16,028				
19	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			
20	July 2016 - June 2017 Unamortized beginning balance								\$ 54,154	\$ 46,418	\$ 38,681	\$ 30,945	\$ 23,209	\$ 15,473	\$ 7,736		
21	July 2017 - June 2018 Unamortized beginning balance									\$ 283,143	\$ 242,694	\$ 202,245	\$ 161,796	\$ 121,347	\$ 80,898	\$ 40,449	
22	July 2018 - June 2019 Unamortized beginning balance										\$ 203,357	\$ 174,306	\$ 145,255	\$ 116,204	\$ 87,153	\$ 58,102	\$ 29,051
23	Total Unamortized beginning balance	\$ 121,209	\$ 262,913	\$ 398,287	\$ 374,077	\$ 415,344	\$ 2,508,270	\$ 2,164,053	\$ 2,041,089	\$ 1,815,204	\$ 1,379,629	\$ 969,112	\$ 564,436	\$ 175,787	\$ 98,551	\$ 29,051	
24	INSURANCE/3RD PARTY EXPENSES (IE) Expenses (from schedule 2)																
25	INSURANCE/3RD PARTY RECOVERIES (IR)																
26	UNDER/OVER Recovery from previous year																
27	Total of Lines 24 through 26	\$ 121,209	\$ 262,913	\$ 398,287	\$ 374,077	\$ 415,344	\$ 2,508,270	\$ 2,164,053	\$ 2,041,089	\$ 1,815,204	\$ 1,379,629	\$ 969,112	\$ 564,436	\$ 175,787	\$ 98,551	\$ 29,051	