Liberty Utilities (EnergyNorth Natural Gas) Corp.
d/b/a Liberty Utilities
Peak 2020 - 2021 Winter Cost of Gas Filing

Table of Contents

Ln	Description	Reference		Amount
1	**Liberty Utilities (EnergyNorth Natural Gas) Corp.**			
2	**d/b/a Liberty Utilities**			
3	**Peak 2020 - 2021 Winter Cost of Gas Filing**			
4	**Summary**			
5				PK 20-21
6		Reference		Nov - Apr
7	(a)	(b)		(c)
8				
9	**Anticipated Direct Cost of Gas**			
10	Purchased Gas:			
11	Demand Costs:	Sch. 5A, col (k), ln 45	$	12,022,922
12	Supply Costs	Sch. 6, col (i), ln 45		28,276,980
13				
14	Storage Gas:			
15	Demand, Capacity:	Sch. 5A, col (k), ln 60	$	955,766
16	Commodity Costs:	Sch. 6, col (i), ln 48		3,064,149
17				
18	Produced Gas:	Sch. 6, col (i), ln 54	$	1,590,589
19				
20	Hedge Contract (Savings)/Loss	Sch. 7, col (i), ln 34	$	-
21	Hedge Underground Storage Contract (Savings)/Loss	Sch. 16, col (e), ln 172	$	-
22				
23	**Total Unadjusted Cost of Gas**		$	45,910,407
24				
25	**Adjustments:**			
26				
27	Prior Period (Over)/Under Recovery	Sch. 3, col (c) ln 28	$	2,227,421
28	Interest 05/01/19 - 4/30/20	Sch. 3, col (q) ln 193		72,812
29	Fuel Inventory Revenue Req	Sch. 26, col (b) ln 8		441,037
30	Refunds from Suppliers	Sch. 4, ln 26 col (c)		-
31	Broker Revenues	Sch. 4, ln 26 col (d)		(32,725)
32	Fuel Financing	Sch. 4, ln 26 col (e)		-
33	Transportation CGA Revenues	Sch. 4, ln 26 col (f)		(4,516)
34	Interruptible Sales Margin	Sch. 4, ln 26 col (g)		-
35	Capacity Release and Off System Sales Margins	Sch. 4, ln 26 col (h) + col (i)		(1,736,581)
36	Hedging Costs	Sch. 4, ln 26 col (j)		-
38	Fixed Price Option Administrative Costs	Sch. 4, ln 26 col (k)		45,000
39				
40	**Total Adjustments**		$	1,012,447
41				
42	**Total Anticipated Direct Costs**	lns 23 + 40	$	46,922,854
43				
44	**Anticipated Indirect Cost of Gas**			
45	**Working Capital**			
46	Total Unadjusted Anticipated Cost of Gas	Ln 23	$	45,910,407
47	Lead Lag Days / 365	DG 10-017, 14.27 / 365		0.0391
48	Prime Rate			3.25%
49	Working Capital Percentage	per GTC 17(f), ln 47 * ln 48		0.127%
50	Working Capital	ln 46 * ln 49		58,347
51	Plus: Working Capital Reconciliation	Sch. 3, col (c), ln 94		(66,837)
52				
53	**Total Working Capital Allowance**	lns 50 + 51	$	(8,490)
54				
55	**Bad Debt**			
56	Total Unadjusted Anticipated Cost of Gas	ln 23	$	45,910,407
57	Less Refunds	ln 30		-
58	Plus Working Capital	ln 53		(8,490)
59	Plus Prior Period (Over) Under Recovery	ln 27		2,227,421
60	Subtotal		$	48,129,338
61	Bad Debt Percentage	per GTC 17(f)		1.11%
62				
63	Bad Debt Allowance	ln 60 * ln 61	$	534,236
64	Prior Period Bad Debt Allowance	Sch. 3, col (c), ln 181		(296,628)
65				
66	**Total Bad Debt Allowance**	lns 63 + 64	$	237,608
67				
68	**Production and Storage Capacity**	per GTC17(f)	$	1,980,428
69				
70	**Miscellaneous Overhead**	per GTC 17(f)	$	13,170
71	Sales Volume	Sch. 10B, ln 23/1000		89,365
72	Divided by Total Sales	Sch. 10B, ln 23/1000		111,369
73	Ratio			80.24%
74				
75	**Miscellaneous Overhead**	lns 70 * 73	$	10,568
76				
77	**Total Anticipated Indirect Cost of Gas**	lns 53 + 66 + 68 + 75	$	2,220,114
78				
79	**Total Cost of Gas**	lns 42 + 77	$	49,142,968
80				
81	**Projected Forecast Sales (Therms)**	Sch. 3, col (q), ln 52		88,213,529

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2 **d/b/a Liberty Utilities**
3 **Peak 2020 - 2021 Winter Cost of Gas Filing**
4 **Summary of Supply and Demand Forecast**

Ln		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
5												
6				Peak Costs								Peak Period
7	For Month of:			May 20 - Oct 20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Nov - Apr
8		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
9	**I. Gas Volumes (Therms)**											
10											1,456,273	1.6%
11	**A.**	**Firm Demand Volumes**										
12		Firm Gas Sales	Sch. 10B, ln 23	-	6,632,575	17,520,726	20,197,255	16,296,676	14,827,692	8,721,431	4,017,174	88,213,529
13		Lost Gas (Unaccounted for)		-	179,773	261,536	306,718	242,859	220,549	127,057		1,338,492
14		Company Use		-	15,819	23,014	26,990	21,370	19,407	11,180		117,781
15		Unbilled Therms		-	5,383,667	(39,381)	304,071	(63,718)	(85,984)	(228,822)	(4,017,174)	1,252,658
16												
17	**Total Firm Volumes**		Sch. 6, ln 94	-	12,211,835	17,765,894	20,835,033	16,497,187	14,981,664	8,630,846		90,922,460
18												
19	**B.**	**Supply Volumes (Therms)**										
20	Pipeline Gas:											
21		Dawn Supply	Sch. 6, ln 64	-	870,804	925,912	929,473	820,216	913,878	721,190		5,181,473
22		Niagara Supply	Sch. 6, ln 65	-	686,821	729,872	732,679	646,410	720,386	659,273		4,175,441
23		TGP Supply (Direct)	Sch. 6, ln 66	-	4,579,051	3,124,576	3,136,594	2,760,187	3,083,965	613,539		17,297,912
24		Dracut Supply 1 - Baseload	Sch. 6, ln 67	-	-	2,798,848	4,682,940	3,099,664	-	-		10,581,452
25		Dracut Supply 2 - Swing	Sch. 6, ln 68	-	3,470,755	188,500	392,074	-	2,429,813	1,319,250		7,800,392
26		Constellation COMBO	Sch. 6, ln 69	-	-	1,523,080	1,182,278	1,020,648	611,732	-		4,337,738
27		LNG Truck	Sch. 6, ln 70	-	20,524	689,156	646,393	785,455	105,676	-		2,247,204
28		Propane Truck	Sch. 6, ln 71	-	-	-	181,656	-	-	-		181,656
29		PNGTS	Sch. 6, ln 72	-	217,701	231,478	232,368	204,869	228,469	208,969		1,323,855
30		Portland Natural Gas	Sch. 6, ln 73		1,063,583	1,130,246	1,134,593	1,001,418	1,115,556	787,328		6,232,725
31		TGP Supply (Z4)	Sch. 6, ln 74	-	1,803,913	1,923,454	1,930,852	1,704,038	1,898,454	4,301,810		13,562,522
32		Subtotal Pipeline Volumes		-	12,713,152	13,265,122	15,181,900	12,042,907	11,107,929	8,611,360		72,922,371
33												
34	Storage Gas:											
35		TGP Storage	Sch. 6, ln 79	-	993,817	4,501,466	5,242,978	4,443,415	3,956,513	-		19,138,188
36												
37	Produced Gas:											
38		LNG Vapor	Sch. 6, ln 82	-	17,634	633,355	704,270	780,169	21,244	19,486		2,176,158
39		Propane	Sch. 6, ln 83	-	-	-	504,301	-	-	-		504,301
40		Subtotal Produced Gas		-	17,634	633,355	1,208,571	780,169	21,244	19,486		2,680,459
41												
42	Less - Gas Refill:											
43		LNG Truck	Sch. 6, ln 88	-	(17,634)	(634,048)	(623,260)	(769,303)	(104,022)	-		(2,148,269)
44		Propane	Sch. 6, ln 89	-	-	-	(175,155)	-	-	-		(175,155)
45		TGP Storage Refill	Sch. 6, ln 90	-	(1,495,134)	-	-	-	-	-		(1,495,134)
46		Subtotal Refills		-	(1,512,768)	(634,048)	(798,416)	(769,303)	(104,022)	-		(3,818,558)
47												
48	Total Firm Sendout Volumes		lns 32 + 35 + 40 + 46	-	12,211,835	17,765,894	20,835,033	16,497,187	14,981,664	8,630,846		90,922,460
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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2 **d/b/a Liberty Utilities**
3 **Peak 2020 - 2021 Winter Cost of Gas Filing**
4 **Summary of Supply and Demand Forecast**
50 **II. Gas Costs**
51 **A. Demand Costs**

Line			Peak Costs								Peak Period
55	For Month of:		May 20 - Oct 20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Nov - Apr
56	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
57	Supply										
58	Niagara Supply	Sch.5A, ln 12	[redacted]								
59	Subtotal Supply Demand										
60	Less Capacity Credit										
61	Net Pipeline Demand Costs										
62											
63	Pipeline:										
64	Iroquois Gas Trans Service RTS 470-0	Sch.5A, ln 16	[redacted]								
65	Tenn Gas Pipeline 95346 Z5-Z6	Sch.5A, ln 17									
66	Tenn Gas Pipeline 2302 Z5-Z6	Sch.5A, ln 18									
67	Tenn Gas Pipeline 8587 Z0-Z6	Sch.5A, ln 19									
68	Tenn Gas Pipeline 8587 Z1-Z6	Sch.5A, ln 20									
69	Tenn Gas Pipeline 8587 Z4-Z6	Sch.5A, ln 21									
70	Tenn Gas Pipeline (Dracut) 42076 Z6-Z6	Sch.5A, ln 22									
71	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Sch.5A, ln 23									
72	Portland Natural Gas Trans Service	Sch.5A, ln 24									
73	Portland Natural Gas	Sch.5A, ln 25									
74	ANE (TransCanada via Union to Iroquois)	Sch.5A, ln 26									
75	TransCanada via Union to Portland	Sch.5A, ln 27									
76	Tenn Gas Pipeline Z4-Z6 stg 632	Sch.5A, ln 28									
77	Tenn Gas Pipeline Z4-Z6 stg 11234	Sch.5A, ln 29									
78	Tenn Gas Pipeline Z5-Z6 stg 11234	Sch.5A, ln 30									
79	National Fuel FST 2358	Sch.5A, ln 31									
80	Subtotal Pipeline Demand		$ 3,922,876	$ 1,419,895	$ 1,419,895	$ 1,419,895	$ 1,419,895	$ 1,419,895	$ 1,419,895		$ 12,442,244
81	Less Capacity Credit		(1,439,696)	(365,765)	(365,765)	(365,765)	(365,765)	(365,765)	(365,765)		(3,634,285)
82	Net Pipeline Demand Costs		$ 2,483,181	$ 1,054,130	$ 1,054,130	$ 1,054,130	$ 1,054,130	$ 1,054,130	$ 1,054,130		$ 8,807,959
83											
84	Peaking Supply:										
85	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Sch.5A, ln 36	[redacted]								
86	Demand FLS	Sch.5A, ln 37									
87	Constellation Demand	Sch.5A, ln 38									
88	Subtotal Peaking Demand		$ -	$ 866,100	$ 866,100	$ 866,100	$ 866,100	$ 866,100	$ -		$ 4,330,500
89	Less Capacity Credit		-	(223,107)	(223,107)	(223,107)	(223,107)	(223,107)	-		(1,115,537)
90	Net Peaking Supply Demand Costs		$ -	$ 642,993	$ 642,993	$ 642,993	$ 642,993	$ 642,993	$ -		$ 3,214,963
91											
92	Storage:										
93	Dominion - Demand	Sch.5A, ln 48	[redacted]								
94	Dominion - Storage	Sch.5A, ln 49									
95	Honeoye - Demand	Sch.5A, ln 50									
96	National Fuel - Demand	Sch.5A, ln 51									
97	National Fuel - Capacity	Sch.5A, ln 52									
98	Tenn Gas Pipeline - Demand	Sch.5A, ln 53									
99	Tenn Gas Pipeline - Capacity	Sch.5A, ln 54									
100	Subtotal Storage Demand		$ 694,900	$ 115,817	$ 115,817	$ 115,817	$ 115,817	$ 115,817	$ 115,817		$ 1,389,801
101	Less Capacity Credit		(255,028)	(29,834)	(29,834)	(29,834)	(29,834)	(29,834)	(29,834)		(434,035)
102	Net Storage Demand Costs		$ 439,872	$ 85,982	$ 85,982	$ 85,982	$ 85,982	$ 85,982	$ 85,982		$ 955,766
103											
104	Total Demand Charges	lns 59 + 80 + 88 + 100	$ 4,617,777	$ 2,401,811	$ 2,401,811	$ 2,401,811	$ 2,401,811	$ 2,401,811	$ 1,535,711		$ 18,162,544
105	Total Capacity Credit	lns 60 + 81 + 89 + 101	(1,694,724)	(618,707)	(618,707)	(618,707)	(618,707)	(618,707)	(395,599)		(5,183,856)
106	Net Demand Charges		$ 2,923,053	$ 1,783,105	$ 1,783,105	$ 1,783,105	$ 1,783,105	$ 1,783,105	$ 1,140,112		$ 12,978,688

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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2 **d/b/a Liberty Utilities**
3 **Peak 2020 - 2021 Winter Cost of Gas Filing**
4 **Summary of Supply and Demand Forecast**

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Line												
109	**B.**	**Commodity Costs**										
110												
111												
112												
113				Peak Costs								Peak Period
114				May 20 - Oct 20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Nov - Apr
115		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
116	Pipeline:											
117		Dawn Supply	Sch. 6, ln 12	[redacted]								
118		Niagara Supply	Sch. 6, ln 13									
119		TGP Supply (Direct)	Sch. 6, ln 14									
120		Dracut Supply 1 - Baseload	Sch. 6, ln 15									
121		Dracut Supply 2 - Swing	Sch. 6, ln 16									
122		Constellation COMBO	Sch. 6, ln 17									
123		LNG Truck	Sch. 6, ln 18									
124		Propane Truck	Sch. 6, ln 19									
125		PNGTS	Sch. 6, ln 20									
126		Portland Natural Gas	Sch. 6, ln 21									
127		TGP Supply (Z4)	Sch. 6, ln 22									
128		Subtotal Pipeline Commodity Costs		$ -	$ 3,567,106	$ 5,511,412	$ 7,763,875	$ 5,518,062	$ 4,317,360	$ 2,239,092		$ 28,916,907
129												
130	Storage:											
131		TGP Storage - Withdrawals	Sch. 6, ln 48	$ -	$ 159,117	$ 720,714	$ 839,435	$ 711,420	$ 633,464	$ -		$ 3,064,149
132												
133	Produced Gas Costs:											
134		LNG Vapor	Sch. 6, ln 51	[redacted]								
135		Propane	Sch. 6, ln 52									
136		Subtotal Produced Gas Costs		$ -	$ 8,638	$ 295,616	$ 901,402	$ 366,241	$ 9,750	$ 8,943		$ 1,590,589
137												
138	Less Storage Refills:											
139		LNG Truck	Sch. 6, ln 38	[redacted]								
140		Propane	Sch. 6, ln 39									
141		TGP Storage Refill	Sch. 6, ln 40									
142		Storage Refill (Trans.)	Sch. 6, ln 41									
143		Subtotal Storage Refill		$ -	$ (475,910)	$ (292,506)	$ (505,671)	$ (360,919)	$ (47,139)	$ -		$ (1,682,144)
144												
145	Total Supply Commodity Costs			$ -	$ 3,258,951	$ 6,235,236	$ 8,999,041	$ 6,234,803	$ 4,913,435	$ 2,248,035		$ 31,889,502
146												
147	**C. Supply Volumetric Transportation Costs:**											
148		Dawn Supply	Sch. 6, ln 27	[redacted]								
149		Niagara Supply	Sch. 6, ln 28									
150		TGP Supply (Direct)	Sch. 6, ln 29									
151		Dracut Supply 1 - Baseload	Sch. 6, ln 30									
152		Dracut Supply 2 - Swing	Sch. 6, ln 31									
153		Subtotal Pipeline Volumetric Trans. Costs		$ -	$ 194,698	$ 145,817	$ 154,806	$ 131,154	$ 141,025	$ 38,870		$ 806,371
154												
155		TGP Storage - Withdrawals	Sch. 6, ln 33	$ -	$ 12,247	$ 55,473	$ 64,611	$ 54,758	$ 48,757	$ -		$ 235,846
156												
157		Total Supply Volumetric Trans. Costs	lns 153 + 155	$ -	$ 206,946	$ 201,290	$ 219,417	$ 185,911	$ 189,783	$ 38,870		$ 1,042,217
158												
159	Total Commodity Gas & Trans. Costs		lns 145 + 157	$ -	$ 3,465,897	$ 6,436,527	$ 9,218,458	$ 6,420,714	$ 5,103,217	$ 2,286,905		$ 32,931,719
160												
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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2 **d/b/a Liberty Utilities**
3 **Peak 2020 - 2021 Winter Cost of Gas Filing**
4 **Summary of Supply and Demand Forecast**
162 **D. Supply and Demand Costs by Source**

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Line			Peak Costs	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Peak Period Nov - Apr
168	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
169	Purchased Gas Demand Costs										
170	Pipeline Gas Demand Costs	lns 59 + 80	$ 3,922,876	$ 1,419,895	$ 1,419,895	$ 1,419,895	$ 1,419,895	$ 1,419,895	$ 1,419,895		$ 12,442,244
171	Peaking Gas Demand Costs	ln 88	-	866,100	866,100	866,100	866,100	866,100	-		4,330,500
172	Subtotal Purchased Gas Demand Costs		$ 3,922,876	$ 2,285,995	$ 2,285,995	$ 2,285,995	$ 2,285,995	$ 2,285,995	$ 1,419,895		$ 16,772,744
173	Less Capacity Credit	lns 60 + 81 + 89	(1,439,696)	(588,872)	(588,872)	(588,872)	(588,872)	(588,872)	(365,765)		(4,749,821)
174	Net Purchased Gas Demand Costs		$ 2,483,181	$ 1,697,122	$ 1,697,122	$ 1,697,122	$ 1,697,122	$ 1,697,122	$ 1,054,130		$ 12,022,922
175											
176	Storage Gas Demand Costs										
177	Storage Demand	ln 100	$ 694,900	$ 115,817	$ 115,817	$ 115,817	$ 115,817	$ 115,817	$ 115,817		$ 1,389,801
178	Less Capacity Credit	ln 101	(255,028)	(29,834)	(29,834)	(29,834)	(29,834)	(29,834)	(29,834)		(434,035)
179	Net Storage Demand Costs		$ 439,872	$ 85,982	$ 85,982	$ 85,982	$ 85,982	$ 85,982	$ 85,982		$ 955,766
180											
181	**Total Demand Costs**	lns 174 + 179	$ 2,923,053	$ 1,783,105	$ 1,783,105	$ 1,783,105	$ 1,783,105	$ 1,783,105	$ 1,140,112		$ 12,978,688
182											
183	Purchased Gas Supply										
184	Commodity Costs	ln 128	$ -	$ 3,567,106	$ 5,511,412	$ 7,763,875	$ 5,518,062	$ 4,317,360	$ 2,239,092		$ 28,916,907
185	Less Storage Inj.(TGP Storage)	ln 141	[redacted]								
186	Less Storage Transportation	ln 142									
187	Less LNG Truck	ln 139									
188	Less Propane Truck	ln 140									
189	Plus Transportation Costs	ln 153									
190	Subtotal Purchased Gas Supply		$ -	$ 3,285,895	$ 5,364,724	$ 7,413,011	$ 5,288,296	$ 4,411,246	$ 2,277,962		$ 28,041,134
191											
192	Storage Commodity Costs										
193	Commodity Costs	ln 131	$ -	$ 159,117	$ 720,714	$ 839,435	$ 711,420	$ 633,464	$ -		$ 3,064,149
194	Transportation Costs	ln 155	-	12,247	55,473	64,611	54,758	48,757	-		235,846
195	Subtotal Storage Commodity Costs		$ -	$ 171,364	$ 776,187	$ 904,046	$ 766,177	$ 682,221	$ -		$ 3,299,995
196											
197	Produced Gas Commodity Costs	ln 136	$ -	$ 8,638	$ 295,616	$ 901,402	$ 366,241	$ 9,750	$ 8,943		$ 1,590,589
198											
199	**Subtotal Commodity Costs**	lns 190 + 195 + 197	$ -	$ 3,465,897	$ 6,436,527	$ 9,218,458	$ 6,420,714	$ 5,103,217	$ 2,286,905		$ 32,931,719
200											
201	Hedge Contract (Savings)/Loss		$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ -
202											
203	**Total Commodity Costs**	lns 199 + 201	$ -	$ 3,465,897	$ 6,436,527	$ 9,218,458	$ 6,420,714	$ 5,103,217	$ 2,286,905		$ 32,931,719
204											
205	**Total Demand Costs**	ln 106	$ 2,923,053	$ 1,783,105	$ 1,783,105	$ 1,783,105	$ 1,783,105	$ 1,783,105	$ 1,140,112		$ 12,978,688
206	**Total Supply Costs**	ln 203	-	3,465,897	6,436,527	9,218,458	6,420,714	5,103,217	2,286,905		32,931,719
207											
208	**Total Direct Gas Costs**	lns 205 + 206	$ 2,923,053	$ 5,249,001	$ 8,219,631	$ 11,001,563	$ 8,203,819	$ 6,886,322	$ 3,427,017		$ 45,910,407
209											
210											

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Liberty Utilities (EnergyNorth Natural Gas) Corp.

Peak 2020 - 2021 Winter Cost of Gas Filing
Contracts Ranked on a per Unit Cost Basis

Supplier	Contract	Contract Type	Contract Unit	Unit Dth (MDQ/ACQ)	Peak Period Cost per Unit Dth
(a)	(b)	(c)	(d)	(e)	(f)
Demand Costs					
Dominion - Capacity Reservation	GSS 300076	Storage	ACQ	102,700	[redacted]
Tenn Gas Pipeline - Cap. Reservations	FS-MA 523	Storage	ACQ	1,560,391	
National Fuel - Capacity Reservation	FSS-O02357	Storage	ACQ	670,800	
Tenn Gas Pipeline - Demand	FS-MA 523	Storage	MDQ	21,844	
Dominion - Demand	GSS 300076	Storage	MDQ	934	
National Fuel - Demand	FSS-O02357	Storage	MDQ	6,098	
National Fuel	FST N02358	Transportation	MDQ	6,098	
Tenn Gas Pipeline	42076 FTA Z6-Z6	Transportation	MDQ	20,000	
Iroquois Gas Trans Service	RTS 470-01	Transportation	MDQ	4,047	
Honeoye - Demand	SS-NY	Storage	MDQ	1,362	
Tenn Gas Pipeline	2302 Z5-Z6	Transportation	MDQ	3,122	
Tenn Gas Pipeline	95346 Z5-Z6	Transportation	MDQ	4,000	
Tenn Gas Pipeline (short haul)	11234 Z5-Z6(stg)	Transportation	MDQ	1,957	
Tenn Gas Pipeline (short haul)	11234 Z4-Z6(stg)	Transportation	MDQ	7,082	
Tenn Gas Pipeline (short haul)	8587 Z4-Z6	Transportation	MDQ	3,811	
Tenn Gas Pipeline (short haul)	632 Z4-Z6 (stg)	Transportation	MDQ	15,265	
Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Firm Transportation	Transportation	MDQ	30,000	
ANE (TransCanada via Union to Iroquois)	Dawn - Parkway to Iroquois	Transportation	MDQ	4,047	
TransCanada via Union to Portland	Dawn -Parkway to Portland	Transportation	MDQ	5,077	
Tenn Gas Pipeline (long haul)	8587 Z1-Z6	Transportation	MDQ	14,561	
Tenn Gas Pipeline (long haul)	8587 Z0-Z6	Transportation	MDQ	7,035	
Portland Natural Gas Trans Service	FT-208544	Transportation	MDQ	1,000	
Portland Natural Gas	FT 210347	Transportation	MDQ	5,000	
Peaking Demand	NSB041	Peaking	MDQ	10,000	
Supply Costs - Commodity					
TGP Supply (Z4)		Pipeline	Dkt	1,356,252	[redacted]
Niagara Supply		Pipeline	Dkt	417,544	
Constellation COMBO		Pipeline	Dkt	433,774	
TGP Supply (Direct)		Pipeline	Dkt	1,729,791	
Dawn Supply		Pipeline	Dkt	518,147	
Dracut Supply 1 - Baseload		Pipeline	Dkt	1,058,145	
TGP Storage		Storage	Dkt	1,913,819	
PNGTS		Pipeline	Dkt	132,386	
Propane Truck		Pipeline	Dkt	18,166	
LNG Truck		Pipeline	Dkt	224,720	
Dracut Supply 2 - Swing		Pipeline	Dkt	780,039	
Propane		Produced	Dkt	50,430	
LNG Vapor (Storage)		Produced	Dkt	217,616	
Supply Costs - Volumetric Transportation					
Dracut Supply 1 - Baseload		Pipeline	Dkt	1,058,145	[redacted]
Dracut Supply 2 - Swing		Pipeline	Dkt	780,039	
Niagara Supply		Pipeline	Dkt	417,544	
Dawn Supply		Pipeline	Dkt	518,147	
TGP Storage - Withdrawals		Pipeline	Dkt	1,913,819	
TGP Supply (Direct)		Pipeline	Dkt	1,729,791	

THIS DOCUMENT HAS BEEN REDACTED

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2 **d/b/a Liberty Utilities**
3 **Peak 2020 - 2021 Winter Cost of Gas Filing**
4 **COG (Over)/Under Cumulative Recovery Balances and Interest Calculation**

Line																	
5			Prior Period Bal														
6			Apr-20														
7			Ending Bal	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Peak Period
8		Days in Month	Plus May Billings	31	30	31	31	30	31	30	31	31	29	31	30	31	Total
9	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
10	**Account 1920-1740 COG (Over)/Under Balance - Interest Calculation**																
11																	
12	**Beginning Balance**	Account 1920-1740 1/	**$ 2,227,421**	$ 2,227,421	$ 2,721,417	$ 2,414,081	$ 2,908,593	$ 3,404,469	$ 3,901,389	$ 4,400,006	$ 3,261,677	$ 2,087,556	$ 2,074,875	$ 1,552,104	$ 515,789	$ (594,270)	$ 2,227,421
13	Fcst Direct Gas Costs(Inc U/G Hedges)	Schedule 5A		487,175	487,175	487,175	487,175	487,175	487,175	5,249,001	8,219,631	11,001,563	8,203,819	6,886,322	3,427,017	-	45,910,407
14	Production & Storage & Misc Overhead			-	-	-	-	-	-	331,833	331,833	331,833	331,833	331,833	331,833		1,990,996
15	Projected Revenues w/o Int.	ln 52 * 59		-	-	-	-	-	-	(3,578,834)	(9,453,909)	(10,898,123)	(8,793,431)	(8,000,790)	(4,705,948)	(2,167,604)	(47,598,639)
16	Projected Unbilled Revenue									(2,904,943)	(2,883,693)	(3,047,765)	(3,013,384)	(2,966,988)	(2,843,519)		(17,660,291)
17	Reverse Prior Month Unbilled										2,904,943	2,883,693	3,047,765	3,013,384	2,966,988	2,843,519	17,660,291
18	Adjustment				(801,361)					-							(801,361)
19	Add Net Adjustments	Schedule 4		-	-	-	-	-	-	(245,606)	(300,297)	(289,620)	(304,049)	(302,925)	(286,325)	-	(1,728,823)
20	Gas Cost Billed	Account 1920-1740 2/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	Monthly (Over)/Under Recovery		$ 2,227,421	$ 2,714,596	$ 2,407,231	$ 2,901,257	$ 3,395,768	$ 3,891,644	$ 4,388,565	$ 3,251,458	$ 2,080,184	$ 2,069,138	$ 1,547,427	$ 512,939	$ (594,166)	$ 81,645	$ 0
22	Average Monthly Balance	(ln 12 + 21)/2		$ 2,471,009	$ 2,564,324	$ 2,657,669	$ 3,152,180	$ 3,648,057	$ 4,144,977	$ 3,825,732	$ 2,670,930	$ 2,078,347	$ 1,811,151	$ 1,032,521	$ (39,188)	$ (256,313)	
23																	
24	Interest Rate	Prime Rate		3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%		
25																	
26	Interest Applied	ln 22 * ln 24 / 365 * Days of Month		$ 6,821	$ 6,850	$ 7,336	$ 8,701	$ 9,745	$ 11,441	$ 10,219	$ 7,372	$ 5,737	$ 4,677	$ 2,850	$ (105)	$ -	$ 81,644
27																	
28	**(Over)/Under Balance**	ln 21 + ln 26	$ 2,227,421	$ 2,721,417	$ 2,414,081	$ 2,908,593	$ 3,404,469	$ 3,901,389	$ 4,400,006	$ 3,261,677	$ 2,087,556	$ 2,074,875	$ 1,552,104	$ 515,789	$ (594,270)	$ 81,645	81,645
29																	
30																	
31	**Calculation of COG with Interest**																
32																	
33	**Beginning Balance**	ln 12	$ 2,227,421	$ 2,227,421	$ 2,721,417	$ 2,414,081	$ 2,908,593	$ 3,404,469	$ 3,901,389	$ 4,400,006	$ 3,256,700	$ 2,082,612	$ 2,069,643	$ 1,546,924	$ 510,678	$ (599,183)	$ 2,227,421
34	Fcst Direct Gas Costs(Inc U/G Hedges)	ln 13		487,175	487,175	487,175	487,175	487,175	487,175	5,249,001	8,219,631	11,001,563	8,203,819	6,886,322	3,427,017	-	45,910,407
35	Prod Storage & Misc Overhead	ln 14		-	-	-	-	-	-	331,833	331,833	331,833	331,833	331,833	331,833	-	1,990,996
36	Projected Revenues with int.	ln 52 * ln 61		-	-	-	-	-	-	(3,578,834)	(9,453,909)	(10,898,123)	(8,793,431)	(8,000,790)	(4,705,948)	(2,167,604)	(47,598,639)
37	Projected Unbilled Revenue									(2,909,927)	(2,888,641)	(3,052,994)	(3,018,554)	(2,972,079)	(2,848,398)		(17,690,593)
38	Reverse Prior Month Unbilled										2,909,927	2,888,641	3,052,994	3,018,554	2,972,079	2,848,398	17,690,593
39	Add Net Adjustments	ln 19		-	(801,361)	-	-	-	-	(245,606)	(300,297)	(289,620)	(304,049)	(302,925)	(286,325)	-	(2,530,184)
40	Gas Cost Billed	ln 20	-		-	-	-	-	-	-	-	-	-	-	-	-	-
41	Add Interest	ln 26		-	-	-	-	-	-	10,219	7,372	5,737	4,677	2,850	(105)	-	30,751
42	**(Over)/Under Balance**		$ 2,227,421	$ 2,714,596	$ 2,407,231	$ 2,901,257	$ 3,395,768	$ 3,891,644	$ 4,388,565	$ 3,256,693	$ 2,082,615	$ 2,069,649	$ 1,546,931	$ 510,688	$ (599,170)	$ 81,611	$ 30,751
43																	
44	Average Monthly Balance			$ 2,471,009	$ 2,564,324	$ 2,657,669	$ 3,152,180	$ 3,648,057	$ 4,144,977	$ 3,828,349	$ 2,669,658	$ 2,076,130	$ 1,808,287	$ 1,028,806	$ (44,246)	$ (258,786)	
45																	
46	Interest Applied	ln 24 * ln 44 / 365 * Days of Month		6,821	6,850	7,336	8,701	9,745	11,441	10,226	7,369	5,731	4,669	2,840	(118)	-	81,610
47																	
48	**(Over)/Under Balance**	-ln 41 +ln 42 + ln 46	$ 2,227,421	$ 2,721,417	$ 2,414,081	$ 2,908,593	$ 3,404,469	$ 3,901,389	$ 4,400,006	$ 3,256,700	$ 2,082,612	$ 2,069,643	$ 1,546,924	$ 510,678	$ (599,183)	$ 81,611	81,611
49																	
50																	
51	Forecast Sendout Therms	Sch 1								12,211,835	17,765,894	20,835,033	16,497,187	14,981,664	8,630,846		90,922,460
52	Less Forecast Billing Therm Sales	Sch. 10B, ln 23 Nov - May								6,632,575	17,520,726	20,197,255	16,296,676	14,827,692	8,721,431	4,017,174	88,213,529
53	Less Forecast Unaccounted For	Sch 1								179,773	261,536	306,718	242,859	220,549	127,057		1,338,492
54	Less Forecast Company Use	Sch 1								15,819	23,014	26,990	21,370	19,407	11,180		117,781
55	Unbilled Volumes									5,383,667	-39,381	304,071	-63,718	-85,984	-228,822	-4,017,174	1,252,658
56	Gross Unbilled									5,383,667	5,344,286	5,648,357	5,584,638	5,498,655	5,269,833	1,252,658	
57																	
58																	
59	COB w/o Interest	Sch. 3, pg. 4, ln 207 col. (c)								$0.5396	$0.5396	$0.5396	$0.5396	$0.5396	$0.5396	$0.5396	
60																	
61	COG With Interest	Sch. 3, pg. 4, ln 207 col. (d)								$0.5405	$0.5405	$0.5405	$0.5405	$0.5405	$0.5405	$0.5405	
62																	

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2 **d/b/a Liberty Utilities**
3 **Peak 2020 - 2021 Winter Cost of Gas Filing**
4 **COG (Over)/Under Cumulative Recovery Balances and Interest Calculation**

Ln			Prior Period Bal													
66			Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Peak Period
67		Days in Month	Ending Bal	31	30	31	31	30	31	30	31	31	29	31	30	31	Total
68	(a)	(b)	+ May Collections	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
70	**Account 1163-1422 Working Capital (Over)/Under Balance - Interest Calculation**																
72	**Beginning Balance**	Account 1163-1422 1/	**$ (66,837)**	$ (66,837)	$ (66,401)	$ (65,958)	$ (73,173)	$ (72,755)	$ (72,329)	$ (71,909)	$ (63,221)	$ (49,734)	$ (32,116)	$ (18,787)	$ (7,375)	$ (1,479)	$ (66,837)
74	Days Lag			0.0391	0.0391	0.0391	0.0391	0.0391	0.0391	0.0391	0.0391	0.0391	0.0391	0.0391	0.0391		
75	Prime Rate			3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%		
76	Forecast Working Capital	ln 34 * 0.091%		619	619	619	619	619	619	6,671	10,446	13,982	10,426	8,752	4,355	-	58,347
78	Projected Revenues w/o Int.	ln 116 * ln 120		-	-	-	-	-	-	1,213	3,204	3,694	2,980	2,712	1,595	735	16,132
79	Projected Unbilled Revenue									985	977	1,033	1,021	1,006	964		5,985
80	Reverse Prior Month Unbilled										(985)	(977)	(1,033)	(1,021)	(1,006)	(964)	(5,985)
82	Add Net Adjustments			-	-	(7,642)	-	-	-	-	-	-	-	-	-	-	(7,642)
84	Working Capital Billed	Account 1163-1422 2/	-														-
86	Monthly (Over)/Under Recovery		$ (66,837)	$ (66,217)	$ (65,782)	$ (72,981)	$ (72,554)	$ (72,136)	$ (71,710)	$ (63,041)	$ (49,578)	$ (32,003)	$ (18,721)	$ (7,339)	$ (1,467)	$ (1,708)	$ -
88	Average Monthly Balance	(ln 72 + ln 86)/2		$ (66,527)	$ (66,091)	$ (69,470)	$ (72,864)	$ (72,445)	$ (72,020)	$ (67,475)	$ (56,399)	$ (40,868)	$ (25,418)	$ (13,063)	$ (4,421)	$ (1,593)	
90	Interest Rate	Prime Rate		3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%		
92	Interest Applied	ln 88 * ln 90 / 365 * Days of Month		$ (184)	$ (177)	$ (192)	$ (201)	$ (194)	$ (199)	$ (180)	$ (156)	$ (113)	$ (66)	$ (36)	$ (12)	$ -	$ (1,708)
94	**(Over)/Under Balance**	ln 86 + ln 92	$ (66,837)	$ (66,401)	$ (65,958)	$ (73,173)	$ (72,755)	$ (72,329)	$ (71,909)	$ (63,221)	$ (49,734)	$ (32,116)	$ (18,787)	$ (7,375)	$ (1,479)	$ (1,708)	(1,708)
97	**Calculation of Working Capital with Interest**																
100	**Beginning Balance**	ln 72	$ (66,837)	$ (66,837)	$ (66,401)	$ (65,958)	$ (73,173)	$ (72,755)	$ (72,329)	$ (71,909)	$ (62,980)	$ (49,142)	$ (31,111)	$ (17,454)	$ (5,743)	$ 328	$ (66,837)
101	Forecast Working Capital	ln 76		619	619	619	619	619	619	6,671	10,446	13,982	10,426	8,752	4,355	-	58,347
102	Projected Rev. with interest	ln 116 * ln 122		-	-	-	-	-	-	1,346	3,555	4,098	3,307	3,009	1,770	815	17,899
103	Projected Unbilled Revenue									1,092	1,084	1,146	1,133	1,116	1,069		6,641
104	Reverse Prior Month Unbilled										(1,092)	(1,084)	(1,146)	(1,133)	(1,116)	(1,069)	(6,641)
105	Add Net Adjustments	ln 82	-	-	-	(7,642)	-	-	-	-	-	-	-	-	-	-	(7,642)
106	Working Capital Billed	ln 84	-	-	-	-	-	-	-								-
107	Add Interest	ln 92		-	-	-	-	-	-	(180)	(156)	(113)	(66)	(36)	(12)	-	(562)
108	Monthly (Over)/Under Recovery		$ (66,837)	$ (66,217)	$ (65,782)	$ (72,981)	$ (72,554)	$ (72,136)	$ (71,710)	$ (62,980)	$ (49,143)	$ (31,113)	$ (17,457)	$ (5,747)	$ 324	$ 74	$ 1,205
110	Average Monthly Balance			$ (66,527)	$ (66,091)	$ (69,470)	$ (72,864)	$ (72,445)	$ (72,020)	$ (67,445)	$ (56,061)	$ (40,127)	$ (24,284)	$ (11,600)	$ (2,710)	$ 201	
112	Interest Applied	ln 90 * ln 110 / 365 * Days of Month		(184)	(177)	(192)	(201)	(194)	(199)	(180)	(155)	(111)	(63)	(32)	(7)	-	$ (1,693)
114	**(Over)/Under Balance**	-ln 107 +ln 108 + ln 112	$ (66,837)	$ (66,401)	$ (65,958)	$ (73,173)	$ (72,755)	$ (72,329)	$ (71,909)	$ (62,980)	$ (49,142)	$ (31,111)	$ (17,454)	$ (5,743)	$ 328	$ 74	$ 74
116	Forecast Therm Sales	ln 52								6,632,575	17,520,726	20,197,255	16,296,676	14,827,692	8,721,431	4,017,174	88,213,529
117	Unbilled Therm	ln 55								5,383,667	(39,381)	304,071	(63,718)	(85,984)	(228,822)		
118	Gross Unbilled									5,383,667	5,344,286	5,648,357	5,584,638	5,498,655	5,269,833		
120	Working Cap. Rate w/out Int.	Sch. 3, pg. 4, ln 224 col. (c)								-$0.0002	-$0.0002	-$0.0002	-$0.0002	-$0.0002	-$0.0002	-$0.0002	
122	Working Capital Rate w/ Int.	Sch. 3, pg. 4, ln 224 col. (d)								-$0.0002	-$0.0002	-$0.0002	-$0.0002	-$0.0002	-$0.0002	-$0.0002	

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2 **d/b/a Liberty Utilities**
3 **Peak 2020 - 2021 Winter Cost of Gas Filing**
4 **COG (Over)/Under Cumulative Recovery Balances and Interest Calculation**

Line		Days in Month	Prior Period Bal Apr-20 Ending Bal + May Collections	May-20 31	Jun-20 30	Jul-20 31	Aug-20 31	Sep-20 30	Oct-20 31	Nov-20 30	Dec-20 31	Jan-21 31	Feb-21 29	Mar-21 31	Apr-21 30	May-21 31	DemandPeriod Total
128	(a)	(b)		(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
129																	
130	**Account 1920-1743 Bad Debt (Over)/Under Balance - Interest Calculation**																
131																	
132	Forecast Direct Gas Costs	ln 34		$ 487,175	$ 487,175	$ 487,175	$ 487,175	$ 487,175	$ 487,175	$ 5,249,001	$ 8,219,631	$11,001,563	$ 8,203,819	$ 6,886,322	$ 3,427,017	$ -	45,910,407
133	Forecast Working Capital	ln 101		619	619	619	619	619	619	(60,166)	10,446	13,982	10,426	8,752	4,355		(8,490)
134	Prior Period Balance	ln 42								371,237	371,237	371,237	371,237	371,237	371,237		2,227,421
135	Total Forecast Direct Gas Costs & Working Capital			487,795	487,795	487,795	487,795	487,795	487,795	5,560,072	8,601,314	11,386,782	8,585,482	7,266,311	3,802,609	-	45,901,917
136																	
137	**Beginning Balance**	Account 1920-1743 1/	**$ (296,628)**	$ (296,628)	$ (292,025)	$ (287,383)	$ (315,623)	$ (311,073)	$ (306,482)	$ (301,906)	$ (273,323)	$ (225,623)	$ (154,975)	$ (103,734)	$ (63,016)	$ (43,825)	$ (296,628)
138																	
139	Forecast Bad Debt	ln 135 * 0.0111		5,415	5,415	5,415	5,415	5,415	5,415	61,717	95,475	126,393	95,299	80,656	42,209		534,236
140																	
141	Projected Revenues w/o int	ln 178 * ln 182		-	-	-	-	-	-	(17,865)	(47,193)	(54,402)	(43,896)	(39,939)	(23,492)	(10,820)	(237,608)
142	Projected Unbilled Revenue									(14,501)	(14,395)	(15,214)	(15,043)	(14,811)	(14,195)		(88,158)
143	Reverse Prior Month Unbilled										14,501	14,395	15,214	15,043	14,811	14,195	88,158
144																	
145	Bad Debt Billed	Account 1920-1743 2/	-		-	-	-	-	-		-	-	-	-	-	-	-
146																	
147	Add Net Adjustments		-	-	-	(32,824)	-	-	-		-	-	-	-	-	-	(32,824)
148																	
149	Monthly (Over)/Under Recovery		$ (296,628)	$ (291,213)	$ (286,610)	$ (314,792)	$ (310,209)	$ (305,658)	$ (301,067)	$ (272,555)	$ (224,935)	$ (154,451)	$ (103,401)	$ (62,786)	$ (43,682)	$ (40,451)	$ (32,824)
150																	
151	Average Monthly Balance	(ln 137 + ln 149)/2		$ (293,921)	$ (289,317)	$ (301,088)	$ (312,916)	$ (308,365)	$ (303,775)	$ (287,231)	$ (249,129)	$ (190,037)	$ (129,188)	$ (83,260)	$ (53,349)	$ (42,138)	
152																	
153	Interest Rate	Prime Rate		3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%		
154																	
155	Interest Applied	ln 151 * ln 153 / 365 * Days of Month		$ (811)	$ (773)	$ (831)	$ (864)	$ (824)	$ (839)	$ (767)	$ (688)	$ (525)	$ (334)	$ (230)	$ (143)		$ (7,627)
156																	
157	**(Over)/Under Balance**	ln 149 + ln 155	$ (296,628)	$ (292,025)	$ (287,383)	$ (315,623)	$ (311,073)	$ (306,482)	$ (301,906)	$ (273,323)	$ (225,623)	$ (154,975)	$ (103,734)	$ (63,016)	$ (43,825)	$ (40,451)	(40,451)
158																	
159																	
160	**Calculation of Bad Debt with Interest**																
161																	
162	**Beginning Balance**	ln 137	$ (296,628)	$ (296,628)	$ (292,025)	$ (287,383)	$ (282,754)	$ (278,113)	$ (273,434)	$ (268,767)	$ (235,619)	$ (181,302)	$ (103,026)	$ (45,745)	$ 459	$ 22,810	$ (296,628)
163	Forecast Bad Debt	ln 139		5,415	5,415	5,415	5,415	5,415	5,415	61,717	95,475	126,393	95,299	80,656	42,209	-	534,236
164	Projected Revenues with int.	ln 178 * ln 184		-	-	-	-	-	-	(15,397)	(40,674)	(46,887)	(37,832)	(34,422)	(20,246)	(9,326)	(204,784)
165	Projected Unbilled Revenue									(12,498)	(12,407)	(13,112)	(12,964)	(12,765)	(12,234)		(75,980)
166	Reverse Prior Month Unbilled										12,498	12,407	13,112	12,964	12,765	12,234	75,980
167	Bad Debt Billed	ln 145	-		-	-	-	-	-	-	-	-	-	-	-	-	0
168	Add Interest	ln 155		-	-	-	-	-	-	(767)	(688)	(525)	(334)	(230)	(143)	-	(2,685)
169	Add Net Adjustments	ln 147	-							-	-	-	-	-	-	-	0
170	Monthly (Over)/Under Recovery		$ (296,628)	$ (291,213)	$ (286,610)	$ (281,968)	$ (277,340)	$ (272,698)	$ (268,019)	$ (235,712)	$ (181,414)	$ (103,026)	$ (45,745)	$ 459	$ 22,810	$ 25,718	$ 30,139
171																	
172	Average Monthly Balance			$ (293,921)	$ (289,317)	$ (284,676)	$ (280,047)	$ (275,405)	$ (270,727)	$ (252,239)	$ (208,516)	$ (142,164)	$ (74,386)	$ (22,643)	$ 11,635	$ 24,264	
173																	
174	Interest Applied	ln 153 * ln 172 / 365 * Days of Month		(811)	(773)	(786)	(773)	(736)	(747)	(674)	(576)	(525)	(334)	(230)	(143)	-	$ (7,106)
175																	
176	**(Over)/Under Balance**	-ln 168 +ln 170 + ln 174	$ (296,628)	$ (292,025)	$ (287,383)	$ (282,754)	$ (278,113)	$ (273,434)	$ (268,767)	$ (235,619)	$ (181,302)	$ (103,026)	$ (45,745)	$ 459	$ 22,810	$ 25,718	$ 25,718
177																	
178	Forecast Term Sales	ln 52								6,632,575	17,520,726	20,197,255	16,296,676	14,827,692	8,721,431	4,017,174	88,213,529
179	Unbilled Therm	ln 55								5,383,667	(39,381)	304,071	(63,718)	(85,984)	(228,822)		
180	Gross Unbilled									5,383,667	5,344,286	5,648,357	5,584,638	5,498,655	5,269,833		
181																	
182	COG Rate Without Interest	Sch. 3, pg. 4, ln 241 col. (c)								$0.0027	$0.0027	$0.0027	$0.0027	$0.0027	$0.0027	$0.0027	
183																	
184	COG With Interest	Sch. 3, pg. 4, ln 241 col. (d)								$0.0023	$0.0023	$0.0023	$0.0023	$0.0023	$0.0023	$0.0023	
187																	
188																	
189	**Total Interest**	lns 46 + 112 + 174	$ -	$ 5,826	$ 5,901	$ 6,358	$ 7,727	$ 8,816	$ 10,495	$ 9,372	$ 6,639	$ 5,095	$ 4,273	$ 2,578	$ (268)	$ -	$ 72,812

Adjustments to Gas Costs

Adjustments (a)		**Prior Period Adjustments** (b)	**Refunds from Suppliers** (c)	**Broker Revenue** (d)	**Inventory Finance Charges** (e)	**Transportation CGA Revenues (Schedule 17)** (f)	**Interruptible Sales Margin** (g)	**Off System Sales Margin** (h)	**Capacity Release** (i)	**Net Option Premiums** (j)	**Fixed Price Option Administrative Costs** (k)	**Total Adjustments** (m)
May-20		$ -	$ -	$ -	$ -	$ -	$ -	[redacted]		$ -	$ -	$ -
Jun-20		-	-	-	-	-	-	[redacted]		-	-	-
Jul-20	1/	-	-	-	-	-	-	[redacted]		-	-	-
Aug-20	1/	-	-	-	-	-	-	[redacted]		-	-	-
Sep-20	1/	-	-	-	-	-	-	[redacted]		-	-	-
Oct-20	1/	-	-	-	-	-	-	[redacted]		-	-	-
Nov-20	1/	-	-	(672)	-	(680)	-	[redacted]		-	45,000	(245,606)
Dec-20	1/	-	-	(6,454)	-	(819)	-	[redacted]		-	-	(300,297)
Jan-21	1/	-	-	(7,087)	-	(910)	-	[redacted]		-	-	(289,620)
Feb-21	1/	-	-	(6,839)	-	(794)	-	[redacted]		-	-	(304,049)
Mar-21	1/	-	-	(6,444)	-	(735)	-	[redacted]		-	-	(302,925)
Apr-21	1/	-	-	(5,230)	-	(578)	-	[redacted]		-	-	(286,325)
Subtotal May 20 - Oct 20		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal Nov 20 - Apr 21		$ -	$ -	$ (32,725)	$ -	$ (4,516)	$ -	$ -	$ (1,736,581)	$ -	$ 45,000	$ (1,728,823)
Total Peak Period		$ -	$ -	$ (32,725)	$ -	$ (4,516)	$ -	$ -	$ (1,736,581)	$ -	$ 45,000	$ (1,728,823)

1/ Estimates are based on prior years actual, except transportation revenue is calculated on Schedule 17. and Inventory Finance Charges for Nov 19 - Apr 20 calculated on Schedule 16

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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.** **REDACTED**
2 **d/b/a Liberty Utilities** **Schedule 5A**
3 **Peak 2020 - 2021 Winter Cost of Gas Filing** **Page 1 of 1**
4 **Demand Costs**

Ln	(a)	Peak (b)	Reference (c)	Deferred to Peak May 20 -Oct 20 (d)	Nov-20 (e)	Dec-20 (f)	Jan-21 (g)	Feb-21 (h)	Mar-21 (i)	Apr-21 (j)	Peak Nov-Apr Total (k)
11	**Supply**										
12	Niagara Supply		Sch 5B, ln 9 * Sch 5C ln 9 x days	[redacted]							
13	Subtotal Supply Demand & Reservation Charges										
14											
15	**Pipeline**										
16	Iroquois Gas Trans Service RTS 470-0		Sch 5B, ln 12 * Sch 5C ln 12 x days	[redacted]							
17	Tenn Gas Pipeline 95346 Z5-Z6		Sch 5B, ln 13 * Sch 5C ln 14 x days								
18	Tenn Gas Pipeline 2302 Z5-Z6		Sch 5B, ln 14 * Sch 5C ln 16 x days								
19	Tenn Gas Pipeline 8587 Z0-Z6		Sch 5B, ln 15 * Sch 5C ln 18 x days								
20	Tenn Gas Pipeline 8587 Z1-Z6		Sch 5B, ln 16 * Sch 5C ln 20 x days								
21	Tenn Gas Pipeline 8587 Z4-Z6		Sch 5B, ln 17 * Sch 5C ln 22 x days								
22	Tenn Gas Pipeline (Dracut) 42076 Z6-Z6	peak	Sch 5B, ln 18 * Sch 5C ln 24 x days								
23	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	peak	Sch 5B, ln 19 * Sch 5C ln 26 x days								
24	Portland Natural Gas Trans Service		Sch 5B, ln 20 * Sch 5C ln 28 x days								
25	Portland Natural Gas		Sch 5B, ln 21 * Sch 5C ln 29 x days								
26	ANE (TransCanada via Union to Iroquois)		Sch 5B, ln 22 * Sch 5C ln 30 x days								
27	TransCanada via Union to Portland		Sch 5B, ln 23 * Sch 5C ln 31 x days								
28	Tenn Gas Pipeline Z4-Z6 stg 632	peak	Sch 5B, ln 24 * Sch 5C ln 32 x days								
29	Tenn Gas Pipeline Z4-Z6 stg 11234	peak	Sch 5B, ln 25 * Sch 5C ln 34 x days								
30	Tenn Gas Pipeline Z5-Z6 stg 11234	peak	Sch 5B, ln 26 * Sch 5C ln 36 x days								
31	National Fuel FST 2358	peak	Sch 5B, ln 27 * Sch 5C ln 38 x days								
32											
33	Subtotal Pipeline Demand Charges			$ 3,922,876	$ 1,419,895	$ 1,419,895	$ 1,419,895	$ 1,419,895	$ 1,419,895	$ 1,419,895	$ 12,442,244
34											
35	**Peaking Supply**										
36	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	peak	Sch 5B, ln 30 * Sch 5C ln 26 x days	[redacted]							
37	Demand FLS	peak	Per Contract								
38	Constellation Demand	peak	Per Contract								
39	Subtotal Peaking Demand Charges			$ -	$ 866,100	$ 866,100	$ 866,100	$ 866,100	$ 866,100	$ -	$ 4,330,500
40											
41	**Subtotal Supply, Pipeline & Peaking**		ln 13 + ln 33 + ln 39	$ 3,922,876	$ 2,285,995	$ 2,285,995	$ 2,285,995	$ 2,285,995	$ 2,285,995	$ 1,419,895	$ 16,772,744
42											
43	Less Transportation Capacity Credit			$ (1,439,696)	$ (588,872)	$ (588,872)	$ (588,872)	$ (588,872)	$ (588,872)	$ (365,765)	$ (4,749,821)
44											
45	**Total Supply, Pipeline & Peaking Demand**			$ 2,483,181	$ 1,697,122	$ 1,697,122	$ 1,697,122	$ 1,697,122	$ 1,697,122	$ 1,054,130	$ 12,022,922
46											
47											
48	Dominion - Demand	peak	Sch 5B, ln 35 * Sch 5C ln 62 x days	$ 10,478	$ 1,746	$ 1,746	$ 1,746	$ 1,746	$ 1,746	$ 1,746	$ 20,957
49	Dominion - Storage	peak	Sch 5B, ln 36 * Sch 5C ln 63 x days	8,935	1,489	1,489	1,489	1,489	1,489	1,489	17,870
50	Honeoye - Demand	peak	Sch 5B, ln 37 * Sch 5C ln 66 x days	50,105	8,351	8,351	8,351	8,351	8,351	8,351	100,211
51	National Fuel - Demand	peak	Sch 5B, ln 39 * Sch 5C ln 68 x days	92,663	15,444	15,444	15,444	15,444	15,444	15,444	185,326
52	National Fuel - Capacity	peak	Sch 5B, ln 40 * Sch 5C ln 69 x days	185,946	30,991	30,991	30,991	30,991	30,991	30,991	371,892
53	Tenn Gas Pipeline - Demand	peak	Sch 5B, ln 41 * Sch 5C ln 72 x days	175,442	29,240	29,240	29,240	29,240	29,240	29,240	350,885
54	Tenn Gas Pipeline - Capacity	peak	Sch 5B, ln 42 * Sch 5C ln 73 x days	171,331	28,555	28,555	28,555	28,555	28,555	28,555	342,662
55											
56	**Subtotal Storage Demand Costs**			$ 694,900	$ 115,817	$ 115,817	$ 115,817	$ 115,817	$ 115,817	$ 115,817	$ 1,389,801
57											
58	Less Transportation Capacity Credit			$ (255,028)	$ (29,834)	$ (29,834)	$ (29,834)	$ (29,834)	$ (29,834)	$ (29,834)	$ (434,035)
59											
60	**Total Storage Demand Costs**		ln 56 + ln 58	$ 439,872	$ 85,982	$ 85,982	$ 85,982	$ 85,982	$ 85,982	$ 85,982	$ 955,766
61											
62	**Total Demand Charges**		ln 41 + ln 56	$ 4,617,777	$ 2,401,811	$ 2,401,811	$ 2,401,811	$ 2,401,811	$ 2,401,811	$ 1,535,711	$ 18,162,544
63											
64	Total Transportation Capacity Credit		ln 43 + ln 58	$ (1,694,724)	$ (618,707)	$ (618,707)	$ (618,707)	$ (618,707)	$ (618,707)	$ (395,599)	$ (5,183,856)
65											
66	**Total Demand Charges less Cap. Cr.**		ln 62 + ln 64	$ 2,923,053	$ 1,783,105	$ 1,783,105	$ 1,783,105	$ 1,783,105	$ 1,783,105	$ 1,140,112	$ 12,978,688
67											
68											

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Liberty Utilities (EnergyNorth Natural Gas) Corp.
d/b/a Liberty Utilities
Peak 2020 - 2021 Winter Cost of Gas Filing
Demand Volumes

(a)	Peak (b)	Reference (c)	Nov-20 (d)	Dec-20 (e)	Jan-21 (f)	Feb-21 (g)	Mar-21 (h)	Apr-21 (i)
Supply								
Niagara Supply			-	-	-	-	-	-
Pipeline								
Iroquois Gas Trans Service		RTS 470-01	4,047	4,047	4,047	4,047	4,047	4,047
Tenn Gas Pipeline		95346 Z5-Z6	4,000	4,000	4,000	4,000	4,000	4,000
Tenn Gas Pipeline		2302 Z5-Z6	3,122	3,122	3,122	3,122	3,122	3,122
Tenn Gas Pipeline (long haul)		8587 Z0-Z6	7,035	7,035	7,035	7,035	7,035	7,035
Tenn Gas Pipeline (long haul)		8587 Z1-Z6	14,561	14,561	14,561	14,561	14,561	14,561
Tenn Gas Pipeline (short haul)		8587 Z4-Z6	3,811	3,811	3,811	3,811	3,811	3,811
Tenn Gas Pipeline	peak	42076 FTA Z6-Z6	20,000	20,000	20,000	20,000	20,000	20,000
Tenn Gas Pipeline (Concord Lateral)	peak	Firm Transportation	30,000	30,000	30,000	30,000	30,000	30,000
Portland Natural Gas Trans Service		FT-208544	1,000	1,000	1,000	1,000	1,000	1,000
Portland Natural Gas		FT 210347	5,000	5,000	5,000	5,000	5,000	5,000
ANE (TransCanada via Union to Iroquois)		Dawn - Parkway to Iroquois	4,047	4,047	4,047	4,047	4,047	4,047
TransCanada via Union to Portland		Dawn -Parkway to Portland	5,077	5,077	5,077	5,077	5,077	5,077
Tenn Gas Pipeline (short haul)	peak	632 Z4-Z6 (stg)	15,265	15,265	15,265	15,265	15,265	15,265
Tenn Gas Pipeline (short haul)	peak	11234 Z4-Z6(stg)	7,082	7,082	7,082	7,082	7,082	7,082
Tenn Gas Pipeline (short haul)	peak	11234 Z5-Z6(stg)	1,957	1,957	1,957	1,957	1,957	1,957
National Fuel	peak	FST N02358	6,098	6,098	6,098	6,098	6,098	6,098
Peaking								
Tenn Gas Pipeline (Concord Lateral)	peak		-	-	-	-	-	-
Demand FLS	peak		3,000	3,000	3,000	3,000	3,000	-
Peaking Demand	peak	NSB041	7,000	7,000	7,000	7,000	7,000	-
Storage								
Dominion - Demand	peak	GSS 300076	934	934	934	934	934	934
Dominion - Capacity Reservation	peak	GSS 300076	102,700	102,700	102,700	102,700	102,700	102,700
Honeoye - Demand	peak	SS-NY	1,362	1,362	1,362	1,362	1,362	1,362
Honeoye - Capacity	peak	SS-NY	245,380	245,380	245,380	245,380	245,380	245,380
National Fuel - Demand	peak	FSS-O02357	6,098	6,098	6,098	6,098	6,098	6,098
National Fuel - Capacity Reservation	peak	FSS-O02357	670,800	670,800	670,800	670,800	670,800	670,800
Tenn Gas Pipeline - Demand	peak	FS-MA 523	21,844	21,844	21,844	21,844	21,844	21,844
Tenn Gas Pipeline - Cap. Reservations	peak	FS-MA 523	1,560,391	1,560,391	1,560,391	1,560,391	1,560,391	1,560,391

Liberty Utilities (EnergyNorth Natural Gas) Corp.
d/b/a Liberty Utilities
Peak 2020 - 2021 Winter Cost of Gas Filing
Demand Rates

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Schedule 5C
Page 1 of 2

				Nov-20	**Dec-20**	**Jan-21**	**Feb-21**	**Mar-21**	**Apr-21**	**Nov - Apr**
<u>Tariff Rates</u>				30	31	31	29	31	30	182
				Unit Rate	Unit Rate	Unit Rate	Unit Rate	Unit Rate	Unit Rate	Avg Rate
Supply										
Niagara Supply		[redacted]	Per Contract	[redacted]						
Pipeline										
Iroquois Gas Trans Service	RTS 470-01	$ 5.2357	Forth Revised Sheet No. 4	$ 0.1745	$ 0.1689	$ 0.1689	$ 0.1805	$ 0.1689	$ 0.1745	$ 0.1727
Tenn Gas Pipeline	95346 Z5-Z6	$ 6.4123	15th Rev Sheet No. 14	$ 0.2137	$ 0.2068	$ 0.2068	$ 0.2211	$ 0.2068	$ 0.2137	$ 0.2115
Tenn Gas Pipeline	2302 Z5-Z6	$ 6.4123	15th Rev Sheet No. 14	$ 0.2137	$ 0.2068	$ 0.2068	$ 0.2211	$ 0.2068	$ 0.2137	$ 0.2115
Tenn Gas Pipeline	8587 Z0-Z6	$ 20.8047	FT-A (Z0 - Z6)	$ 0.6935	$ 0.6711	$ 0.6711	$ 0.7174	$ 0.6711	$ 0.6935	$ 0.6863
Tenn Gas Pipeline	8587 Z1-Z6	$ 18.4675	FT-A (Z1 - Z6)	$ 0.6156	$ 0.5957	$ 0.5957	$ 0.6368	$ 0.5957	$ 0.6156	$ 0.6092
Tenn Gas Pipeline	8587 Z4-Z6	$ 7.3005	FT-A (Z4 - Z6)	$ 0.2434	$ 0.2355	$ 0.2355	$ 0.2517	$ 0.2355	$ 0.2434	$ 0.2408
TGP Dracut	42076 FTA Z6-Z6	$ 4.2512	15th Rev Sheet No. 14	$ 0.1417	$ 0.1371	$ 0.1371	$ 0.1466	$ 0.1371	$ 0.1417	$ 0.1402
TGP Concord Lateral	Firm Transportatio	$ 12.1881	Per contract	$ 0.4063	$ 0.3932	$ 0.3932	$ 0.4203	$ 0.3932	$ 0.4063	$ 0.4021
Portland Natural Gas	FT-208544	$ 18.2633	Negot Dmd /CMDY=Part 4.1 V6	$ 0.6088	$ 0.5891	$ 0.5891	$ 0.6298	$ 0.5891	$ 0.6088	$ 0.6025
Portland Natural Gas	FT 210347	$ 22.8125	Negot Dmd /CMDY=Part 4.1 V6	$ 0.7604	$ 0.7359	$ 0.7359	$ 0.7866	$ 0.7359	$ 0.7604	$ 0.7525
Tenn Gas Pipeline	632 Z4-Z6 (stg)	$ 7.3005	15th Rev Sheet No. 14	$ 0.2434	$ 0.2355	$ 0.2355	$ 0.2517	$ 0.2355	$ 0.2434	$ 0.2408
Tenn Gas Pipeline	11234 Z4-Z6(stg)	$ 7.3005	15th Rev Sheet No. 14	$ 0.2434	$ 0.2355	$ 0.2355	$ 0.2517	$ 0.2355	$ 0.2434	$ 0.2408
Tenn Gas Pipeline	11234 Z5-Z6(stg)	$ 6.4123	15th Rev Sheet No. 14	$ 0.2137	$ 0.2068	$ 0.2068	$ 0.2211	$ 0.2068	$ 0.2137	$ 0.2115
National Fuel	FST N02358	$ 4.5019	4.010 Version 29.0.1 Pg 1	$ 0.1501	$ 0.1452	$ 0.1452	$ 0.1552	$ 0.1452	$ 0.1501	$ 0.1485

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1	**Liberty Utilities (EnergyNorth Natural Gas) Corp.**											**REDACTED**
2												Schedule 5C
3	**Peak 2020 - 2021 Winter Cost of Gas Filing**											Page 2 of 2
41	ANE Union Gas		$ 3.6320									
42	TransCanada Pipelines Limited		$ 9.4867	Dawn - Parkway to Iroquois								
43	Delivery Pressure Demand Charge		$ 0.6704	Dawn - Parkway to Iroquois								
44	Sub Total Demand Charges		$ 13.7890									
45	Conversion rate GJ to MMBTU		$ 1.0551									
46	Conversion rate to US$		$ 1.3539	1/0/1900								
47	Demand Rate/US$		$ 10.7451		$ 0.3582	$ 0.3466	$ 0.3466	$ 0.3705	$ 0.3466	$ 0.3582	$ 0.3545	
48												
49	Union Gas		$ 3.6320									
50	TransCanada Pipelines Limited		$ 15.9986	Dawn -Parkway to Portland								
51	Delivery Pressure Demand Charge		$ 0.6704	Dawn -Parkway to Portland								
52	Sub Total Demand Charges		$ 20.3009									
53	Conversion rate GJ to MMBTU		$ 1.0551									
54	Conversion rate to US$		$ 1.3539	1/0/1900								
55	Demand Rate/US$		$ 15.8195		$ 0.5273	$ 0.5103	$ 0.5103	$ 0.5455	$ 0.5103	$ 0.5273	$ 0.5218	
56												
57	**Peaking**											
58	Demand FLS		[redacted]	Per Contract	[redacted]							
59	Subtotal Peaking Demand Charges			Per Contract								
60												
61	**Storage**											
62	Dominion - Demand	GSS 300076	$ 1.8698	GSS Settled,Tariff Rec #10.30 \	$ 0.0623	$ 0.0603	$ 0.0603	$ 0.0645	$ 0.0603	$ 0.0623	$ 0.0616	
63	Dominion - Capacity	GSS 300076	$ 0.0145	GSS Settled,Tariff Rec #10.30 \	$ 0.0005	$ 0.0005	$ 0.0005	$ 0.0005	$ 0.0005	$ 0.0005	$ 0.0005	
64			$ 1.8843		$ 0.0628	$ 0.0608	$ 0.0608	$ 0.0650	$ 0.0608	$ 0.0628	$ 0.0620	
65												
66	Honeoye - Demand	SS-NY	$ 6.1299	Sub 1st Rev Sheet No. 5	$ 0.2043	$ 0.1977	$ 0.1977	$ 0.2114	$ 0.1977	$ 0.2043	$ 0.2018	
67												
68	National Fuel - Demand	FSS-O02357	$ 2.5326	4.020 Version 24.0.0 Pg 1	$ 0.0844	$ 0.0817	$ 0.0817	$ 0.0873	$ 0.0817	$ 0.0844	$ 0.0834	
69	National Fuel - Capacity	FSS-O02357	$ 0.0462	4.020 Version 24.0.0 Pg 1	$ 0.0015	$ 0.0015	$ 0.0015	$ 0.0016	$ 0.0015	$ 0.0015	$ 0.0015	
70			$ 2.5788		$ 0.0860	$ 0.0832	$ 0.0832	$ 0.0889	$ 0.0832	$ 0.0860	$ 0.0849	
71												
72	Tenn Gas Pipeline	FS-MA 523	$ 1.3386	18th Rev Sheet No.61	$ 0.0446	$ 0.0432	$ 0.0432	$ 0.0462	$ 0.0432	$ 0.0446	$ 0.0441	
73	Tenn Gas Pipeline - Space	FS-MA 523	$ 0.0183	18th Rev Sheet No.61	$ 0.0006	$ 0.0006	$ 0.0006	$ 0.0006	$ 0.0006	$ 0.0006	$ 0.0006	
74			$1.3569		$ 0.0452	$ 0.0438	$ 0.0438	$ 0.0468	$ 0.0438	$ 0.0452	$ 0.0447	
75												
76					**THIS DOCUMENT HAS BEEN REDACTED**							

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

FY 2020 GAS ANNUAL CHARGES
CORRECTION FOR ANNUAL CHARGES UNIT CHARGE
June 15, 2020

The annual charges unit charge (ACA) to be applied to in fiscal year 2021 for recovery of FY 2020 Current year and 2019 True-Up is **$0.0011** per Dekatherm (Dth). The new ACA surcharge will become effective October 1, 2020.

The following calculations were used to determine the FY 2020 unit charge:

2020 CURRENT:

Estimated Program Cost $67,023,000 divided by 60,657,793,693 Dth	=	0.0011049363

2019 TRUE-UP:

Debit/Credit Cost ($2,266,032) divided by 56,276,625,816 Dth	=	(0.0000402660)
TOTAL UNIT CHARGE	=	0.0010646704

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

PUBLIC

Statement of Transportation Rates
(Rates per DTH)

Rate Schedule	Rate Component	Base Rate	ACA Unit Charge 1/
FT	Recourse Reservation Rate		
	-- Maximum	$25.9843	---------
	-- Minimum	$00.0000	---------
	Seasonal Recourse Reservation Rate		
	-- Maximum	$49.3701	---------
	-- Minimum	$00.0000	---------
	Recourse Usage Rate		
	-- Maximum	$00.0000	2/
	-- Minimum	$00.0000	2/
FT-FLEX	Recourse Reservation Rate		
	--Maximum	$17.4406	---------
	--Minimum	$00.0000	---------
	Recourse Usage Rate		
	--Maximum	$00.2809	2/
	--Minimum	$00.0000	2/

The following adjustment applies to all Rate Schedules above:

MEASUREMENT VARIANCE FACTOR-LAUF:

Minimum down to -1.00%
Maximum up to +1.00%

MEASUREMENT VARIANCE FACTOR-FUEL 3/

1/ ACA assessed where applicable under Section 154.402 of the Commission's regulations and will be charged pursuant to Section 6.18 of the General Terms and Conditions at such time that initial and successive ACA assessments are made.

2/ The currently effective ACA unit charge as published on the Commission's website (www.ferc.gov) is incorporated herein by reference.

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Docket No. RP19-1604-000
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SCHEDULE 1

Receipt Point:	01-0100 Pittsburg, NH
Delivery Point:	02-0260 Berlin, NH
Maximum Daily Quantity:	1000 Dth/day
Maximum Contract Demand:	5478000 Dth
Effective Service Period:	Beginning on the In-Service Date as defined in Article VII to this Contract and continuing in full force and effect until fifteen (15) years after such In-Service Date.

Rate Provision(s) (check if applicable rate):

__ ___ Discounted Rate

__X__Negotiated Rate

Shipper's charges and fees shall be calculated as follows:

$18.2633/Dth/month ($0.6000/Dth/day)

Additional Terms: Shipper shall have the right to deliver, on a secondary basis, to the following meters, at the Negotiated Rate of $18.2633/Dth/month ($0.6000/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 Energy
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

Revision No. 1

SCHEDULE 1

Primary Receipt Points

Begin Date	End Date	Scheduling Point No.	Scheduling Point Name	Maximum Daily Quantity (Dth/day)
1/	1/	10100	Pittsburg (East Hereford)	1,855 (Phase I Quantity) plus 2,577 (Phase II Quantity)

Primary Delivery Points

Begin Date	End Date	Scheduling Point No.	Scheduling Point Name	Maximum Daily Quantity (Dth/day)
1/	1/	51150	Dracut	1,855 (Phase I Quantity) plus 2,577 (Phase II Quantity)

Maximum Contract Demand	1,855 Dth (Phase I Quantity)
plus	2,577 Dth (Phase II Quantity)
Total Maximum Contract Demand	4,432 Dth (Phase I and II Quantities)

Effective Service Period 1/ to 1/

Rate Provision(s) (check if applicable rate):

_____ Discounted Rate
____X__Negotiated Rate

Shipper's charges and fees shall be calculated as follows:

For volumes received at the primary receipt point and delivered to the primary delivery point, the reservation charge shall be $0.7500/Dth/day, (the "Negotiated Daily Demand Rate").

For volumes received at the primary receipt point and delivered to any of the following

CURRENTLY EFFECTIVE RATES

FIRM STORAGE SERVICE (FSS)*

	RATE	UNITS
1. Reservation Rate		
Deliverability Reservation Rate	Market Based/ Negotiable	
Capacity Reservation Rate	Market Based/ Negotiable	
2. Injection/Withdrawal Rates		
Injection Rate	Market Based/ Negotiable	
Overrun Injection Rate	Market Based/ Negotiable	
Late Withdrawal Rate	$1/Dth/Day	
Overrun Withdrawal Rate	Market Based/ Negotiable	

*All quantities of natural gas are measured in dekatherms (Dth)

View Contract

General Information

Customer	Contract Category	Contract Number	Service Type	Status	Currency
Energy North Natural Gas Inc.	**Storage**	**EN-11234**	FT	Active	USD
Deal Maker	Deal Date	Deal Time (hh:mm)	Master Agreement	Units	
Richard Norman	01/17/1986	08:00	-- None --	Dth	
Contact Name	Contact Number 1	Contact Number 2	Contact Email		
Sarah Finegan	603-2163569		sarah.finegan@libertyutilities.com		

Contract Dates

Effective Date (First Gas Day)
05/01/2010

Termination Date (Last Gas Day)
01/01/2050

Nomination Deadlines

Day Before Flow Deadline
(hh:mm 24-hr CCT)

Day of Flow Deadline
(hh:mm 24-hr CCT)

Transaction Types and Rates

Transaction Type	Allow Transaction			Use Hourly Profiles	Volumetric Charge ($/Dth)	Other Rate ($/Dth)	Fuel Percentage	Invoice Qty Type
	Yes	No	D.E.R Only					
Storage Injection	◉	○	○	☐	0	0	0	Sch Qty
Storage Withdrawal	◉	○	○	☐	0	0	0	Sch Qty
Authorized Injection Overrun	◉	○	○	☐	0	0	0	Sch Qty
Authorized Withdrawal Overrun	◉	○	○	☐	0	0	0	Sch Qty

Storage and Other Rates

☑ Use Monthly Flat Storage Fee ($/Month)

Monthly Flat Storage Fee Table

From	To	Rate
05/01/10	01/01/50	8,350.89000

FERC Information

Capacity Release Contract: ○ Yes ◉ No

Shipper Affiliation: NONE

Maximum Tariff Rate: 0 OR ☐ Market Based Rates

Award:

Negotiated Rate Indicator: ◉ Yes ○ No

Rate Schedule: 157

Contract Quantity Limits

Monthly MSQ Table

From	To	Max Qty	Min Qty
05/01/10	01/01/50	245,280	0

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)

Issued On: June 12, 2019

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Tennessee Gas Pipeline Company, L.L.C.
FERC NGA Gas Tariff
Sixth Revised Volume No. 1

Fifteenth Revised Sheet No. 14
Superseding
Fourteenth Revised Sheet No. 14

RATES PER DEKATHERM

FIRM TRANSPORTATION RATES
RATE SCHEDULE FOR FT-A

Base Reservation Rates

RECEIPT ZONE	DELIVERY ZONE 0	L	1	2	3	4	5	6
0	$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	$4.9837		$10.3947	$13.9761	$14.2231	$15.6265	$16.5857	$20.8047
L		$4.4264						
1	$7.4934		$7.1837	$9.5541	$13.5269	$13.3221	$15.0220	$18.4675
2	$13.9762		$9.4969	$4.9480	$4.6267	$5.9149	$8.1285	$10.4876
3	$14.2231		$7.5262	$4.9878	$3.6034	$5.5255	$9.9786	$11.5278
4	$18.0537		$16.6453	$6.3545	$9.6476	$4.7316	$5.1157	$7.3005
5	$21.5229		$15.1291	$6.6649	$8.0608	$5.2544	$4.9298	$6.4123
6	$24.8951		$17.3743	$11.9632	$13.1774	$9.3133	$4.9081	$4.2512

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 $0.0181.

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Tennessee Gas Pipeline Company, L.L.C.
FERC NGA Gas Tariff
Sixth Revised Volume No. 1

Seventeenth Revised Sheet No. 15
Superseding
Sixteenth Revised 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	$0.0039		$0.0122	$0.0184	$0.0226	$0.2398	$0.2289	$0.2723
L		$0.0019						
1	$0.0049		$0.0088	$0.0154	$0.0186	$0.2040	$0.2080	$0.2374
2	$0.0174		$0.0094	$0.0019	$0.0035	$0.0665	$0.1062	$0.1176
3	$0.0214		$0.0176	$0.0033	$0.0009	$0.0886	$0.1224	$0.1336
4	$0.0257		$0.0212	$0.0094	$0.0112	$0.0414	$0.0583	$0.0939
5	$0.0291		$0.0263	$0.0107	$0.0125	$0.0580	$0.0574	$0.0712
6	$0.0353		$0.0307	$0.0150	$0.0170	$0.0888	$0.0485	$0.0297

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 $0.0007.

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Tennessee Gas Pipeline Company, L.L.C.
FERC NGA Gas Tariff
Sixth Revised Volume No. 1

Sixteenth Revised Sheet No. 32
Superseding
Substitute Fifteenth 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	0.38%		1.55%	2.47%	3.08%	3.59%	4.24%	4.84%
L		0.10%						
1	0.52%		1.08%	2.00%	2.44%	3.02%	3.68%	4.21%
2	2.47%		1.16%	0.09%	0.33%	0.77%	1.43%	1.96%
3	3.08%		2.44%	0.33%	0.00%	1.14%	1.70%	2.32%
4	3.59%		2.79%	1.16%	1.41%	0.35%	0.63%	1.22%
5	4.24%		3.68%	1.45%	1.73%	0.62%	0.62%	0.84%
6	5.09%		4.40%	2.00%	2.32%	1.13%	0.46%	0.14%

Broad Run Expansion Project – Market Component (Z3-Z1): 5/ 6.59%

EPCR 3/, 4/

RECEIPT ZONE	DELIVERY ZONE 0	L	1	2	3	4	5	6
0	$0.0020		$0.0077	$0.0120	$0.0149	$0.0180	$0.0204	$0.0245
L		$0.0007						
1	$0.0027		$0.0054	$0.0099	$0.0121	$0.0151	$0.0184	$0.0212
2	$0.0120		$0.0058	$0.0006	$0.0018	$0.0039	$0.0071	$0.0098
3	$0.0149		$0.0121	$0.0018	$0.0000	$0.0057	$0.0084	$0.0113
4	$0.0180		$0.0139	$0.0058	$0.0070	$0.0019	$0.0032	$0.0061
5	$0.0204		$0.0184	$0.0071	$0.0084	$0.0032	$0.0032	$0.0042
6	$0.0245		$0.0212	$0.0098	$0.0113	$0.0057	$0.0024	$0.0009

Broad Run Expansion Project – Market Component (Z3-Z1): 5/ $0.0429

1/ Included in the above F&LR is the Losses component of the F&LR equal to -0.09%.
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 -0.09%.

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Tennessee Gas Pipeline Company, L.L.C.
FERC NGA Gas Tariff
Sixth Revised Volume No. 1

Twenty Fourth Revised Sheet No. 19
Superseding
Twenty Third Revised Sheet No. 19

FIRM TRANSPORTATION RATES
RATE SCHEDULE FT-A

Recourse Rates Applicable to Shippers Utilizing Capacity
Pursuant to Incremental Capacity Expansions

	Base Tariff Rate	Total Rate
CP00-65 300 Line Expansion		
Reservation Charge:		
Maximum	$3.3421	$3.3602 1/, 4/
Minimum	$0.0000	$0.0000
Commodity Charge:		
Maximum	$0.0000	$0.0007 2/, 3/, 4/
Minimum	$0.0000	$0.0000 2/, 3/
CP05-355 Northeast ConneXion - New York/New Jersey Expansion		
Reservation Charge:		
Maximum	$9.3929	$9.4110 1/, 4/
Minimum	$0.0000	$0.0000
Commodity Charge:		
Maximum	$0.0000	$0.0007 2/, 3/, 4/
Minimum	$0.0000	$0.0000 2/, 3/
CP08-65 Concord Expansion		
Reservation Charge:		
Maximum	$11.0774	$11.0955 1/, 4/
Minimum	$0.0000	$0.0000
Commodity Charge:		
Maximum	$0.0000	$0.0007 2/, 3/, 4/
Minimum	$0.0000	$0.0000 2/, 3/
CP09-444 300 Line Project – Market Component		
Reservation Charge:		
Maximum	$23.4176	$23.4357 1/, 4/
Minimum	$0.0000	$0.0000
Commodity Charge:		
Maximum	$0.0000	$0.0007 2/, 3/, 4/
Minimum	$0.0000	$0.0000 2/, 3/
CP11-30-000 Northeast Supply Diversification Project		
Reservation Charge:		
Maximum	$5.6692	$5.6873 1/, 4/
Minimum	$0.0000	$0.0000
Commodity Charge:		
Maximum	$0.0000	$0.0007 2/, 3/, 4/, 5/
Minimum	$0.0000	$0.0000 2/, 3/, 5/
CP11-36-000 Northampton Expansion Project		
Reservation Charge:		
Maximum	$25.2631	$25.2812 1/, 4/
Minimum	$0.0000	$0.0000
Commodity Charge:		
Maximum	$0.0000	$0.0007 2/, 3/, 4/
Minimum	$0.0000	$0.0000 2/, 3/

Notes:
1/ Includes a per Dth charge for the PCB Surcharge Adjustment per Article XXXII of the General Terms and Conditions of $0.0000.
2/ 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.
3/ 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.
4/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of $0.0181 Reservation, $0.0007 Commodity.
5/ Applicable fuel and lost and unaccounted for charges pursuant to the Dominion Lease.

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Tennessee Gas Pipeline Company, L.L.C.
FERC NGA Gas Tariff
Sixth Revised Volume No. 1

Eighteenth Revised Sheet No. 61
Superseding
Seventeenth Revised 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	1.36%	$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	1.36%	$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 0.03%.

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RATES FOR TRANSPORTATION SERVICES

Rate Sch. (1)	Rate Component [1/] (2)		Base Rate (3)	TSCA (4)	TSCA Surch. (5)	Current Rate [2/] (6)
FT/FT-S						
	Reservation	(Max)	$4.5019	-	-	$4.5019
		(Min)	0.0000	-	-	$0.0000
	Commodity	(Max)	0.0140	-	-	$0.0140 plus ACA [3/]
		(Min)	0.0140	-	-	$0.0140 plus ACA [3/]
	Overrun	(Max)	0.1620	-	-	$0.1620 plus ACA [3/]
		(Min)	0.0140	-	-	$0.0140 plus ACA [3/]
EFT	Reservation	(Max)	$4.6455	0.0000	0.0000	$4.6455
		(Min)	0.0000	0.0000	0.0000	$0.0000
	Commodity	(Max)	0.0148	0.0000	0.0000	$0.0148 plus ACA [3/]
		(Min)	0.0148	0.0000	0.0000	$0.0148 plus ACA [3/]
	Overrun	(Max)	0.1675	-	-	$0.1675 plus ACA [3/]
		(Min)	0.0148	-	-	$0.0148 plus ACA [3/]
FST	Reservation	(Max)	$4.5019	-	-	$4.5019
		(Min)	0.0000	-	-	$0.0000
	Commodity	(Max)	0.0140	-	-	$0.0140 plus ACA [3/]
		(Min)	0.0140	-	-	$0.0140 plus ACA [3/]
	Overrun	(Max)	0.1620	-	-	$0.1620 plus ACA [3/]
		(Min)	0.0140	-	-	$0.0140 plus ACA [3/]
IT	Commodity	(Max)	$0.1620	-		$0.1620 plus ACA [3/]
		(Min)	0.0000	-	-	$0.0000 plus ACA [3/]
	Overrun	(Max)	0.1620	-		$0.1620 plus ACA [3/]
		(Min)	0.0000	-	-	$0.0000 plus ACA [3/]

The NA15 Retention is 1.05% applicable to use of the Northern Access 2015 Lease. [2/ 3/]

1/ The unit of measure for each rate component is Dth unless otherwise indicated.
2/ All rates exclusive of Transportation Fuel and Company Use Retention and Transportation LAUF Retention. The Transportation Fuel and Company Use Retention for all applicable rate schedules is 0.80% and the Transportation LAUF Retention for all applicable rate schedules is 0.23%. Transporter may from time to time identify point pair transactions where the Transportation Fuel and Company Use Retention shall be zero ("Zero Fuel Point Pair Transactions"). Zero Fuel Point Pair Transactions will be assessed the applicable Transportation LAUF Retention.
3/ Pursuant to Section 19 of the General Terms and Conditions, the ACA unit charge, as revised annually and posted on the Commission's website, will be charged in addition to the specified rate.

RATES FOR PART 284 STORAGE SERVICES

Rate Sch. (1)	Rate Component [1/] (2)		Rate [2/] (3)
ESS	Demand	(Max)	$2.6433
		(Min)	$0.0000
	Capacity	(Max)	$0.0485
		(Min)	$0.0000
	Injection/Withdrawal	(Max)	$0.0458 plus ACA [3/]
		(Min)	$0.0000
	Storage Balance Transfer	(Max)	$3.8600
		(Min)	$0.0000
ISS	Injection	(Max)	$1.1271 plus ACA [3/]
		(Min)	$0.0000
	Storage Balance Transfer	(Max) [4/]	$3.8600
		(Min) [4/]	$0.0000
FSS	Demand	(Max)	$2.5326
		(Min)	$0.0000
	Capacity	(Max)	$0.0462
		(Min)	$0.0000
	Injection/Withdrawal	(Max)	$0.0439 plus ACA [3/]
		(Min)	$0.0000
	Storage Balance Transfer	(Max) [4/]	$3.8600
		(Min) [4/]	$0.0000

1/ The unit of measure for each rate component is Dth unless otherwise indicated.
2/ All rates exclusive of Storage Operating and LAUF Retention, where applicable. The Storage Operating and LAUF Retention for all applicable rate schedules is 0.93%.
3/ Pursuant to Section 19 of the General Terms and Conditions, the ACA unit charge, as revised annually and posted on the Commission's website, will be charged in addition to the specified rate.
4/ Rate per nomination.

Dominion Energy Transmission, Inc.
FERC Gas Tariff
Fifth Revised Volume No. 1

GSS, GSS-E & ISS Rates - Severed Parties
Tariff Record No. 10.31.
Version 6.0.0
Superseding Version 5.0.0

APPLICABLE TO SEVERED PARTIES PURSUANT TO THE DECEMBER 6, 2013 STIPULATION
IN DOCKET NO. RP14-262

RATES APPLICABLE TO RATE SCHEDULES IN
FERC GAS TARIFF, VOLUME NO. 1
($ per DT)

Rate Schedule	Rate Component	Base Tariff Rate [1]	Current Acct 858 Base	Current EPCA Base	TCRA [5] Surcharge	EPCA [6] Surcharge	Current Rate [7]	FERC ACA
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
GSS [2], [4]								
	Storage Demand	$1.7984	$0.0666	$0.0072	($0.0046)	$0.0022	$1.8698	-
	Storage Capacity	$0.0145	-	-	-	-	$0.0145	-
	Injection Charge	$0.0154	-	$0.0128	$0.0000	($0.0014)	$0.0268	-
	Withdrawal Charge	$0.0154	-	-	$0.0000	($0.0014)	$0.0140	[8]
	GSS-TE Surcharge [3]	-	$0.0047	-	$0.0001	-	$0.0048	-
	From Customers Balance	$0.6163	$0.0144	$0.0015	($0.0010)	($0.0009)	$0.6303	[8]
GSS-E [2], [4]								
	Storage Demand	$2.2113	$0.0666	$0.0072	($0.0046)	$0.0022	$2.2827	-
	Storage Capacity	$0.0369	-	-	-	-	$0.0369	-
	Injection Charge	$0.0154	-	$0.0128	$0.0000	($0.0014)	$0.0268	-
	Withdrawal Charge	$0.0154	-	-	$0.0000	($0.0014)	$0.0140	[8]
	Authorized Overruns	$1.0657	$0.0144	$0.0015	($0.0010)	($0.0009)	$1.0797	[8]
ISS [2]								
	ISS Capacity	$0.0736	$0.0022	$0.0002	($0.0002)	$0.0001	$0.0759	-
	Injection Charge	$0.0154	-	$0.0128	$0.0000	($0.0014)	$0.0268	-
	Withdrawal Charge	$0.0154	-	-	$0.0000	($0.0014)	$0.0140	[8]
	Authorized Overrun/from Cust. Bal	$0.6163	$0.0144	$0.0015	($0.0010)	($0.0009)	$0.6303	[8]
	Excess Injection Charge	$0.2245	-	$0.0128	$0.0000	($0.0014)	$0.2359	-

[1] The base tariff rate is the effective rate on file with the FERC, excluding adjustments approved by the Commission.
[2] Storage Service Fuel Retention Percentage is 2.28% plus Adders of 0.28% (RP00-632 S&A approved 9/13/01) totaling 2.56%.
[3] Applies to withdrawals made under Rate Schedule GSS, Section 5.1.G.
[4] Daily Capacity Release Rate for GSS per Dt is $0.6163. Daily Capacity Release Rate for GSS-E per Dt is $1.0657.
[5] 858 over/under from previous TCRA period.
[6] Electric over/under from previous EPCA period.
[7] The Current Rate shall be increased for the Annual Charge Adjustment (ACA) as applicable.
[8] The applicable ACA rate is set forth on the FERC website (http://www.ferc.gov/industries/gas/annual-charges.asp).

Issued On: September 30, 2019
Effective On: November 1, 2019

Effective
2020-04-01
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)	Fuel and Commodity Charges		
		Union Supplied Fuel	Shipper Supplied Fuel	
		Fuel and Commodity Charge	Fuel	AND Commodity Charge
	Rate/GJ	Rate/GJ	Ratio %	Rate/GJ
Firm Transportation (1), (5)				
Dawn to Parkway	$3.632	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	$3.083			
Kirkwall to Parkway	$0.550			
M12-X Firm Transportation				
Between Dawn, Kirkwall and Parkway	$4.488	Monthly fuel and commodity rates shall be in accordance with schedule "C".	Monthly fuel ratios shall be in accordance with schedule "C".	
Limited Firm/Interruptible Transportation (1)				
Dawn to Parkway – Maximum	$8.717	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	$8.717			
Parkway (TCPL / EGT) to Parkway (Cons) / Lisgar (2)	n/a	n/a	0.162%	
Carbon Charge (applied to all quantities transported)				
Facility Carbon Charge		$0.002		$0.002

North Bay Junction Long Term Fixed Price (NBJ LTFP) Service

Line No.	Particulars (a)	Monthly Toll ($/GJ/Month) (b)	Daily Equivalent ($/GJ) (c)
1	NBJ LTFP	28.28750	0.9300
2	NBJ LTFP Differential Surcharge	0.00000	0.0000

Note: The toll for NBJ LTFP is inclusive of the applicable Abandonment Surcharge for FT service from Empress to North Bay Junction. The NBJ LTFP Differential Surcharge is zero provided the Abando nment Surcharge for FT service from Empress to North Bay Junction is equal or less than $6.69167/GJ/Month.

Enhanced Market Balancing Service

Line No.	Particulars (a)	Monthly Toll ($/GJ/Month) (b)	Daily Equivalent ($/GJ) (c)	Abandonment Surcharge ($/GJ/Month) (d)	Daily Equivalent Abandonment Surcharge ($/GJ) (e)
3	Union Parkway Belt to Union EDA	8.00558	0.2632	0.50431	0.0166

Delivery Pressure

Line No.	Particulars (a)	Monthly Toll ($/GJ/Month) (b)	Daily Equivalent ($/GJ) (c)
4	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 (a)	Monthly Toll ($/GJ/Month) (b)	Daily Equivalent ($/GJ) (c)
5	Union Dawn Receipt Point Surcharge	0.14587	0.0048

Short Notice Balancing (SNB) Service

Line No.	Particulars (a)	Monthly Toll ($/GJ/Month) (b)	Daily Equivalent ($/GJ) (c)
6	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 (a)	Capacity Charge ($/GJ/D) (b)
7	Western Section	1.2222
8	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	-	0.0265
2	Union NDA	Enbridge Parkway CDA	-	0.3140	-	0.0268
3	Union NDA	Enbridge EDA	-	0.3374	-	0.0294
4	Union NDA	KPUC EDA	-	0.3974	-	0.0359
5	Union NDA	Energir EDA	-	0.4369	-	0.0401
6	Union NDA	Enbridge SWDA	-	0.4158	-	0.0379
7	Union NDA	Union SWDA	-	0.4174	-	0.0380
8	Union NDA	Chippawa	-	0.3746	-	0.0334
9	Union NDA	Cornwall	-	0.3613	-	0.0319
10	Union NDA	East Hereford	-	0.5211	-	0.0493
11	Union NDA	Emerson 1	-	0.7626	-	0.0762
12	Union NDA	Emerson 2	-	0.7626	-	0.0762
13	Union NDA	Iroquois	-	0.3464	-	0.0303
14	Union NDA	Kirkwall	-	0.3312	-	0.0287
15	Union NDA	Napierville	-	0.4302	-	0.0394
16	Union NDA	Niagara Falls	-	0.3736	-	0.0333
17	Union NDA	North Bay Junction	-	0.1518	-	0.0094
18	Union NDA	Philipsburg	-	0.4380	-	0.0403
19	Union NDA	Spruce	-	0.6995	-	0.0693
20	Union NDA	St. Clair	-	0.4228	-	0.0390
21	Union NDA	Welwyn	-	0.8732	-	0.0883
22	Union NDA	Dawn Export	-	0.4158	-	0.0379
23	Union Parkway Belt	Empress	44.68817	1.4692	4.22944	0.1391
24	Union Parkway Belt	TransGas SSDA	38.24166	1.2573	3.58765	0.1180
25	Union Parkway Belt	Centram SSDA	35.60058	1.1704	3.32454	0.1093
26	Union Parkway Belt	Centram MDA	31.60535	1.0391	2.92669	0.0962
27	Union Parkway Belt	Centrat MDA	31.29480	1.0289	2.89567	0.0952
28	Union Parkway Belt	Union WDA	24.40938	0.8025	2.21008	0.0727
29	Union Parkway Belt	Nipigon WDA	21.58275	0.7096	1.92872	0.0634
30	Union Parkway Belt	Union NDA	10.40311	0.3420	0.81547	0.0268
31	Union Parkway Belt	Calstock NDA	16.66773	0.5480	1.43932	0.0473
32	Union Parkway Belt	Tunis NDA	12.79873	0.4208	1.05424	0.0347
33	Union Parkway Belt	Energir NDA	9.92283	0.3262	0.76772	0.0252
34	Union Parkway Belt	Union SSMDA	14.89778	0.4898	1.26320	0.0415
35	Union Parkway Belt	Union NCDA	5.21920	0.1716	0.29930	0.0098
36	Union Parkway Belt	Union CDA	3.39085	0.1115	0.11741	0.0039
37	Union Parkway Belt	Union ECDA	2.65538	0.0873	0.04410	0.0015
38	Union Parkway Belt	Union EDA	7.27780	0.2393	0.50431	0.0166
39	Union Parkway Belt	Union Parkway Belt	2.48413	0.0817	0.02707	0.0009
40	Union Parkway Belt	Enbridge CDA	3.72330	0.1224	0.15056	0.0050
41	Union Parkway Belt	Enbridge Parkway CDA	2.40413	0.0817	0.02707	0.0009
42	Union Parkway Belt	Enbridge EDA	9.31997	0.3064	0.70780	0.0233
43	Union Parkway Belt	KPUC EDA	7.00009	0.2301	0.47663	0.0157
44	Union Parkway Belt	Energir EDA	11.96865	0.3935	0.97151	0.0319
45	Union Parkway Belt	Enbridge SWDA	5.85551	0.1925	0.36287	0.0119
46	Union Parkway Belt	Union SWDA	5.90905	0.1943	0.36804	0.0121
47	Union Parkway Belt	Chippawa	4.49163	0.1477	0.22691	0.0075
48	Union Parkway Belt	Cornwall	9.45715	0.3109	0.72148	0.0237
49	Union Parkway Belt	East Hereford	14.75026	0.4849	1.24830	0.0410
50	Union Parkway Belt	Emerson 1	29.48227	0.9693	2.71530	0.0893
51	Union Parkway Belt	Emerson 2	29.48227	0.9693	2.71530	0.0893
52	Union Parkway Belt	Iroquois	8.82783	0.2902	0.65883	0.0217
53	Union Parkway Belt	Kirkwall	3.05201	0.1003	0.08365	0.0028
54	Union Parkway Belt	Napierville	11.74023	0.3860	0.94870	0.0312
55	Union Parkway Belt	Niagara Falls	4.45604	0.1465	0.22356	0.0074
56	Union Parkway Belt	North Bay Junction	7.82590	0.2573	0.55906	0.0184
57	Union Parkway Belt	Philipsburg	11.99968	0.3945	0.97455	0.0320
58	Union Parkway Belt	Spruce	31.29480	1.0289	2.89567	0.0952
59	Union Parkway Belt	St. Clair	6.20956	0.2042	0.39815	0.0131
60	Union Parkway Belt	Welwyn	35.60058	1.1704	3.32454	0.1093
61	Union Parkway Belt	Dawn Export	5.85551	0.1925	0.36287	0.0119
62	Union SSMDA	Empress	-	1.0386	-	0.1064
63	Union SSMDA	TransGas SSDA	-	0.8457	-	0.0853
64	Union SSMDA	Centram SSDA	-	0.7667	-	0.0766
65	Union SSMDA	Centram MDA	-	0.6471	-	0.0636
66	Union SSMDA	Centrat MDA	-	0.6467	-	0.0635
67	Union SSMDA	Union WDA	-	0.8702	-	0.0880
68	Union SSMDA	Nipigon WDA	-	0.9373	-	0.0953
69	Union SSMDA	Union NDA	-	0.6827	-	0.0675
70	Union SSMDA	Calstock NDA	-	0.8702	-	0.0880

1	**Liberty Utilities (EnergyNorth Natural Gas) Corp.**								**REDACTED**
2	**d/b/a Liberty Utilities**								Schedule 6
3	**Peak 2020 - 2021 Winter Cost of Gas Filing**								Page 1 of 5
4	**Supply and Commodity Costs, Volumes and Rates**								
5									Peak
6	For Month of:	Reference	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Nov- Apr
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
8									
9	**Supply and Commodity Costs**								
10									
11	**Pipeline Gas:**								
12	Dawn Supply	ln 64 * ln 104	[redacted]						
13	Niagara Supply	ln 65 * ln 109							
14	TGP Supply (Direct)	ln 66 * ln 125							
15	Dracut Supply 1 - Baseload	ln 67 * ln 114							
16	Dracut Supply 2 - Swing	ln 68 * ln 119							
17	Constellation COMBO	ln 69 * ln 131							
18	LNG Truck	ln 70 * ln 133							
19	Propane Truck	ln 71 * ln 135							
20	PNGTS	ln 72 * ln 140							
21	Portland Natural Gas	ln 73 * ln 145							
22	TGP Supply (Z4)	ln 74 * ln 150							
23									
24	Subtotal Pipeline Gas Costs		$ 3,567,106	$ 5,511,412	$ 7,763,875	$ 5,518,062	$ 4,317,360	$ 2,239,092	$ 28,916,907
25									
26	**Volumetric Transportation Costs**								
27	Dawn Supply	ln 64 * ln 197	[redacted]						
28	Niagara Supply	ln 65 * ln 208							
29	TGP Supply (Direct)	ln 66 * ln 235							
30	Dracut Supply 1 - Baseload	ln 67 * ln 256							
31	Dracut Supply 2 - Swing	ln 68 * ln 256							
32	Constellation COMBO	ln 69 * ln 256							
33	TGP Storage - Withdrawals	ln 79 * ln 172							
34									
35	**Total Volumetric Transportation Costs**		$ 206,946	$ 201,290	$ 219,417	$ 185,911	$ 189,783	$ 38,870	$ 1,042,217
36									
37	**Less - Gas Refill:**								
38	LNG Truck	ln 88 * ln 157	[redacted]						
39	Propane	ln 89 * ln 158							
40	TGP Storage Refill	ln 90 * ln 123							
41	Storage Refill (Trans.)	ln 90 * ln 235							
42									
43	Subtotal Refills		$ (475,910)	$ (292,506)	$ (505,671)	$ (360,919)	$ (47,139)	$ -	$ (1,682,144)
44									
45	**Total Supply & Pipeline Commodity Costs**	ln 24 + ln 35 + ln 43	$ 3,298,142	$ 5,420,197	$ 7,477,621	$ 5,343,054	$ 4,460,004	$ 2,277,962	$ 28,276,980
46									
47	**Storage Gas:**								
48	TGP Storage - Withdrawals	ln 79 * ln 164	$ 159,117	$ 720,714	$ 839,435	$ 711,420	$ 633,464	$ -	$ 3,064,149
49									
50	**Produced Gas:**								
51	LNG Vapor	ln 82 * ln 152	[redacted]						
52	Propane	ln 83 * ln 154							
53									
54	**Total Produced Gas**	ln 51 + ln 52	$ 8,638	$ 295,616	$ 901,402	$ 366,241	$ 9,750	$ 8,943	$ 1,590,589
55									
56									
57	**Total Commodity Gas & Trans. Costs**	ln 45 + ln 48 + ln 54	$ 3,465,897	$ 6,436,527	$ 9,218,458	$ 6,420,714	$ 5,103,217	$ 2,286,905	$ 32,931,719
58									$ 90,922,460
59						**THIS DOCUMENT HAS BEEN REDACTED**			

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2 **d/b/a Liberty Utilities**
3 **Peak 2020 - 2021 Winter Cost of Gas Filing**
4 **Supply and Commodity Costs, Volumes and Rates**

Line									Peak
6	For Month of:	Reference	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Nov- Apr
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
60									
61	**Volumes (Therms)**								
62									
63	**Pipeline Gas:**	See Schedule 11A							
64	Dawn Supply		870,804	925,912	929,473	820,216	913,878	721,190	5,181,473
65	Niagara Supply		686,821	729,872	732,679	646,410	720,386	659,273	4,175,441
66	TGP Supply (Direct)		4,579,051	3,124,576	3,136,594	2,760,187	3,083,965	613,539	17,297,912
67	Dracut Supply 1 - Baseload		-	2,798,848	4,682,940	3,099,664	-	-	10,581,452
68	Dracut Supply 2 - Swing		3,470,755	188,500	392,074	-	2,429,813	1,319,250	7,800,392
69	Constellation COMBO		-	1,523,080	1,182,278	1,020,648	611,732	-	4,337,738
70	LNG Truck		20,524	689,156	646,393	785,455	105,676	-	2,247,204
71	Propane Truck		-	-	181,656	-	-	-	181,656
72	PNGTS		217,701	231,478	232,368	204,869	228,469	208,969	1,323,855
73	Portland Natural Gas		1,063,583	1,130,246	1,134,593	1,001,418	1,115,556	787,328	6,232,725
74	TGP Supply (Z4)		1,803,913	1,923,454	1,930,852	1,704,038	1,898,454	4,301,810	13,562,522
75									
76	Subtotal Pipeline Volumes		12,713,152	13,265,122	15,181,900	12,042,907	11,107,929	8,611,360	72,922,371
77									
78	**Storage Gas:**								
79	TGP Storage		993,817	4,501,466	5,242,978	4,443,415	3,956,513	-	19,138,188
80									
81	**Produced Gas:**								
82	LNG Vapor		17,634	633,355	704,270	780,169	21,244	19,486	2,176,158
83	Propane		-	-	504,301	-	-	-	504,301
84									
85	Subtotal Produced Gas		17,634	633,355	1,208,571	780,169	21,244	19,486	2,680,459
86									
87	**Less - Gas Refill:**								
88	LNG Truck		(17,634)	(634,048)	(623,260)	(769,303)	(104,022)	-	(2,148,269)
89	Propane		-	-	(175,155)	-	-	-	(175,155)
90	TGP Storage Refill		(1,495,134)	-	-	-	-	-	(1,495,134)
91									
92	Subtotal Refills		(1,512,768)	(634,048)	(798,416)	(769,303)	(104,022)	-	(3,818,558)
93									
94	**Total Sendout Volumes**		12,211,835	17,765,894	20,835,033	16,497,187	14,981,664	8,630,846	90,922,460
95									
96									
97									

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2 **d/b/a Liberty Utilities**
3 **Peak 2020 - 2021 Winter Cost of Gas Filing**
4 **Supply and Commodity Costs, Volumes and Rates**

Line		Reference	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Peak
6	For Month of:	Reference	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Nov- Apr
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
98	**Gas Costs and Volumetric Transportation Rates**								
99									
100	**Pipeline Gas:**								
101	**Dawn Supply**								Average Rate
102	NYMEX Price	Sch 7, ln 10/10	[redacted]						
103	Basis Differential								
104	**Net Commodity Costs**								
105									
106	**Niagara Supply**								
107	NYMEX Price	Sch 7, ln 10/10	[redacted]						
108	Basis Differential								
109	**Net Commodity Costs**								
110									
111	**Dracut Supply 1 - Baseload**								
112	Commodity Costs - NYMEX Price	Sch 7, ln 10 / 10	[redacted]						
113	Basis Differential								
114	**Net Commodity Costs**								
115									
116	**Dracut Supply 2 - Swing**								
117	Commodity Costs - NYMEX Price	Sch 7, ln 10 / 10	[redacted]						
118	Basis Differential								
119	**Net Commodity Costs**								
120									
121									
122	**TGP Supply (Direct)**								
123	NYMEX Price	Sch 7, ln 10/10	[redacted]						
124	Basis Differential								
125	**Net Commodity Costs**								
126									
127									
128	**Constellation COMBO**								
129	NYMEX Price	Sch 7, ln 10/10	[redacted]						
130	Basis Differential								
131	**Net Commodity Costs**								
132									
133	**LNG Truck**	Sch 7, ln 10/10	[redacted]						
134									
135	**Propane Truck**	Propane WACOG	[redacted]						
136									
137	**PNGTS**								
138	NYMEX Price	Sch 7, ln 10/10	[redacted]						
139	Basis Differential								
140	**Net Commodity Cost**								
141									
142	**PNGTS EXP**								
143	NYMEX Price	Sch 7, ln 10/10	[redacted]						
144	Basis Differential								
145	**Net Commodity Cost**								
146									
147	**TGP Supply (Z4)**								
148	NYMEX Price	Sch 7, ln 10/10	[redacted]						
149	Basis Differential								
150	**Net Commodity Cost**								
151									
152	**LNG Vapor (Storage)**	Sch 16, ln 95 /10	[redacted]						
153									
154	**Propane**	Sch 16, ln 66 /10	[redacted]						
155									
156	**Storage Refill:**								
157	**LNG Truck**	ln 133	[redacted]						
158	**Propane**	ln 135							
159									
160									

THIS DOCUMENT HAS BEEN REDACTED

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.** **REDACTED**
2 **d/b/a Liberty Utilities** Schedule 6
3 **Peak 2020 - 2021 Winter Cost of Gas Filing** Page 4 of 5
4 **Supply and Commodity Costs, Volumes and Rates**

5									Peak
6	For Month of:	Reference	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Nov- Apr
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
161									
162									
163	**TGP Storage**								
164	**Commodity Costs - Storage withdrawal**	Sch 16, ln 34 /10	$0.1601	$0.1601	$0.1601	$0.1601	$0.1601	$0.1601	$0.1601
165									
166	TGP - Max Commodity - Z 4-6	17th Rev Sheet No. 15	$0.00939	$0.00939	$0.00939	$0.00939	$0.00939	$0.00939	$0.00939
167	TGP - Max Comm. ACA Rate - Z 4-6	17th Rev Sheet No. 15	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011
168	Subtotal TGP - Trans Charge - Max Commodity Rate - Z 4-6		$0.00950	$0.00950	$0.00950	$0.00950	$0.00950	$0.00950	$0.00950
169	TGP - Fuel Charge % - Z 4-6	16th Rev Sheet No. 32	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%
170	TGP - Fuel Charge % - Z 4-6 - (NYMEX * Percentage)		$0.00195	$0.00195	$0.00195	$0.00195	$0.00195	$0.00195	$0.00195
171	TGP - Withdrawal Charge	18th Rev Sheet No.61	$0.00087	$0.00087	$0.00087	$0.00087	$0.00087	$0.00087	$0.00087
172	**Total Volumetric Transportation Rate - TGP (Storage)**		$0.01232	$0.01232	$0.01232	$0.01232	$0.01232	$0.01232	$0.01232
173									
174	**Total TGP - Comm. & Vol. Trans. Rate**	ln 164 + ln 172	**$0.17243**	**$0.17243**	**$0.17243**	**$0.17243**	**$0.17243**	**$0.17243**	**$0.17243**
175									
176									
177	**Per Unit Volumetric Transportation Rates**								
178	**Dawn Supply Volumetric Transportation Charge**								
179	**Commodity Costs**	ln 104	**$0.2707**	**$0.3068**	**$0.3168**	**$0.3153**	**$0.3113**	**$0.2677**	**$0.2981**
180									
181	TransCanada - Commodity Rate/GJ	Dawn - Parkway to Iroquois	$0.00020	$0.00020	$0.00020	$0.00020	$0.00020	$0.00020	$0.00020
182	Conversion Rate GL to MMBTU		1.0551	1.0551	1.0551	1.0551	1.0551	1.0551	1.0551
183	Conversion Rate to US$	1/0/1900	1.3539	1.3539	1.3539	1.3539	1.3539	1.3539	1.3539
184	Commodity Rate/US$	ln 181 x ln 182 x ln 183	$0.00029	$0.00029	$0.00029	$0.00029	$0.00029	$0.00029	$0.00029
185	TransCanada Fuel %	Dawn - Parkway to Iroquois	0.94%	1.10%	1.19%	1.08%	0.94%	0.89%	1.02%
186	TransCanada Fuel * Percentage	ln 179 x ln 185	$0.00255	$0.00338	$0.00376	$0.00339	$0.00292	$0.00239	$0.00307
187	Subtotal TransCanada		**$0.00283**	**$0.00367**	**$0.00404**	**$0.00368**	**$0.00321**	**$0.00268**	**$0.00335**
188	IGTS - Z1 RTS Commodity	Forth Revised Sheet No. 4	$0.00034	$0.00034	$0.00034	$0.00034	$0.00034	$0.00034	$0.00034
189	IGTS - Z1 RTS ACA Rate Commodity	Forth Revised Sheet No. 4	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011
190	IGTS - Z1 RTS Deferred Asset Surcharge	Forth Revised Sheet No. 4	$0.00000	$0.00000	$0.00000	$0.00000	$0.00000	$0.00000	$0.00000
191	Subtotal IGTS - Trans Charge - Z1 RTS Commodity		**$0.00045**	**$0.00045**	**$0.00045**	**$0.00045**	**$0.00045**	**$0.00045**	**$0.00045**
192	TGP NET-NE - Comm. Segments 3 & 4	17th Rev Sheet No. 15	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011
193	IGTS -Fuel Use Factor - Percentage	Forth Revised Sheet No. 4	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
194	IGTS -Fuel Use Factor - Fuel * Percentage	ln 179 x ln 193	**$0.00271**	**$0.00307**	**$0.00317**	**$0.00315**	**$0.00311**	**$0.00268**	**$0.00298**
195	TGP FTA Fuel Charge % Z 5-6	16th Rev Sheet No. 32	0.84%	0.84%	0.84%	0.84%	0.84%	0.84%	0.84%
196	TGP FTA Fuel * Percentage	ln 179 x ln 195	**$0.00227**	**$0.00258**	**$0.00266**	**$0.00265**	**$0.00261**	**$0.00225**	**$0.00250**
197	**Total Volumetric Transportation Charge - Dawn Supply**		**$0.00837**	**$0.00987**	**$0.01043**	**$0.01004**	**$0.00950**	**$0.00816**	**$0.00940**
198									
199									
200	**Niagara Supply Volumetric Transportation Charge**								
201	**Commodity Costs**	Ln 109	[redacted]						
202									
203	TGP FTA - FTA Z 5-6 Comm. Rate	17th Rev Sheet No. 15	$0.00712	$0.00712	$0.00712	$0.00712	$0.00712	$0.00712	$0.00712
204	TGP FTA - FTA Z 5-6 - ACA Rate	17th Rev Sheet No. 15	$0.00011	$0.0001	$0.0001	$0.0001	$0.0001	$0.0001	$0.0001
205	Subtotal TGP FTA - FTA Z 5-6 Commodity Rate		**$0.00723**	**$0.0072**	**$0.0072**	**$0.0072**	**$0.0072**	**$0.0072**	**$0.0072**
206	TGP FTA Fuel Charge % Z 5-6	16th Rev Sheet No. 32	0.84%	0.84%	0.84%	0.84%	0.84%	0.84%	0.84%
207	TGP FTA Fuel * Percentage	ln 201 x ln 206	[redacted]						
208	**Total Volumetric Transportation Rate - Niagara Supply**								
209									
210					**THIS DOCUMENT HAS BEEN REDACTED**				

Ln									
1	**Liberty Utilities (EnergyNorth Natural Gas) Corp.**								**REDACTED**
2	**d/b/a Liberty Utilities**								Schedule 6
3	**Peak 2020 - 2021 Winter Cost of Gas Filing**								Page 5 of 5
4	**Supply and Commodity Costs, Volumes and Rates**								
5									Peak
6	For Month of:	Reference	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Nov- Apr
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
211									
212									
213									
214	**TGP Direct Volumetric Transportation Charge**								Average Rate
215	**Commodity Costs**	Ln 123	[redacted]						
216									
217	TGP - Max Comm. Base Rate - Z 0-6	17th Rev Sheet No. 15	$0.02723	$0.02723	$0.02723	$0.02723	$0.02723	$0.02723	$0.02723
218	TGP - Max Commodity ACA Rate - Z 0-6	17th Rev Sheet No. 15	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011
219	Subtotal TGP - Max Comm. Rate Z 0-6		$0.02734	$0.02734	$0.02734	$0.02734	$0.02734	$0.02734	$0.02734
220	Prorated Percentage		32.60%	32.60%	32.60%	32.60%	32.60%	32.60%	32.60%
221	Prorated TGP - Max Commodity Rate - Z 0-6		**$0.00891**	**$0.00891**	**$0.00891**	**$0.00891**	**$0.00891**	**$0.00891**	**$0.00891**
222	TGP - Max Comm. Base Rate - Z 1-6	17th Rev Sheet No. 15	$0.02374	$0.02374	$0.02374	$0.02374	$0.02374	$0.02374	$0.02374
223	TGP - Max Commodity ACA Rate - Z 1-6	17th Rev Sheet No. 15	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011
224	Subtotal TGP - Max Commodity Rate - Z 1-6		$0.02385	$0.02385	$0.02385	$0.02385	$0.02385	$0.02385	$0.02385
225	Prorated Percentage		67.40%	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
226	Prorated TGP - Trans Charge - Max Commodity Rate - Z 1-6		**$0.01607**	**$0.01607**	**$0.01607**	**$0.01607**	**$0.01607**	**$0.01607**	**$0.01607**
227	TGP - Fuel Charge % - Z 0 -6	16th Rev Sheet No. 32	4.84%	4.84%	4.84%	4.84%	4.84%	4.84%	4.84%
228	Prorated Percentage		32.6%	32.6%	32.6%	32.6%	32.6%	32.6%	32.6%
229	Prorated TGP Fuel Charge % - Z 0-6		1.58%	1.58%	1.58%	1.58%	1.58%	1.58%	1.58%
230	TGP - Fuel Charge % - Z 1 -6	16th Rev Sheet No. 32	4.21%	4.21%	4.21%	4.21%	4.21%	4.21%	4.21%
231	Prorated Percentage		67.40%	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
232	Prorated TGP Fuel Charge - Fuel Charge % - Z 1-6		2.84%	2.84%	2.84%	2.84%	2.84%	2.84%	2.84%
233	TGP - Fuel Charge % - Z 0-6	ln 215 x ln 229	**$0.00437**	**$0.00485**	**$0.00502**	**$0.00494**	**$0.00474**	**$0.00429**	**$0.00470**
234	TGP - Fuel Charge % - Z 1-6	ln 215 x ln 232	**$0.00785**	**$0.00873**	**$0.00902**	**$0.00889**	**$0.00852**	**$0.00772**	**$0.00846**
235	**Total Volumetric Transportation Rate - TGP (Direct)**		**$0.03720**	**$0.03857**	**$0.03903**	**$0.03882**	**$0.03825**	**$0.03700**	**$0.03814**
236									
237	**TGP (Zone 6 Purchase) Volumetric Transportation Charge**								
238	**Commodity Costs**	Ln 123	[redacted]						
239									
240	TGP - Max Comm. Base Rate - Z 6-6	17th Rev Sheet No. 15	$0.00297	$0.00297	$0.00297	$0.00297	$0.00297	$0.00297	$0.00297
241	TGP - Max Commodity ACA Rate - Z 6-6	17th Rev Sheet No. 15	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011
242	Subtotal TGP - Max Commodity Rate - Z 6-6		**$0.00308**	**$0.00308**	**$0.00308**	**$0.00308**	**$0.00308**	**$0.00308**	**$0.00308**
243	TGP - Fuel Charge % - Z 6-6	16th Rev Sheet No. 32	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
244	TGP - Fuel Charge	ln 238 x ln 243	**$0.00000**	**$0.00000**	**$0.00000**	**$0.00000**	**$0.00000**	**$0.00000**	**$0.00000**
245	**Total Vol. Trans. Rate - TGP (Zone 6)**		**$0.00308**	**$0.00308**	**$0.00308**	**$0.00308**	**$0.00308**	**$0.00308**	**$0.00308**
246									
247									
248	**TGP Dracut**								
249	**Commodity Costs - NYMEX Price**	Ln 114	[redacted]						
250									
251	TGP - Trans Charge - Comm. - Z 6-6	17th Rev Sheet No. 15	$0.00297	$0.00297	$0.00297	$0.00297	$0.00297	$0.00297	$0.00297
252	TGP - Trans Charge - ACA Rate - Z6-6	17th Rev Sheet No. 15	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011	$0.00011
253	Subtotal TGP - Trans Charge - Max Commodity Rate - Z 6-6		**$0.00308**	**$0.00308**	**$0.00308**	**$0.00308**	**$0.00308**	**$0.00308**	**$0.00308**
254	TGP - Fuel Charge % - Z 6-6	16th Rev Sheet No. 32	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
255	TGP - Fuel Charge	ln 249 x ln 254	[redacted]						
256	**Total Volumetric Transportation Rate - TGP Dracut**								
257									
258					**THIS DOCUMENT HAS BEEN REDACTED**				

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2 **d/b/a Liberty Utilities**
3 **Peak 2020 - 2021 Winter Cost of Gas Filing**
4 **NYMEX Futures @ Henry Hub**

Line										Peak
6	For Month of:	Reference		Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Strip Average
7	(a)	(b)		(c)	(d)	(e)	(f)	(g)	(h)	(i)
8	**I. NYMEX Opening Prices as of:**									
9	Opening Prices (15 day average)			$2.7669	$3.0753	$3.1799	$3.1326	$3.0031	$2.7212	$2.9798
10	NYMEX		**Filed COG**	$2.7669	$3.0753	$3.1799	$3.1326	$3.0031	$2.7212	$2.9798
14										
15	<u>NYMEX Settlement - 15 Day Average</u>									
16		Days	Date							
17		1	5-Aug	$2.6750	$2.9940	$3.1030	$3.0560	$2.9360	$2.6490	
18		2	6-Aug	$2.6540	$2.9850	$3.0960	$3.0530	$2.9360	$2.6610	
19		3	7-Aug	$2.7200	$3.0440	$3.1470	$3.0980	$2.9730	$2.6850	
20		4	10-Aug	$2.6400	$2.9750	$3.0790	$3.0350	$2.9150	$2.6550	
21		5	11-Aug	$2.6700	$3.0030	$3.1060	$3.0600	$2.9380	$2.6790	
22										
23										
24		6	12-Aug	$2.6720	$2.9970	$3.1010	$3.0550	$2.9320	$2.6750	
25		7	13-Aug	$2.6990	$3.0160	$3.1210	$3.0750	$2.9500	$2.6850	
26		8	14-Aug	$2.8110	$3.1040	$3.2030	$3.1560	$3.0260	$2.7320	
27		9	17-Aug	$2.8030	$3.1100	$3.2110	$3.1620	$3.0290	$2.7360	
28		10	18-Aug	$2.8700	$3.1570	$3.2570	$3.2030	$3.0640	$2.7660	
29										
30										
31		11	19-Aug	$2.8680	$3.1520	$3.2550	$3.2030	$3.0650	$2.7770	
32		12	20-Aug	$2.8270	$3.1360	$3.2430	$3.1970	$3.0650	$2.7770	
33		13	21-Aug	$2.8660	$3.1580	$3.2660	$3.2160	$3.0790	$2.7880	
34		14	24-Aug	$2.8750	$3.1560	$3.2580	$3.2100	$3.0670	$2.7750	
35		15	25-Aug	$2.8530	$3.1420	$3.2530	$3.2100	$3.0710	$2.7780	
36										
37										
38										
39										
40										
41										
42										
43			15 Day Average	$2.7669	$3.0753	$3.1799	$3.1326	$3.0031	$2.7212	

Liberty Utilities (EnergyNorth Natural Gas) Corp.
1 d/b/a Liberty Utilities
2 Peak 2020 - 2021 Winter Cost of Gas Filing
3 Annual Bill Comparisons, Nov 19 - Apr 20 vs Nov 20 - Apr 21 - Residential Heating Rate R-3
4
5

6 **November 1, 2020 - April 30, 2021**
7 **Residential Heating (R3)**

#				Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Winter Nov-Apr
8	**PROPOSED**									
9										
10	**average Usage (Therms)**			62	110	123	148	132	92	667
11			7/1/2020 - Current							
12	**Winter:**									
13	Cust. Chg		$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 93.00
14	Headblock		$ 0.5678							
15	Tailblock		$ 0.5678	$ 35.20	$ 62.46	$ 69.84	$ 84.03	$ 74.95	$ 52.24	$ 378.72
16	HB Threshold		-							
17										
24	Total Base Rate Amount			$ 50.70	$ 77.96	$ 85.34	$ 99.53	$ 90.45	$ 67.74	$ 471.72
25										
26	COG Rate - (Seasonal)			$ 0.5571	$ 0.5571	$ 0.5571	$ 0.5571	$ 0.5571	$ 0.5571	$ 0.5571
27	COG amount			$ 34.54	$ 61.28	$ 68.52	$ 82.45	$ 73.54	$ 51.25	$ 371.59
28										
29	LDAC			$ 0.0603	$ 0.0603	$ 0.0603	$ 0.0603	$ 0.0603	$ 0.0603	$ 0.0603
30	LDAC amount			$ 3.74	$ 6.63	$ 7.41	$ 8.92	$ 7.96	$ 5.55	$ 40.21
31										
32	**Total Bill**			**$ 88.98**	**$ 145.87**	**$ 161.28**	**$ 190.91**	**$ 171.94**	**$ 124.54**	**$ 883.52**

33

34 **November 1, 2019 - April 30, 2020**
35 **Residential Heating (R3)**

#				Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	Winter Nov-Apr
36	**CURRENT**									
37										
38	**average Usage (Therms)**			62	110	123	148	132	92	667
39										
40	**Winter:**	7/1/19 - 6/30/20	7/1/2020 - Current							
41	Cust. Chg	$ 15.20	$ 15.50	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 91.20
42	Headblock	$ 0.5569	$ 0.5678							
43	Tailblock	$ 0.5569	$ 0.5678	$ 34.53	$ 61.26	$ 68.50	$ 82.42	$ 73.51	$ 51.23	$ 371.45
44	HB Threshold	-	-							
45										
52	Total Base Rate Amount			$ 49.73	$ 76.46	$ 83.70	$ 97.62	$ 88.71	$ 66.43	$ 462.65
53										
54	COG Rate - (Seasonal)			$ 0.6203	$ 0.6203	$ 0.5653	$ 0.4184	$ 0.3499	$ 0.2679	$ 0.4632
55	COG amount			$ 38.46	$ 68.23	$ 69.53	$ 61.92	$ 46.19	$ 24.65	$ 308.98
56										
57	LDAC			$ 0.0310	$ 0.0310	$ 0.0310	$ 0.0310	$ 0.0310	$ 0.0310	$ 0.0310
58	LDAC amount			$ 1.92	$ 3.41	$ 3.81	$ 4.59	$ 4.09	$ 2.85	$ 20.68
59										
60	**Total Bill**			**$ 90.11**	**$ 148.10**	**$ 157.04**	**$ 164.13**	**$ 138.99**	**$ 93.93**	**$ 792.31**

61

62 **DIFFERENCE:**

#		Nov	Dec	Jan	Feb	Mar	Apr	Winter Nov-Apr
63	**Total Bill**	**($1.13)**	**($2.23)**	**$4.23**	**$26.77**	**$32.95**	**$30.60**	**$91.21**
64	% Change	**-1.25%**	**-1.51%**	**2.70%**	**16.31%**	**23.71%**	**32.58%**	**11.51%**
65								
66	**Base Rate**	$ 0.98	$ 1.50	$ 1.64	$ 1.91	$ 1.74	$ 1.30	$ 9.07
67	% Change	1.96%	1.96%	1.96%	1.96%	1.96%	1.96%	1.96%
68								
69	**COG & LDAC**	**$ (2.10)**	**$ (3.73)**	**$ 2.59**	**$ 24.86**	**$ 31.22**	**$ 29.30**	**$ 82.14**
70	% Change	**-5.47%**	**-5.47%**	**3.73%**	**40.15%**	**67.59%**	**118.88%**	**26.58%**

Liberty Utilities (EnergyNorth Natural Gas) Corp.
1 **d/b/a Liberty Utilities**
2 **Peak 2020 - 2021 Winter Cost of Gas Filing**
3 **Annual Bill Comparisons, Nov 19 - Apr 20 vs Nov 20 - Apr 21 - Commercial Rate G-41**

4
5
6 **November 1, 2020 - April 30, 2021**
7 **Commercial Rate (G-41)**

Line				Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Winter Nov-Apr
8	**PROPOSED**									
9										
10	**average Usage (Therms)**			89	277	504	457	331	297	1,955
11										
12	**Winter:**		7/1/2020 - Current							
13	Cust. Chg		$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 344.76
14	Headblock		$ 0.4711	$ 41.93	$ 47.11	$ 47.11	$ 47.11	$ 47.11	$ 47.11	$ 277.48
15	Tailblock		$ 0.3165	$ -	$ 56.02	$ 127.87	$ 112.99	$ 73.11	$ 62.35	$ 432.34
16	HB Threshold		100							
17										
24	Total Base Rate Amount			$ 99.39	$ 160.59	$ 232.44	$ 217.56	$ 177.68	$ 166.92	$ 1,054.58
25										
26	COG Rate - (Seasonal)			$ 0.5552	$ 0.5552	$ 0.5552	$ 0.5552	$ 0.5552	$ 0.5552	$ 0.5552
27	COG amount			$ 49.41	$ 153.79	$ 279.82	$ 253.73	$ 183.77	$ 164.89	$ 1,085.42
28										
29	LDAC			$ 0.0549	$ 0.0549	$ 0.0549	$ 0.0549	$ 0.0549	$ 0.0549	$ 0.0549
30	LDAC amount			$ 4.88	$ 15.20	$ 27.65	$ 25.07	$ 18.16	$ 16.29	$ 107.26
31										
32	**Total Bill**			**$153.68**	**$329.58**	**$539.91**	**$496.36**	**$379.61**	**$348.11**	**$2,247.25**

33
34 **November 1, 2019 - April 30, 2020**
35 **Commercial Rate (G-41)**

Line				Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	Winter Nov-Apr
36	**CURRENT**									
37										
38	**average Usage (Therms)**			89	277	504	457	331	297	1,955
39										
40	**Winter:**	7/1/19 - 6/30/20	7/1/2020 - Current							
41	Cust. Chg	$ 56.36	$ 57.46	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 338.16
42	Headblock	$ 0.4621	$ 0.4711	$ 41.13	$ 46.21	$ 46.21	$ 46.21	$ 46.21	$ 46.21	$ 272.18
43	Tailblock	$ 0.3104	$ 0.3165	$ -	$ 54.94	$ 125.40	$ 110.81	$ 71.70	$ 61.15	$ 424.01
44	HB Threshold	100	100							
45										
52	Total Base Rate Amount			$ 97.49	$ 157.51	$ 227.97	$ 213.38	$ 174.27	$ 163.72	$ 1,034.34
53										
54	COG Rate - (Seasonal)			$ 0.6190	$ 0.6190	$ 0.5640	$ 0.4171	$ 0.3486	$ 0.2666	$ 0.4583
55	COG amount			$ 55.09	$ 171.46	$ 284.26	$ 190.61	$ 115.39	$ 79.18	$ 895.99
56										
57	LDAC			$ 0.0478	$ 0.0478	$ 0.0478	$ 0.0478	$ 0.0478	$ 0.0478	$ 0.0478
58	LDAC amount			$ 4.25	$ 13.24	$ 24.09	$ 21.84	$ 15.82	$ 14.20	$ 93.45
59										
60	**Total Bill**			**$156.83**	**$342.21**	**$536.32**	**$425.84**	**$305.48**	**$257.10**	**$2,023.78**

61
62 **DIFFERENCE:**

Line										
63	**Total Bill**			**$ (3.15)**	**$ (12.64)**	**$ 3.59**	**$ 70.52**	**$ 74.13**	**$ 91.01**	**$ 223.46**
64	% Change			**-2.01%**	**-3.69%**	**0.67%**	**16.56%**	**24.27%**	**35.40%**	**11.04%**
65										
66	**Base Rate**			$ 1.90	$ 3.08	$ 4.46	$ 4.18	$ 3.41	$ 3.20	$ 20.23
67	% Change			1.95%	1.96%	1.96%	1.96%	1.96%	1.96%	1.96%
68										
69	**COG & LDAC**			$ (5.05)	$ (15.72)	$ (0.88)	$ 66.34	$ 70.72	$ 87.81	$ 203.23
70	% Change			-9.17%	-9.17%	-0.31%	34.80%	61.29%	110.90%	22.68%

Liberty Utilities (EnergyNorth Natural Gas) Corp.

1 **d/b/a Liberty Utilities**

2 **Peak 2020 - 2021 Winter Cost of Gas Filing**

71 **Annual Bill Comparisons, Nov 19 - Apr 20 vs Nov 20 - Apr 21 - Commercial Rate G-42**

72

73

74 **November 1, 2020 - April 30, 2021**

75 **C&I High Winter Use Medium G-42**

76	**PROPOSED**								**Winter**
77			**Nov-20**	**Dec-20**	**Jan-21**	**Feb-21**	**Mar-21**	**Apr-21**	**Nov-Apr**
78	**average Usage (Therms)**		830	2,189	3,708	3,406	2,603	2,395	15,131
79		7/1/2020 - Current							
80	**Winter:**								
81	Cust. Chg	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 1,034.34
82	Headblock	$ 0.4284	$ 355.57	$ 428.40	$ 428.40	$ 428.40	$ 428.40	$ 428.40	$ 2,497.57
83	Tailblock	$ 0.2855	$ -	$ 339.46	$ 773.13	$ 686.91	$ 457.66	$ 398.27	$ 2,655.44
84	HB Threshold	1,000							
85									
92	Total Base Rate Amount		$ 527.96	$ 940.25	$ 1,373.92	$ 1,287.70	$ 1,058.45	$ 999.06	$ 6,187.35
93									
94	COG Rate - (Seasonal)		$ 0.5552	$ 0.5552	$ 0.5552	$ 0.5552	$ 0.5552	$ 0.5552	$ 0.5552
95	COG amount		$ 460.82	$ 1,215.33	$ 2,058.68	$ 1,891.01	$ 1,445.19	$ 1,329.70	$ 8,400.73
96									
97	LDAC		$ 0.0549	$ 0.0549	$ 0.0549	$ 0.0549	$ 0.0549	$ 0.0549	$ 0.0549
98	LDAC amount		$ 45.54	$ 120.09	$ 203.43	$ 186.86	$ 142.81	$ 131.39	$ 830.12
99									
100	**Total Bill**		**$ 1,034.31**	**$ 2,275.68**	**$ 3,636.03**	**$ 3,365.57**	**$ 2,646.44**	**$ 2,460.16**	**$ 15,418.20**

101

102 **November 1, 2019 - April 30, 2020**

103 **C&I High Winter Use Medium G-42**

104	**CURRENT**									**Winter**
105				**Nov-19**	**Dec-19**	**Jan-20**	**Feb-20**	**Mar-20**	**Apr-20**	**Nov-Apr**
106	**average Usage (Therms)**			830	2,189	3,708	3,406	2,603	2,395	15,131
107										
108	**Winter:**	7/1/19 - 6/30/20	7/1/2020 - Current							
109	Cust. Chg	$ 169.09	$ 172.39	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 1,014.54
110	Headblock	$ 0.4202	$ 0.4284	$ 348.77	$ 420.20	$ 420.20	$ 420.20	$ 420.20	$ 420.20	$ 2,449.77
111	Tailblock	$ 0.2800	$ 0.2855	$ -	$ 332.92	$ 758.24	$ 673.68	$ 448.84	$ 390.60	$ 2,604.28
112	HB Threshold	1,000	1,000							
113										
120	Total Base Rate Amount			$ 517.86	$ 922.21	$ 1,347.53	$ 1,262.97	$ 1,038.13	$ 979.89	$ 6,068.59
121										
122	COG Rate - (Seasonal)			$ 0.6190	$ 0.6190	$ 0.5640	$ 0.4171	$ 0.3486	$ 0.2666	$0.4578
123	COG amount			$ 513.77	$ 1,354.99	$ 2,091.31	$ 1,420.64	$ 907.41	$ 638.51	$ 6,926.63
124										
125	LDAC			$ 0.0478	$ 0.0478	$ 0.0478	$ 0.0478	$ 0.0478	$ 0.0478	0.0478
126	LDAC amount			$ 39.67	$ 104.63	$ 177.24	$ 162.81	$ 124.42	$ 114.48	$ 723.26
127										
128	**Total Bill**			**$ 1,071.30**	**$ 2,381.84**	**$ 3,616.08**	**$ 2,846.42**	**$ 2,069.96**	**$ 1,732.88**	**$ 13,718.48**

129

130 **DIFFERENCE:**

131	**Total Bill**	**$ (36.99)**	**$ (106.16)**	**$ 19.95**	**$ 519.16**	**$ 576.48**	**$ 727.28**	**$ 1,699.72**
132	% Change	**-3.45%**	**-4.46%**	**0.55%**	**18.24%**	**27.85%**	**41.97%**	**12.39%**
133								
134	**Base Rate**	$ 10.11	$ 18.04	$ 26.39	$ 24.73	$ 20.32	$ 19.17	$ 118.76
135	% Change	1.95%	1.96%	1.96%	1.96%	1.96%	1.96%	1.96%
136								
137	**COG & LDAC**	$ (47.09)	$ (124.20)	$ (6.44)	$ 494.42	$ 556.16	$ 708.11	$ 1,580.96
138	% Change	-9.17%	-9.17%	-0.31%	34.80%	61.29%	110.90%	22.82%

Liberty Utilities (EnergyNorth Natural Gas) Corp.
1 **d/b/a Liberty Utilities**
2 **Peak 2020 - 2021 Winter Cost of Gas Filing**
139 **Annual Bill Comparisons, Nov 19 - Apr 20 vs Nov 20 - Apr 21 - Commercial Rate G-52**
140
141
142 **November 1, 2020 - April 30, 2021**
143 **Commercial Rate (G-52)**

Row			Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Winter Nov-Apr
144	**PROPOSED**								
145									
146	**average Usage (Therms)**		1,352	1,866	2,284	2,160	1,886	1,760	11,308
147									
148	**Winter:**	7/1/2020 - Current							
149	Cust. Chg	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 1,034.34
150	Headblock	$ 0.2439	$ 243.90	$ 243.90	$ 243.90	$ 243.90	$ 243.90	$ 243.90	$ 1,463.40
151	Tailblock	$ 0.1624	$ 57.16	$ 140.64	$ 208.52	$ 188.38	$ 143.89	$ 123.42	$ 862.02
152	HB Threshold	1,000							
153									
160	Total Base Rate Amount		$ 473.45	$ 556.93	$ 624.81	$ 604.67	$ 560.18	$ 539.71	$ 3,359.76
161									
162	COG Rate - (Seasonal)		$0.5660	$0.5660	$0.5660	$0.5660	$0.5660	$0.5660	$ 0.5660
163	COG amount		$ 765.23	$ 1,056.16	$ 1,292.74	$ 1,222.56	$ 1,067.48	$ 996.16	$ 6,400.33
164									
165	LDAC		$0.0549	$0.0549	$0.0549	$0.0549	$0.0549	$0.0549	$ 0.0549
166	LDAC amount		$ 74.17	$ 102.37	$ 125.31	$ 118.50	$ 103.47	$ 96.56	$ 620.38
167									
168	**Total Bill**		**$1,312.86**	**$1,715.46**	**$2,042.86**	**$1,945.74**	**$1,731.12**	**$1,632.43**	**$10,380.47**

169
170 **November 1, 2019 - April 30, 2020**
171 **Commercial Rate (G-52)**

Row				Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	Winter Nov-Apr
172	**CURRENT**									
173										
174	**average Usage (Therms)**			1,352	1,866	2,284	2,160	1,886	1,760	11,308
175										
176	**Winter:**	7/1/19 - 6/30/20	7/1/2020 - Current							
177	Cust. Chg	$ 169.09	$ 172.39	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 1,014.54
178	Headblock	$ 0.2392	$ 0.2439	$ 239.20	$ 239.20	$ 239.20	$ 239.20	$ 239.20	$ 239.20	$ 1,435.20
179	Tailblock	$ 0.1593	$ 0.1624	$ 56.07	$ 137.95	$ 204.54	$ 184.79	$ 141.14	$ 121.07	$ 845.56
180	HB Threshold	1,000	1,000							
181										
188	Total Base Rate Amount			$ 464.36	$ 546.24	$ 612.83	$ 593.08	$ 549.43	$ 529.36	$ 3,295.30
189										
190	COG Rate - (Seasonal)			$ 0.6258	$ 0.6258	$ 0.5708	$ 0.4239	$ 0.3554	$ 0.2734	$ 0.4762
191	COG amount			$ 846.08	$ 1,167.74	$ 1,303.71	$ 915.62	$ 670.28	$ 481.18	$ 5,384.62
192										
193	LDAC			$ 0.0478	$ 0.0478	$ 0.0478	$ 0.0478	$ 0.0478	$ 0.0478	$ 0.0478
194	LDAC amount			$ 64.63	$ 89.19	$ 109.18	$ 103.25	$ 90.15	$ 84.13	$ 540.52
195										
196	**Total Bill**			**$1,375.07**	**$1,803.18**	**$2,025.71**	**$1,611.95**	**$1,309.87**	**$1,094.67**	**$9,220.45**

197
198 **DIFFERENCE:**

Row		Nov	Dec	Jan	Feb	Mar	Apr	Winter Nov-Apr
199	**Total Bill**	**$ (62.21)**	**$ (87.72)**	**$ 17.15**	**$ 333.79**	**$ 421.26**	**$ 537.76**	**$ 1,160.02**
200	% Change	**-4.52%**	**-4.86%**	**0.85%**	**20.71%**	**32.16%**	**49.13%**	**12.58%**
201								
202	**Base Rate**	$ 9.09	$ 10.68	$ 11.98	$ 11.60	$ 10.75	$ 10.36	$ 64.45
203	% Change	1.96%	1.96%	1.95%	1.96%	1.96%	1.96%	1.96%
204								
205	**COG & LDAC**	$ (71.30)	$ (98.41)	$ 5.17	$ 322.19	$ 410.51	$ 527.41	$ 1,095.56
206	% Change	-8.43%	-8.43%	0.40%	35.19%	61.24%	109.61%	20.35%

Liberty Utilities (EnergyNorth Natural Gas) Corp.

1 **d/b/a Liberty Utilities**

2 **Peak 2020 - 2021 Winter Cost of Gas Filing**

Schedule 8
Page 5 of 5

207	**Residential Heating**				
208			Winter 2018-19		Winter 2019-20
209	Customer Charge	$	15.50	$	15.50
210	First 100 Therms	$	0.5678	$	0.5678
211	Excess 100 Therms	$	0.5678	$	0.5678
212	LDAC	$	0.0310	$	0.0603
213	COG	$	0.4632	$	0.5571
214	Total Adjust	$	0.4942	$	0.6174
215					
216					
217					

Line					Total		Base Rate		COG		LDAC	
219			Winter 2017-18 COG @	Winter 2018-19 CO	$ Impact	% Impact	$ Impact	% Impact	$ Impact	% Impact	$ Impact	% Impact
220			$0.4942	$0.6174	$0.12	25%						
221												
222	Cooking alone	5	$20.81	$3.09	($17.72)	-85%	-$18.34	-88%	$0.47	15%	$0.15	1%
223												
224		10	$26.12	$6.17	($19.95)	-76%	-$21.18	-81%	$0.94	15%	$0.29	1%
225												
226		20	$36.74	$12.35	($24.39)	-66%	-$26.86	-73%	$1.88	15%	$0.59	2%
227												
228	Water Heating alone	30	$47.36	$18.52	($28.84)	-61%	-$32.53	-69%	$2.82	15%	$0.88	2%
229												
230		45	$63.29	$27.78	($35.51)	-56%	-$41.05	-65%	$4.22	15%	$1.32	2%
231												
232		50	$68.60	$30.87	($37.73)	-55%	-$43.89	-64%	$4.69	15%	$1.46	2%
233												
234	Heating Alone	80	$95.15	$46.30	($48.85)	-51%	-$58.09	-61%	$7.04	15%	$2.20	2%
235												
236		125	$156.75	$82.11	($74.64)	-48%	-$91.02	-58%	$12.48	15%	$3.89	2%
237												
238		150	$174.81	$92.61	($82.20)	-47%	-$100.67	-58%	$14.08	15%	$4.39	3%
239												
240		200	$227.91	$123.48	($104.43)	-46%	-$129.06	-57%	$18.77	15%	$5.86	3%
241												

Liberty Utilities (EnergyNorth Natural Gas) Corp. Schedule 9

d/b/a Liberty Utilities Page 1 of 1

Peak 2020 - 2021 Winter Cost of Gas Filing

Variance Analysis of the Components of the Winter 2019-2020 Actual Results vs Proposed Winter 2020-2021 Cost of Gas Rate

	WINTER 2019-2020 ACTUAL RESULTS (6 months actual)			**WINTER 2020-2021 (6 months Proposed)**		
Therm Sales (COG)	81,783,767			88,213,529		
	THERM SENDOUT	COSTS	EFFECT ON COST OF GAS	THERM SENDOUT	COSTS	EFFECT ON COST OF GAS
Demand Charges		$ 10,699,998	$ 0.1308		$ 12,978,688	$ 0.1471
Purchased Gas		26,476,031	0.3237	69,103,812	28,276,980	0.3206
Storage/Produced Gas		-	-	21,818,647	4,654,739	0.0528
Hedging (Gain)/Loss		-	-		-	-
Total Volumes and Cost	91,441,600	$ 37,176,029	$ 0.4546	90,922,460	$ 45,910,407	$ 0.5204
Direct Costs						
Prior Period Balance		$ 1,458,705	$ 0.0178		$ 2,227,421	$ 0.0253
Interest		(24,813)	(0.0003)		72,812	0.0008
Prior Period Adjustment		-	-		441,037	0.0050
Broker Revenues		(1,472,720)	(0.0180)		(32,725)	(0.0004)
Refunds from Suppliers		-	-		-	-
Fuel Financing		-	-		-	-
Transportation CGA Revenues		(40,053)	(0.0005)		(4,516)	(0.0001)
280 Day Margin		-	-		-	-
Interruptible Sales Margin		-	-		-	-
Capacity Release and Off System Sales Margins		(1,736,581)	(0.0212)		(1,736,581)	(0.0197)
Hedging Costs		-	-		-	-
FPO Admin Costs		-	-		45,000	0.0005
Indirect Costs		-	-			
Misc Overhead		10,649	0.0001		10,568	0.0001
Occupant Disallowance/Credits		-			-	-
Production & Storage		1,980,428	0.0242		1,980,428	0.0225
Bad Debt Adjustment %		-	-		229,118	0.0026
Cashout, Broker penalty, Canadian Managed,…		-	-		-	-
Total Adjusted Cost		$ 37,351,643	**$ 0.4567**		$ 49,142,968	**$ 0.5571**

Liberty Utilities (EnergyNorth Natural Gas) Corp.

d/b/a Liberty Utilities

Peak 2020 - 2021 Winter Cost of Gas Filing
Capacity Assignment Calculations 2019-2020
Derivation of Class Assignments and Weightings

Basic assumptions:
1 Residential class pays average seasonal gas cost rate (using MBA method to allocate costs to seasons)
2 Residual gas costs are allocated to C&I HLF and LLF classes based on MBA method
3 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
4 Base demand is composed solely of pipeline supplies
5 Remaining demand consists of a portion of pipeline and all storage and peaking supplies

				Column A	Column B	Column C	Column D	Column E	Column F
				Design Day Demand. Dktherm	Adjusted Design Day Demand, Dt	Percent of Total		Avg Daily Base Use Load, Dt	Remaining Design Day Demand
1	RATE R-1-Resi Non-Htg			532	558	0.3%		102	457
2	RATE R-3-Resi Htg			69,256	73,356	43.5%		3,545	69,812
3	RATE G-41 (T)			29,783	31,593	18.7%		770	30,823
4	RATE G-51 (S)			2,445	2,551	1.5%		739	1,812
5	RATE G-42 (V)			37,176	39,404	23.4%		1,473	37,931
6	RATE G-52			5,376	5,601	3.3%		1,781	3,820
7	RATE G-43			8,418	8,901	5.3%		663	8,239
8	RATE G-53			3,238	3,368	2.0%		1,146	2,222
9	RATE G-54			3,078	3,241	1.9%		461	2,780
10									
11	Total			159,300	168,574	100.0%		10,678	157,896
12									-
13	Residential Total			69,788	73,915	**43.847%**		3,647	70,268
14	LLF Total			75,376	79,898	**47.397%**		2,905	76,993
15	HLF Total			14,136	14,761	**8.756%**		4,126	10,635
16	Total			159,300	168,574	100.0%		10,678	157,896
17									
18	C&I Breakdown								
19	LLF Total							2,905	76,993
20	HLF Total							4,126	10,635
21	Total							7,031	87,628
22									
23	C&I Breakdown Percentage								
24	LLF Total							41.322%	87.863%
25	HLF Total							58.678%	12.137%
26	Total							**100.0%**	**100.0%**
27									
28				Capacity Cost	MDQ, Dt	$/Dt-Mo.			
29	Pipeline			$14,027,173	79,718	$14.6633			
30	Storage			$4,161,416	28,115	$12.3345			
31									
32	Peaking			$4,330,500					
33	Peaking Additional Costs								
34	Subtotal Peaking Costs			$4,330,500	60,741	$5.9412			
35	Total			$22,519,089	168,574	$11.1321			
36									
37				Capacity Cost	MDQ, Dt	$/Dt-Mo.			
38	Pipeline - Baseload			1,878,867	10,678	$14.6633			
39	Pipeline - Remaining			12,148,306	69,040	$14.6633			
40	Storage			4,161,416	28,115	$12.3345			
41	Peaking			4,330,500	60,741	$5.9412			
42	Total			22,519,089	168,574	$11.1321			
43									
44									
45	Residential Allocation			Capacity Cost	MDQ, Dt	$/Dt-Mo.			
46	Pipeline - Base	Line 38 * Line 13 Col C	**43.847%**	823,827	4,682	$14.6633			
47	Pipeline - Remaining	Line 39 * Line 13 Col C	**43.847%**	5,326,656	30,272	$14.6633			
48	Storage	Line 40 * Line 13 Col C	**43.847%**	1,824,654	12,328	$12.3345			
49	Peaking	Line 41 * Line 13 Col C	**43.847%**	1,898,784	26,633	$5.9412			
50	Total		**43.847%**	9,873,887	73,915	$11.1321			

Liberty Utilities (EnergyNorth Natural Gas) Corp.

d/b/a Liberty Utilities

Peak 2020 - 2021 Winter Cost of Gas Filing
Capacity Assignment Calculations 2019-2020
Derivation of Class Assignments and Weightings

51							
52							**Ratios for COG**
53	C&I Allocation			Capacity Cost	MDQ, Dt	$/Dt-Mo.	
54	Pipeline - Base	Line 38 - Line 46		1,055,040	5,996	$14.6633	
55	Pipeline - Remaining	Line 39 - Line 47		6,821,650	38,768	$14.6634	
56	Storage	Line 40 - Line 48		2,336,762	15,787	$12.3345	
57	Peaking	Line 41 - Line 49		2,431,716	34,108	$5.9412	
58	Total		**56.153%**	12,645,167	94,659	$11.1322	**1.0000**
59							
60							
61	LLF - C&I Allocation			Capacity Cost	MDQ, Dt	$/Dt-Mo.	
62	Pipeline - Base	Line 54 * Line 24 Col E		435,965	2,478	$14.6612	
63	Pipeline - Remaining	Line 55 * Line 24 Col F		5,993,729	34,063	$14.6633	
64	Storage	Line 56 * Line 24 Col F		2,053,157	13,871	$12.3348	
65	Peaking	Line 57 * Line 24 Col F		2,136,587	29,968	$5.9413	
66	Total		**47.1575%**	10,619,438	80,380	$11.0096	**0.9890**
67			41.322%	84%			(Line 66 / Line 58)
68							
69	HLF - C&I Allocation			Capacity Cost	MDQ, Dt	$/Dt-Mo.	
70	Pipeline - Base	Line 54 - Line 62		619,075	3,518	$14.6645	
71	Pipeline - Remaining	Line 55 - Line 63		827,921	4,705	$14.6639	
72	Storage	Line 56 - Line 64		283,605	1,916	$12.3349	
73	Peaking	Line 57 - Line 65		295,129	4,140	$5.9406	
74	Total		**8.9956%**	2,025,730	14,279	$11.8223	**1.0620**
75							(Line 74 / Line 58)
76							
77	Unit Cost			Residential	LLF C&I	HLF C&I	
78							
79	Pipeline			$ 14.6633	$ 14.6633	$ 14.6633	
80	Storage			$ 12.3345	$ 12.3345	$ 12.3345	
81	Peaking			$ -	$ -	$ -	
82	Total			$ 11.1321	$ 11.0096	$ 11.8223	
83							
84							
85	Load Makeup			Residential	**LLF C&I**	**HLF C&I**	
86							
87	Pipeline			47.29%	**45.46%**	**57.59%**	
88	Storage			16.68%	**17.26%**	**13.42%**	
89	Peaking			36.03%	**37.28%**	**28.99%**	
90	Total			100.00%	**100.00%**	**100.00%**	
91							
92							
93	Supply Makeup			Residential	LLF C&I	HLF C&I	Total
94							
95	Pipeline			43.85%	45.84%	10.32%	100.00%
96	Storage			43.85%	49.34%	6.81%	100.00%
97	Peaking			43.85%	49.34%	6.82%	100.00%

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2 **d/b/a Liberty Utilities**
3 **2020 - 2021 Winter Cost of Gas Filing**
4 **Correction Factor Calculation**

		d	e	f	g	h	i	
8	Data Source: Schedule 10B							Total
9		Nov	Dec	Jan	Feb	Mar	Apr	Sales
11	G-41	1,996,836	3,238,958	3,888,117	3,240,314	2,556,592	1,395,068	16,315,885
12	G-42	1,557,098	2,487,506	2,941,387	2,478,940	2,060,861	1,064,653	12,590,447
13	G-43	317,392	493,665	615,564	503,796	442,358	254,648	2,627,422
14	High Winter Use	3,871,325	6,220,129	7,445,068	6,223,051	5,059,811	2,714,370	31,533,753
16	G-51	249,978	328,663	350,912	304,738	289,652	218,268	1,742,211
17	G-52	298,155	382,781	421,838	359,163	334,397	234,919	2,031,253
18	G-53	472,951	566,045	453,188	409,819	412,496	320,835	2,635,333
19	G-54	41,998	19,758	22,302	22,258	20,386	52,090	178,792
21	Low Winter Use	1,063,081	1,297,247	1,248,241	1,095,978	1,056,931	826,112	6,587,590
23	Gross Total	4,934,406	7,517,376	8,693,308	7,319,029	6,116,742	3,540,482	38,121,343

26	Total Sales	38,121,343	
27	Low Winter Use	6,587,590	
28	Winter Ratio for Low Winter Use	**1.0620**	Schedule 10A p 2, ln 74
29	High Winter Use	31,533,753	
30	Winter Ratio for High Winter Use	**0.9890**	Schedule 10A p 2, ln 66

32 Correction Factor = Total Sales/((Low Winter Use x Winter Ratio for Low Winter Use)+(High Winter Use x Winter Ratio for High Winter Use))
33 Correction Factor = **99.8388%**

36 **Allocation Calculation for Miscellaneous Overhead**

38	Projected Winter Sales Volume	11/1/20 - 4/30/21	89,364,968	Sch.10B, ln 23
39	Projected Annual Sales Volume	11/1/20 - 10/31/21	111,368,575	Sch.10B, ln 23
40	Percentage of Winter Sales to Annual Sales		80.24%	

Liberty Utilities (EnergyNorth Natural Gas) Corp.
d/b/a Liberty Utilities
Peak 2020 - 2021 Winter Cost of Gas Filing
2020 - 2021 Winter Cost of Gas Filing

	Dry Therms														
Firm Sales							**Subtotal**							**Subtotal**	
	Nov-20	**Dec-20**	**Jan-21**	**Feb-21**	**Mar-21**	**Apr-21**	**PK 20-21**	**May-21**	**Jun-21**	**Jul-21**	**Aug-21**	**Sep-21**	**Oct-21**	**OP 21**	**Total**
R-1	67,242	85,779	94,221	76,896	78,103	57,121	459,362	45,014	35,092	34,025	34,190	37,878	53,991	240,190	699,552
R-3	6,301,872	9,195,999	10,579,175	8,250,978	7,996,062	4,741,223	47,065,308	2,633,722	1,181,251	864,297	889,954	1,634,426	4,079,782	11,283,432	58,348,740
R-4	497,668	721,571	830,551	649,773	636,785	382,606	3,718,955	208,283	92,289	64,377	64,891	114,766	300,646	845,252	4,564,206
Total Residential.	6,866,783	10,003,350	11,503,946	8,977,647	8,710,950	5,180,950	51,243,625	2,887,019	1,308,632	962,699	989,034	1,787,070	4,434,419	12,368,874	63,612,499
G-41	1,996,836	3,238,958	3,888,117	3,240,314	2,556,592	1,395,068	16,315,885	657,255	254,946	178,791	176,029	328,891	897,944	2,493,855	18,809,740
G-42	1,557,098	2,487,506	2,941,387	2,478,940	2,060,861	1,064,653	12,590,447	595,774	269,780	194,334	194,029	351,558	782,996	2,388,472	14,978,919
G-43	317,392	493,665	615,564	503,796	442,358	254,648	2,627,422	157,182	67,587	50,187	49,057	85,306	173,873	583,192	3,210,614
G-51	249,978	328,663	350,912	304,738	289,652	218,268	1,742,211	195,387	169,912	164,465	179,005	184,791	208,334	1,101,895	2,844,106
G-52	298,155	382,781	421,838	359,163	334,397	234,919	2,031,253	202,045	182,364	185,459	191,337	204,592	248,396	1,214,192	3,245,446
G-53	472,951	566,045	453,188	409,819	412,496	320,835	2,635,333	288,665	243,500	253,364	256,465	248,944	302,915	1,593,852	4,229,186
G-54	41,998	19,758	22,302	22,258	20,386	52,090	178,792	45,899	40,322	44,580	41,065	42,484	44,925	259,275	438,067
Total C/I	4,934,406	7,517,376	8,693,308	7,319,029	6,116,742	3,540,482	38,121,343	2,142,206	1,228,411	1,071,181	1,086,986	1,446,566	2,659,384	9,634,734	47,756,077
Sales Volume	**11,801,189**	**17,520,726**	**20,197,255**	**16,296,676**	**14,827,692**	**8,721,431**	**89,364,968**	**5,029,226**	**2,537,042**	**2,033,880**	**2,076,020**	**3,233,636**	**7,093,803**	**22,003,607**	**111,368,575**
Transportation Sales															
G-41	564,370	804,050	947,199	829,377	707,117	472,512	4,324,627	269,638	128,170	94,542	87,932	152,293	314,747	1,047,322	5,371,949
G-42	1,970,141	2,735,523	3,169,949	2,762,428	2,368,941	1,632,317	14,639,298	964,155	473,043	370,329	386,901	671,164	1,228,176	4,093,769	18,733,067
G-43	784,362	1,036,834	1,197,355	1,071,284	979,562	649,351	5,718,747	449,617	289,492	255,281	278,213	366,350	557,917	2,196,870	7,915,616
G-51	98,848	105,296	110,026	98,612	101,851	95,501	610,133	86,996	77,987	71,427	68,055	73,165	83,209	460,839	1,070,972
G-52	574,360	666,400	697,367	617,228	576,744	509,638	3,641,739	434,086	380,619	381,003	377,876	408,943	485,204	2,467,732	6,109,470
G-53	791,280	948,364	1,078,987	937,963	941,239	750,834	5,448,666	698,893	631,500	608,885	619,782	607,168	777,777	3,944,006	9,392,672
G-54	1,614,023	1,405,905	1,350,282	1,151,611	1,231,396	1,319,849	8,073,065	1,589,916	1,585,398	1,656,869	1,776,411	1,717,743	1,770,941	10,097,278	18,170,344
Total Trans. Sales	**6,397,384**	**7,702,372**	**8,551,166**	**7,468,503**	**6,906,850**	**5,430,001**	**42,456,275**	**4,493,302**	**3,566,209**	**3,438,337**	**3,595,170**	**3,996,826**	**5,217,971**	**24,307,815**	**66,764,090**
Total All Sales	**18,198,573**	**25,223,097**	**28,748,421**	**23,765,178**	**21,734,542**	**14,151,433**	**131,821,243**	**9,522,527**	**6,103,252**	**5,472,217**	**5,671,191**	**7,230,462**	**12,311,774**	**46,311,422**	**178,132,666**

Liberty Utilities (EnergyNorth Natural Gas) Corp.
d/b/a Liberty Utilities
Peak 2020 - 2021 Winter Cost of Gas Filing

Volumes (Therms) **Normal Year**

For the Months of May 20 - October 20

	Nov-20	**Dec-20**	**Jan-21**	**Feb-21**	**Mar-21**	**Apr-21**	**Peak Nov - Apr**
Pipeline Gas:							
Dawn Supply	870,804	925,912	929,473	820,216	913,878	721,190	5,181,473
Niagara Supply	686,821	729,872	732,679	646,410	720,386	659,273	4,175,441
TGP Supply (Gulf)	4,579,051	3,124,576	3,136,594	2,760,187	3,083,965	613,539	17,297,912
Dracut Supply 1 - Baseload	-	2,798,848	4,682,940	3,099,664	-	-	10,581,452
Dracut Supply 2 - Swing	3,470,755	188,500	392,074	-	2,429,813	1,319,250	7,800,392
Constellation Combo	-	1,523,080	1,182,278	1,020,648	611,732	-	4,337,738
LNG Truck	20,524	689,156	646,393	785,455	105,676	-	2,247,204
Propane Truck	-	-	181,656	-	-	-	181,656
PNGTS	217,701	231,478	232,368	204,869	228,469	208,969	1,323,855
Portland Natural Gas	1,063,583	1,130,246	1,134,593	1,001,418	1,115,556	787,328	6,232,725
TGP Supply (Z4)	1,803,913	1,923,454	1,930,852	1,704,038	1,898,454	4,301,810	13,562,522
Subtotal Pipeline Volumes	12,713,152	13,265,122	15,181,900	12,042,907	11,107,929	8,611,360	72,922,371
Storage Gas:							
TGP Storage	993,817	4,501,466	5,242,978	4,443,415	3,956,513	-	19,138,188
Produced Gas:							
LNG Vapor	17,634	633,355	704,270	780,169	21,244	19,486	2,176,158
Propane	-	-	504,301	-	-	-	504,301
Subtotal Produced Gas	17,634	633,355	1,208,571	780,169	21,244	19,486	2,680,459
Less - Gas Refills:							
LNG Truck	(17,634)	(634,048)	(623,260)	(769,303)	(104,022)	-	(2,148,269)
Propane	-	-	(175,155)	-	-	-	(175,155)
TGP Storage Refill	(1,495,134)	-	-	-	-	-	(1,495,134)
Subtotal Refills	(1,512,768)	(634,048)	(798,416)	(769,303)	(104,022)	-	(3,818,558)
Total Sendout Volumes	12,211,835	17,765,894	20,835,033	16,497,187	14,981,664	8,630,846	90,922,460

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2 **d/b/a Liberty Utilities**
3 **Peak 2020 - 2021 Winter Cost of Gas Filing**
43 **Normal and Design Year Volumes** **Schedule 11B**
44 **Page 1 of 1**
45
46 **Volumes (Therms)** **Design Year**
47
48 **For the Months of May 20 - October 20**
49

#		Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Peak Nov - Apr
52	Pipeline Gas:							
53	Dawn Supply	870,804	925,912	929,473	820,216	913,878	752,148	5,212,432
54	Niagara Supply	686,821	729,872	732,679	646,410	720,386	659,273	4,175,441
55	TGP Supply (Gulf)	4,616,434	3,124,576	3,136,594	2,768,323	3,083,965	744,409	17,474,300
56	Dracut Supply 1 - Baseload	-	2,798,848	4,682,940	3,099,664	-	-	10,581,452
57	Dracut Supply 2 - Swing	4,751,306	1,771,900	1,099,019	1,616,766	5,692,386	1,959,526	16,890,902
58	Constellation Combo	-	1,606,774	1,351,067	1,190,016	192,748	-	4,340,605
59	LNG Truck	21,257	21,866	1,221,637	800,247	183,073	-	2,248,080
60	Propane Truck	-	-	181,656	-	-	-	181,656
61	PNGTS	217,701	231,478	232,368	204,869	228,469	208,969	1,323,855
62	Portland Natural Gas	1,063,583	1,130,246	1,134,593	1,001,418	1,115,556	912,569	6,357,966
63	TGP Supply (Z4)	1,803,913	1,923,454	1,930,852	1,704,038	1,898,454	4,302,514	13,563,226
64	Subtotal Pipeline Volumes	14,031,819	14,264,926	16,632,878	13,851,968	14,028,914	9,539,409	82,349,914
65								
66	Storage Gas:							
67	TGP Storage	1,088,505	5,444,634	6,208,851	4,634,334	2,635,956	-	20,012,280
68								0
69	Produced Gas:							0
70	LNG Vapor	20,524	21,866	1,316,249	800,247	99,723	19,701	2,278,310
71	Propane	-	-	493,499	28,844	-	-	522,343
72	Subtotal Produced Gas	20,524	21,866	1,809,748	829,092	99,723	19,701	2,800,653
73								
74	Less - Gas Refills:							
75	LNG Truck	(21,257)	(21,866)	(1,221,637)	(800,247)	(183,073)	-	-2,248,080
76	Propane	-	-	(181,656)	-	-	-	-181,656
77	TGP Storage Refill	(1,671,240)	-	-	-	-	-	-1,671,240
78	Subtotal Refills	(1,692,497)	(21,866)	(1,403,293)	(800,247)	(183,073)	-	(4,100,976)
79								
80	Total Sendout Volumes	13,448,351	19,709,560	23,248,184	18,515,146	16,581,520	9,559,110	101,061,871

Liberty Utilities (EnergyNorth Natural Gas) Corp.
d/b/a Liberty Utilities
Peak 2020 - 2021 Winter Cost of Gas Filing
Capacity Utilization
Volumes (Therms)

	Peak Period Normal Year Use (Therms)	MDQ (MMBtu/day)	Seasonal Quantity (Therms)	Utilization Rate	Peak Period Design Year Use (Therms)	MDQ (MMBtu/day)	Seasonal Quantity (Therms)	Utilization Rate
Pipeline Gas:								
Dawn Supply	5,181,473	4,000	7,240,000	72%	5,212,432	4,000	7,240,000	72%
Niagara Supply	4,175,441	3,122	5,650,820	74%	4,175,441	3,122	5,650,820	74%
TGP Supply (Gulf + Z4)	30,860,434	21,596	39,088,760	79%	31,037,526	21,596	39,088,760	79%
Dracut Supply 1 & 2	18,381,844	50,000	90,500,000	20%	27,472,354	50,000	90,500,000	30%
LNG Truck	2,247,204	-	-	-	2,248,080	-	-	-
Propane Truck	181,656	-	-	-	181,656	-	-	-
PNGTS	1,323,855	1,000	1,810,000	73%	1,323,855	1,000	1,810,000	73%
Portland Natural Gas	6,232,725	5,000	9,050,000	69%	6,357,966	5,000	9,050,000	70%
Constellation Vapor	4,337,738	7,000	6,300,000	69%	4,340,605	7,000	6,300,000	69%
Subtotal Pipeline Volumes	72,922,371				82,349,914			
Storage Gas:								
TGP Storage	19,138,188		25,791,710	74%	20,012,280		25,791,710	78%
Produced Gas:								
LNG Vapor	2,176,158				2,278,310			
Propane	504,300.9				522,343			
Subtotal Produced Gas	2,680,459				2,800,653			
Less - Gas Refills:								
LNG Truck	(2,148,269)				(2,248,080)			
Propane	(175,155)				(181,656)			
TGP Storage Refill	(1,495,134)				(1,671,240)			
Subtotal Refills	(3,818,558)				(4,100,976)			
Total Sendout Volumes	90,922,460				101,061,871			

Liberty Utilities (EnergyNorth Natural Gas) Corp. **Schedule 11D**
d/b/a Liberty Utilities **Page 1 of 1**
Peak 2020 - 2021 Winter Cost of Gas Filing

Forecast of Upcoming Winter Period
Design Day Report
2019 / 20 Heating Season
(Therms)

Liberty Utilities (EnergyNorth Natural Gas) Corp.
d/b/a Liberty Utilities

Requirements

Firm Sales	1,248,088
Interruptible Sales	0
Firm Transportation	437,653
Interruptible Transportation	0
Total Requirements	1,685,741

Resources

Purchased Pipeline Gas	797,180
Underground Storage Gas	281,150
Propane Air Production	309,411
LNG Produced Gas	228,000
Third-Party Supply	70,000
Total Resources	1,685,741

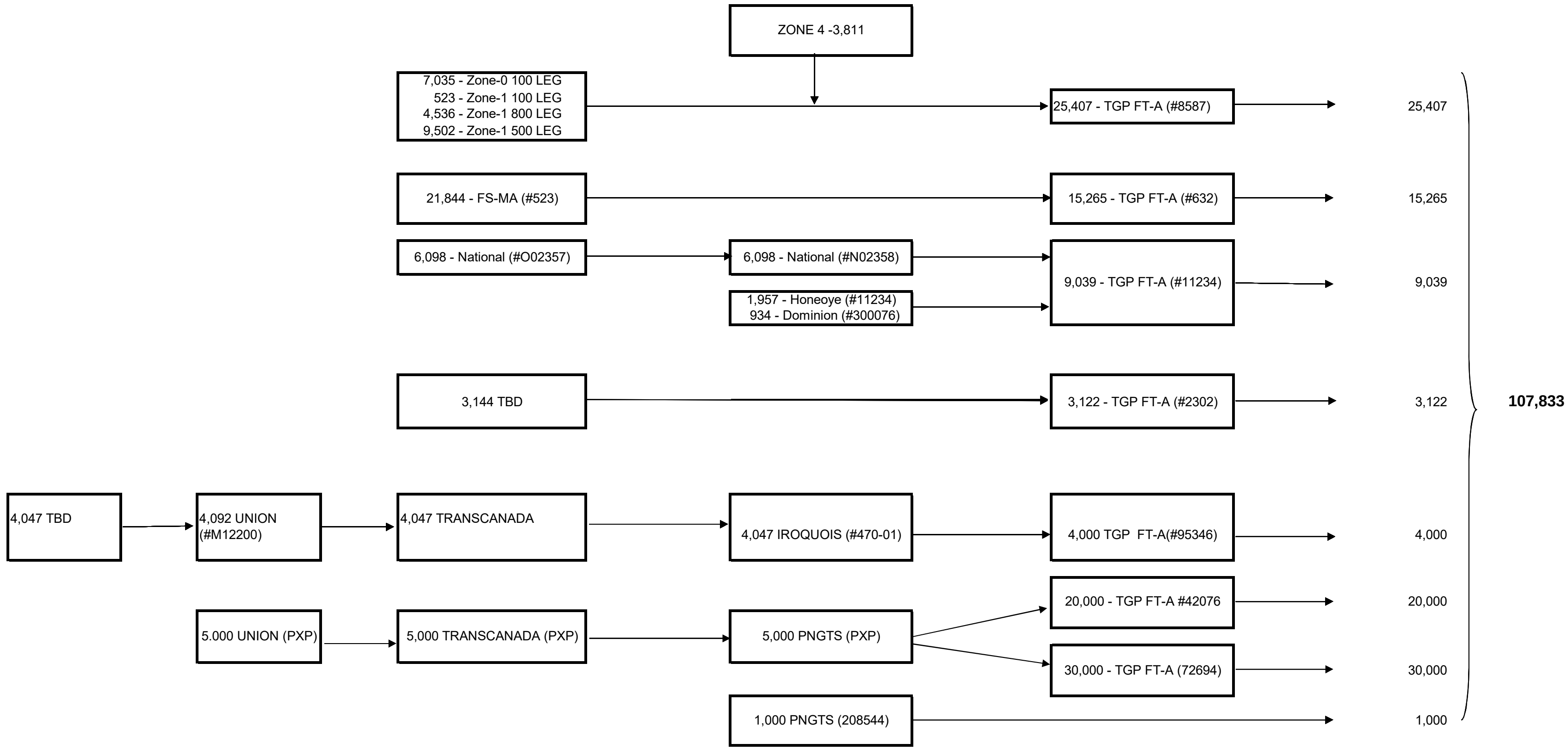
Please refer to the ENNG 2013 IRP filing (DG 13-313) for a complete description of the methodology and assumptions used in the derivation of this data.

Preparation of this report was supervised by:

Deborah Gilbertson
Sr. Manager, Energy Procurement

Note: Forecasted Firm Transportation volumes are for customers using utility capacity only.

LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
Peak 2020 - 2021 Winter Cost of Gas Filing
Transportation Available for Pipeline Supply and Storage
(MMBtu)



LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
Peak 2020 - 2021 Winter Cost of Gas Filing
Transportation Available for Pipeline Supply and Storage
Agreements for Gas Supply and Transportation

SOURCE	RATE SCHEDULE	CONTRACT NUMBER	TYPE	MDQ MMBTU	MAQ * MMBTU	EXPIRATION DATE	NOTIFICATION DATE	RENEWAL OPTIONS
ANE	NA	NA	Supply	4,047	611,097	Peak Only	N/A	Terminates
Constellation	FCS		Firm Combination Liquid and Vapor Svc	Up to 10 trucks	730,000	3/31/2021 Peak Only	N/A	Terminates
Dracut or Z6	NA	NA	Supply	Up to 20,000 / day	1,412,000	2/28/2021	N/A	Terminates
TGP Long-Haul	NA	NA	Supply	21,596	3,908,876	4/30/2021	N/A	Terminates
Northern Transport	NA	NA	Trucking	28,500 Gallons	900,000 Gallons		N/A	
Dominion Transmission Incorporated	GSS	300076	Storage	934	102,700	3/31/2023	3/31/2021	Mutually agreed upon
Honeoye Storage Corporation	SS-NY	11234	Storage	1,957	245,380	3/31/2022	12 months notice	Evergreen Provision
National Fuel Gas Supply Corporation	FSS	O02358	Storage	6,098	670,800	3/31/2022	3/31/2021	Evergreen Provision
National Fuel Gas Supply Corporation	FSST	N02358	Transportation	6,098	670,800	3/31/2022	3/31/2021	Evergreen Provision
Iroquois Gas Transmission System	RTS	47001	Transportation	4,047	1,477,155	11/1/2022	11/1/2021	Evergreen Provision
Portland Natural Gas Transmission System	FT	208544	Transportation	1,000	365,000	11/30/2032	11/31/2031	Evergreen Provision
Portland Natural Gas Transmission System	FT	PXP	Transportation	5,000	1,825,000	10/31/2040	10/31/2039	Precedent Agreement
Tennessee Gas Pipeline Company	FS-MA	523	Storage	21,844	1,560,391	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	8587	Transportation	25,407	9,273,555	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	2302	Transportation	3,122	1,139,530	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	632	Transportation	15,265	5,571,725	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	11234	Transportation	9,039	3,299,235	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	72694	Transportation	30,000	10,950,000	10/31/2029	10/31/2028	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	95346	Transportation	4,000	1,460,000	11/30/2021	11/30/2020	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	42076	Transportation	20,000	7,300,000	10/31/2025	10/31/2024	Evergreen Provision
TransCanada Pipeline	FT	41232	Transportation	4,047	1,477,155	10/31/2026	10/31/2024	Evergreen Provision
TransCanada Pipeline	FT	PXP	Transportation	5,000	1,825,000	10/31/2040		Precedent Agreement
Union Gas Limited	M12	M12200	Transportation	4,092	1,493,580	10/31/2022	10/31/2020	Evergreen Provision
Union Gas Limited	M12	PXP	Transportation	5,000	1,825,000	10/31/2040		Precedent Agreement

* MAQ is calculated on a 365 day calendar year.

Liberty Utilities (EnergyNorth Natural Gas) Corp. Schedule 13
Peak 2020 - 2021 Winter Cost of Gas Filing Page 1 of 1

Load Migration From Sales to Transportation in the C&I High and Low Winter Use Classes

July 2019 - June 2020 Normalized Sales and Transportation Volumes (Therms)

C&I Rate Classes	Annual Sales	% of Total by Class	% of Sales to Total Volume by Class
G-41	18,256,182	41.19%	78.18%
G-42	15,823,815	35.70%	47.17%
G-43	3,165,357	7.14%	27.59%
G-51	2,760,443	6.23%	73.20%
G-52	3,183,012	7.18%	35.48%
G-53	971,900	2.19%	9.37%
G-54	161,162	0.36%	0.89%
Total C/I	44,321,871	100.00%	

	Annual Transportation	% of Total by Class	% of Transportation to Total Volume by Class
G-41	5,095,393	7.82%	21.82%
G-42	17,721,760	27.18%	52.83%
G-43	8,308,195	12.74%	72.41%
G-51	1,010,758	1.55%	26.80%
G-52	5,789,516	8.88%	64.52%
G-53	9,397,326	14.41%	90.63%
G-54	17,876,309	27.42%	99.11%
Total C/I	65,199,257	100.00%	

Sales & Transportation	Total	% of Total by Class	
G-41	23,351,575	21.32%	100.00%
G-42	33,545,575	30.63%	100.00%
G-43	11,473,552	10.48%	100.00%
G-51	3,771,201	3.44%	100.00%
G-52	8,972,528	8.19%	100.00%
G-53	10,369,226	9.47%	100.00%
G-54	18,037,471	16.47%	100.00%
Total C/I	109,521,128	100.00%	

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Peak 2020 - 2021 Winter Cost of Gas Filing

Delivered Costs of Winter Supplies to Pipeline Delivered Supplies from the Prior Year

	Off-Peak	**Peak**	**Total**	
	May 19 - Oct 19	**Nov 19-Apr 20**	**May 19 - Apr 20**	
	(Therms)	(Therms)	(Therms)	
Pipeline Deliveries	17,901,626	85,042,850	102,944,476	
All Others	115,210	1,678,890	1,794,100	
	18,016,836	86,721,740	104,738,576	
				Ratio
Total Winter Supplies				86,721,740
Total Pipeline Deliveries				102,944,476
Ratio Winter Supplies to Pipeline Supplies				0.842

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Peak 2020 - 2021 Winter Cost of Gas Filing

July and August Consumption of C&I High and Low Winter Classes as a Percentage of Their Annual Consumption

C&I Sales Normalized (Therms)	Jul-19	Aug-19	Jul - Aug Total	Total Annual	% of Jul-Aug to Total
(a)	(b)	(c)	(e)=(c)+(d)	(f)	(g)=(e)/(f)
G-41	200,972	149,290	350,262	18,256,182	1.92%
G-42	222,729	240,733	463,461	15,823,815	2.93%
G-43	63,135	45,595	108,730	3,165,357	3.43%
G-51	165,226	162,486	327,712	2,760,443	11.87%
G-52	182,095	187,516	369,611	3,183,012	11.61%
G-53	67,324	64,458	131,782	971,900	13.56%
G-54	55,977	60,287	116,265	161,162	72.14%
Total C/I	957,458	910,366	1,867,824	44,321,871	4.21%

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.** Schedule 16
2 **Peak 2020 - 2021 Winter Cost of Gas Filing** Page 1 of 2
3
4 **Storage Inventory, Undergound, LPG and LNG including Calculation of Money Pool Interest Costs Associated with Natural Gas**
5
6 **Underground Storage Gas**

Line			May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Total
8			(Actual)	(Actual)	(Actual)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	
9	Beginning Balance (MMBtu)		500,867	745,600	990,149	1,248,769	1,508,769	1,768,769	2,028,769	2,078,901	1,628,754	1,104,456	660,115	264,464	500,867
10															
11	Injections (MMBtu)	Sch 11A ln 38 /10	248,433	248,301	263,691	260,000	260,000	260,000	149,513	-	-	-	-	-	1,689,938
12															
13	Subtotal		749,300	993,901	1,253,840	1,508,769	1,768,769	2,028,769	2,178,282	2,078,901	1,628,754	1,104,456	660,115	264,464	
14															
15	Storage Sale/Adjustments		(3,700)	(3,752)	(5,071)			-							
16															
17	Withdrawals (MMBtu)	Sch 11A ln 28 /10	-	-	-	-	-	-	(99,382)	(450,147)	(524,298)	(444,341)	(395,651)	-	(1,913,819)
18															
19	Ending Balance (MMBtu)		745,600	990,149	1,248,769	1,508,769	1,768,769	2,028,769	2,078,901	1,628,754	1,104,456	660,115	264,464	264,464	276,987
20															
21															
22	Beginning Balance		$ 921,559	$ 1,332,449	$ 1,684,887	$ 2,028,599	$ 2,426,651	$ 2,824,703	$ 3,222,755	$ 3,328,456	$ 2,607,742	$ 1,768,307	$ 1,056,887	$ 423,424	$ 921,559
23															
24	Injections	ln 11 * ln 36	$ 405,750	$ 347,394	$ 340,356	$ 398,052	$ 398,052	$ 398,052	$ 264,818	$ -	$ -	$ -	$ -	$ -	$ 2,552,473
25															
26	Subtotal		$ 1,327,309	$ 1,679,842	$ 2,025,243	$ 2,426,651	$ 2,824,703	$ 3,222,755	$ 3,487,573	$ 3,328,456	$ 2,607,742	$ 1,768,307	$ 1,056,887	$ 423,424	
27															
28	Storage Sale/Adjustments		$ 5,140	$ 5,045	$ 3,356			$ -							
29															
30	Withdrawals	ln 17 * ln 34	$ -	$ -	$ -	$ -	$ -	$ -	$ (159,117)	$ (720,714)	$ (839,435)	$ (711,420)	$ (633,464)	$ -	$ (3,064,149)
31															
32	Ending Balance		$ 1,332,449	$ 1,684,887	$ 2,028,599	$ 2,426,651	$ 2,824,703	$ 3,222,755	$ 3,328,456	$ 2,607,742	$ 1,768,307	$ 1,056,887	$ 423,424	$ 423,424	$ 409,882
33															
34	Average Rate For Withdrawals	ln 22 /ln 9	$ 1.7714	$ 1.6902	$ 1.6152	$ 1.6084	$ 1.5970	$ 1.5885	$ 1.6011	$ 1.6011	$ 1.6011	$ 1.6011	$ 1.6011	$ 1.6011	
35															
36	TGP Storage Rate for Injections	Actual or NYMEX plus TGP Transportation	$ 1.6332	$ 1.3991	$ 1.2907	$ 1.5310	$ 1.5310	$ 1.5310	$ 1.7712	$ 2.8250	$ 3.0355	$ 2.9903	$ 2.8988	$ 2.5280	
37															

Line			Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Total
38	For Informational Purposes					Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	Total
39	Summer Hedge Contracts - Vols Dth					-	-	-	-	-	-	-
40	Average Hedge Price					$ -	$ -	$ -	$ -	$ -	$ -	
41	NYMEX					$ 2.7669	$ 3.0753	$ 3.1799	$ 3.1326	$ 3.0031	$ 2.7212	
42												
43	Hedged Volumes at Hedged Price					$ -	$ -	$ -	$ -	$ -	$ -	$ -
44	Less Hedged Volumes at NYMEX					$ -	$ -	$ -	$ -	$ -	$ -	$ -
45	Hedge (Savings)/Loss					$ -	$ -	$ -	$ -	$ -	$ -	$ -
46												
47	Month Dollar Average	ln (22 + ln 32) /2	$ 2,227,625	$ 2,625,677	$ 3,023,729	$ 3,275,606	$ 2,968,099	$ 2,188,025	$ 1,412,597	$ 740,155	$ 423,424	
48												
49	Money Pool Finance Rate (per Nov 10 - Apr 11 Actuals)		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
50												
51	Inventory Finance Charge	ln 47 * ln 49	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
52	Financial Expenses		-	-	-	-	-	-	-	-	-	
53	Total Inventory Finance Charges		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	

54
55
38

Liquid Propane Gas (LPG)

Ln	Item	Reference	May-20 (Actual)	Jun-20 (Actual)	Jul-20 (Actual)	Aug-20 (Estimate)	Sep-20 (Estimate)	Oct-20 (Estimate)	Nov-20 (Estimate)	Dec-20 (Estimate)	Jan-21 (Estimate)	Feb-21 (Estimate)	Mar-21 (Estimate)	Apr-21 (Estimate)	Total
44	Beginning Balance		99,144	102,669	102,305	101,704	101,704	101,704	101,704	101,704	101,704	69,440	69,440	69,440	99,144
46	Injections	Sch 11A ln 37 /10	-	-	-	-	-	-	-	-	18,166	-	-	-	18,166
48	Subtotal		99,144	102,669	102,305	101,704	101,704	101,704	101,704	101,704	119,870	69,440	69,440	69,440	
50	Withdrawals	Sch 11A ln 32 /10	-	(364)	(601)	-	-	-	-	-	(50,430)	-	-	-	(51,395)
52	Adjustment for change in temperature		3,525	-	-	-	-	-	-	-	-	-	-	-	3,525
53	Adjustment for Transfer		-	-	-	-	-	-	-	-	-	-	-	-	-
54	Ending Balance		102,669	102,305	101,704	101,704	101,704	101,704	101,704	101,704	69,440	69,440	69,440	69,440	69,440
57	Beginning Balance		$ 1,104,806	$ 1,144,087	$ 1,140,031	$ 1,133,333	$ 1,133,333	$ 1,133,333	$ 1,133,333	$ 1,133,333	$ 1,133,333	$ 782,809	$ 782,809	$ 782,809	$ 1,104,806
59	Injections	ln 46 * ln 69	-	-	-	-	-	-	-	-	217,987	-	-	-	217,987
61	Subtotal		$ 1,104,806	$ 1,144,087	$ 1,140,031	$ 1,133,333	$ 1,133,333	$ 1,133,333	$ 1,133,333	$ 1,133,333	$ 1,351,321	$ 782,809	$ 782,809	$ 782,809	
63	Withdrawals/ Adjust	ln 52 * ln 67	39,281	(4,056)	(6,697)	-	-	-	-	-	(568,511)	-	-	-	(539,984)
65	Ending Balance		$ 1,144,087	$ 1,140,031	$ 1,133,333	$ 1,133,333	$ 1,133,333	$ 1,133,333	$ 1,133,333	$ 1,133,333	$ 782,809	$ 782,809	$ 782,809	$ 782,809	$ 782,809
67	Average Rate For Withdrawals		$11.1434	$11.1434	$11.1434	$11.1434	$11.1434	$11.1434	$11.1434	$11.1434	$11.2733	$11.2733	$11.2733	$11.2733	
69	Propane Rate for Injections	Actual or Sch. 6, ln 158 * 10	$11.1434	$11.1434	$11.1434	$0.0000	$0.0000	$0.0000	$12.0000	$12.0000	$12.0000	$12.0000	$12.0000	$12.0000	
72	Month Dollar Average	ln (57 + ln 65) /2				$ 1,133,333	$ 1,133,333	$ 1,133,333	$ 1,133,333	$ 1,133,333	$ 958,071	$ 782,809	$ 782,809	$ 782,809	
74	Money Pool Finance Rate (per Nov 10 - Apr 11 Actuals)					0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
76	Inventory Finance Charge	ln 72 * ln 74				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	

Liquid Natural Gas (LNG)

Ln	Item	Reference	May-20 (Actual)	Jun-20 (Actual)	Jul-20 (Actual)	Aug-20 (Estimate)	Sep-20 (Estimate)	Oct-20 (Estimate)	Nov-20 (Estimate)	Dec-20 (Estimate)	Jan-21 (Estimate)	Feb-21 (Estimate)	Mar-21 (Estimate)	Apr-21 (Estimate)	Total
81	Beginning Balance		11,673	10,585	11,730	11,425	12,570	13,715	14,860	14,860	14,929	6,828	5,742	14,020	11,673
83	Injections	Sch 11A ln 36 /10	-	3,529	1,746	3,529	3,529	3,529	1,763	63,405	62,326	76,930	10,402	-	230,689
85	Subtotal		11,673	14,114	13,476	14,954	16,099	17,244	16,623	78,265	77,255	83,759	16,144	14,020	
87	Withdrawals	Sch 11A ln 31 /10	(1,088)	(2,384)	(2,051)	(2,384)	(2,384)	(2,384)	(1,763)	(63,335)	(70,427)	(78,017)	(2,124)	(1,949)	(230,291)
89	Ending Balance		10,585	11,730	11,425	12,570	13,715	14,860	14,860	14,929	6,828	5,742	14,020	12,071	12,071
92	Beginning Balance		$ 40,652	$ 42,082	$ 48,351	$ 50,103	$ 58,795	$ 66,993	$ 74,831	$ 72,792	$ 69,682	$ 32,276	$ 26,954	$ 64,344	$ 40,652
94	Injections	ln 83 * ln 104	5,714	15,954	9,817	19,843	19,843	19,843	6,600	292,506	295,485	360,919	47,139	-	1,093,662
96	Subtotal		$ 46,366	$ 58,036	$ 58,168	$ 69,946	$ 78,638	$ 86,836	$ 81,431	$ 365,298	$ 365,167	$ 393,195	$ 74,094	$ 64,344	
98	Withdrawals	ln 87 * ln 102	(4,285)	(9,686)	(8,065)	(11,151)	(11,645)	(12,005)	(8,638)	(295,616)	(332,891)	(366,241)	(9,750)	(8,943)	(1,078,914)
100	Ending Balance		$ 42,082	$ 48,351	$ 50,103	$ 58,795	$ 66,993	$ 74,831	$ 72,792	$ 69,682	$ 32,276	$ 26,954	$ 64,344	$ 55,401	$ 55,401
102	Average Rate For Withdrawals		$3.9721	$4.1120	$4.3164	$4.6774	$4.8846	$5.0357	$4.8985	$4.6675	$4.7267	$4.6944	$4.5895	$4.5895	
104	LNG Rate for Injections	Actual or Sch. 6, ln 157 * 10	$3.9721	$4.5209	$5.6228	$5.6228	$5.6228	$5.6228	$3.7428	$4.6133	$4.7410	$4.6915	$4.5317	$0.0000	
107	Month Dollar Average	ln (92 + ln 100) /2				$ 54,449	$ 62,894	$ 70,912	$ 73,811	$ 71,237	$ 50,979	$ 29,615	$ 45,649	$ 59,872	
109	Money Pool Finance Rate (per Nov 10 - Apr 11 Actuals)					0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
111	Inventory Finance Charge	ln 107 * ln 109				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
114	Total Fuel Financing	lns 53 + 76 + 111				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Peak 2020 - 2021 Winter Cost of Gas Filing

Forecast of Firm Transportation Volumes and Cost of Gas Revenues

Firm Transportation

	Therms 1/	Cost of Gas Rate 2/	Cost of Gas Revenue
Nov-20	6,397,384	$ 0.0001	$ 680
Dec-20	7,702,372	0.0001	819
Jan-21	8,551,166	0.0001	910
Feb-21	7,468,503	0.0001	794
Mar-21	6,906,850	0.0001	735
Apr-21	5,430,001	0.0001	578
Total	**42,456,275**		**$ 4,516**

1/ Per Schedule 10B, line 35. Excludes special contract volumes subject to transportation cost of gas.
2/ Refer to Proposed Fourth Revised Page 94 for calculation of rate.

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Uitilities
Local Delivery Adjustment Charge (LDAC) increase due to Rate Case Expense and Recoupment
For LDAC effective November 1, 2020 - October 31, 2021

1	Rate Case Expense Remaining from Docket No. DG 17-048	$87,069
2	Recoupment Remaining from Docket No. DG 17-048	$0
3	July 1, 2020 Balance	$87,069
4	Plus Estimated Interest from July 2020 through October 2020	$745
5	Minus Estimated Recoveries from July 2020 through October 2020	($43,733)
6	Total Estimated Remaining Recovery As of November 1, 2020	$44,081
7	Estimated November 2019 - October 2020 Interest	$538
8	Total Remaining Recovery	$44,619
9	Estimated November 2020 - October 2021 Sales (therms)	179,574,679
10	RCE & Recoupment rate per therm November 2020 - October 2021	$0.0002

Liberty Utilities (EnergyNorth Natural Gas) Corp.
JULY 2020 THROUGH OCTOBER 2021
RATE CASE EXPENSE AND RECOUPMENT PROJECTION

		(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	
1	**FOR THE MONTH OF:**	**Jul-20**	**Aug-20**	**Sep-20**	**Oct-20**	**Nov-20**	**Dec-20**	**Jan-21**	**Feb-21**	**Mar-21**	**Apr-21**	**May-21**	**Jun-21**	**Jul-21**	**Aug-21**	**Sep-21**	**Oct-21**	**Total**
2	**DAYS IN MONTH**	**31**	**31**	**30**	**31**	**30**	**31**	**31**	**28**	**31**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	
3	Beginning Balance	$ 87,069	$ 78,156	$ 69,455	$ 59,083	$ 44,081	$ 39,633	$ 33,414	$ 26,294	$ 20,395	$ 15,000	$ 11,493	$ 9,138	$ 7,633	$ 6,283	$ 4,878	$ 3,080	$ 221,322
4																		
5	Add: Actual Costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6																		
7	Less: Collected Revenue	(9,140)	(8,905)	(10,543)	(15,145)	(4,559)	(6,320)	(7,203)	(5,957)	(5,443)	(3,544)	(2,382)	(1,528)	(1,370)	(1,420)	(1,809)	(3,080)	(44,615)
8																		
9	Add: Administrative and Start Up Costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10																		
11	Ending Balance Pre-Interest	$ 77,929	$ 69,251	$ 58,912	$ 43,938	$ 39,522	$ 33,313	$ 26,212	$ 20,337	$ 14,952	$ 11,457	$ 9,111	$ 7,610	$ 6,263	$ 4,863	$ 3,069	$ (1)	**$ 176,707**
12																		
13	Month's Average Balance	$ 82,499	$ 73,704	$ 64,183	$ 51,511	$ 41,801	$ 36,473	$ 29,813	$ 23,315	$ 17,673	$ 13,229	$ 10,302	$ 8,374	$ 6,948	$ 5,573	$ 3,973	$ 1,540	
14																		
15	Interest Rate	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	
16																		
17	Interest Applied	$ 228	$ 203	$ 171	$ 142	$ 112	$ 101	$ 82	$ 58	$ 49	$ 37	$ 28	$ 23	$ 19	$ 15	$ 11	$ 4	**538**
18																		
19	Ending Balance	**$ 78,156**	**$ 69,455**	**$ 59,083**	**$ 44,081**	**$ 39,633**	**$ 33,414**	**$ 26,294**	**$ 20,395**	**$ 15,000**	**$ 11,493**	**$ 9,138**	**$ 7,633**	**$ 6,283**	**$ 4,878**	**$ 3,080**	**$ 4**	

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities
Revenue Decoupling Adjustment Factor (RDAF)
For LDAC effective November 1, 2020 - October 31, 2021

	Reconciliation	
1	Projected November 1, 2020 Reconciliation Balance - RDAF Page 2	($1,010,099)
2	Estimated November 2020 - October 2021 Sales (therms)	179,574,679
3	Revenue Decoupling Reconciliation rate per therm November 2020 - October 2021	($0.0056)
	Residential	
4	Residential Revenue Decoupling Deficiency / (Excess) - RDAF Page 3	($3,150,744)
5	Estimated Residential November 2020 - October 2021 Sales (therms)	63,939,354
6	Residential Revenue Decoupling rate per therm November 2020 - October 2021	($0.0493)
7	Revenue Decoupling Reconciliation rate per therm November 2020 - October 2021	($0.0056)
8	Residential Revenue Decoupling rate per therm November 2020 - October 2021	($0.0549)
	Commercial	
9	Commercial Revenue Decoupling Deficiency / (Excess) - RDAF Page 3	($1,815,203)
10	Estimated Commercial November 2020 - October 2021 Sales (therms)	115,635,325
11	Commercial Decoupling rate per therm November 2020 - October 2021	($0.0157)
12	Revenue Decoupling Reconciliation rate per therm November 2020 - October 2021	($0.0056)
13	Commercial Revenue Decoupling rate per therm November 2020 - October 2021	($0.0213)

Liberty Utilities (EnergyNorth Natural Gas) Corp.
NOVEMBER 2019 THROUGH OCTOBER 2020
REVENUE DECOUPLING RECONCILIATION

		(Actual)	(Actual)	(Actual)	(Actual)	(Actual)	(Actual)
1	**FOR THE MONTH OF:**	**Nov-19**	**Dec-19**	**Jan-20**	**Feb-20**	**Mar-20**	**Apr-20**
2	**DAYS IN MONTH**	**30**	**31**	**31**	**29**	**31**	**30**
3	Beginning Balance	$ (7,016,791)	$ (6,930,003)	$ (6,102,934)	$ (5,081,061)	$ (4,149,505)	$ (3,286,582)
4							
5	Less: Reconcile RDAF estimate to actual	$ (26,121)					
6							
7	Add: Collected Revenue	140,081	853,305	1,044,387	948,942	877,892	668,380
8							
9	Ending Balance Pre-Interest	$ (6,902,831)	$ (6,076,698)	$ (5,058,547)	$ (4,132,119)	$ (3,271,613)	$ (2,618,202)
10							
11	Month's Average Balance	$ (6,959,811)	$ (6,503,351)	$ (5,580,741)	$ (4,606,590)	$ (3,710,559)	$ (2,952,392)
12							
13	Interest Rate	4.75%	4.75%	4.75%	4.75%	4.75%	3.25%
14							
15	Interest Applied	$ (27,172)	$ (26,236)	$ (22,514)	$ (17,385)	$ (14,969)	$ (7,887)
16							
17	Ending Balance	**$ (6,930,003)**	**$ (6,102,934)**	**$ (5,081,061)**	**$ (4,149,505)**	**$ (3,286,582)**	**$ (2,626,089)**

		(Actual)	(Actual)	(Estimate)	(Estimate)	(Estimate)	(Estimate)
1	**FOR THE MONTH OF:**	**May-20**	**Jun-20**	**Jul-20**	**Aug-20**	**Sep-20**	**Oct-20**
2	**DAYS IN MONTH**	**31**	**30**	**31**	**31**	**30**	**31**
3	Beginning Balance	$ (2,626,089)	$ (2,133,973)	$ (1,880,633)	$ (1,714,967)	$ (1,547,954)	$ (1,336,480)
4							
5	Less: Reconcile RDAF estimate to actual						
6							
7	Add: Collected Revenue	498,676	258,695	170,621	171,510	215,321	329,616
8							
9	Ending Balance Pre-Interest	$ (2,127,412)	$ (1,875,278)	$ (1,710,012)	$ (1,543,457)	$ (1,332,633)	$ (1,006,865)
10							
11	Month's Average Balance	$ (2,376,751)	$ (2,004,625)	$ (1,795,322)	$ (1,629,212)	$ (1,440,294)	$ (1,171,672)
12							
13	Interest Rate	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%
14							
15	Interest Applied	$ (6,560)	$ (5,355)	$ (4,956)	$ (4,497)	$ (3,847)	$ (3,234)
16							
17	Ending Balance	**$ (2,133,973)**	**$ (1,880,633)**	**$ (1,714,967)**	**$ (1,547,954)**	**$ (1,336,480)**	**$ (1,010,099)**

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Uitilities
Revenue Decoupling Adjustment Factor (RDAF)
Allowed Base Revenue and Revenue Deficiency / (Excess)

		(1)	(2)	(3)
	Residential Revenue Decoupling Deficiency / (Excess)			
1.	Allowed Base Revenue	$ 47,055,148		
2.	less: Actual and Estimated Base Revenue	50,205,891		
3.	Revenue Deficiency / (Excess)		$ (3,150,744)	
	Commercial Revenue Decoupling Deficiency / (Excess)			
4.	Allowed Base Revenue	$ 36,558,043		
5.	less: Actual and Estimated Base Revenue	38,373,247		
6.	Revenue Deficiency / (Excess)		$ (1,815,203)	

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Uitilities
Revenue Decoupling Adjustment Factor (RDAF)
Allowed Base Revenue

EnergyNorth Natural Gas Inc

2019-20 Customers (Equivalent Bills)

	S&T Sep-19	S&T Oct-19	S&T Nov-19	S&T Dec-19	S&T Jan-20	S&T Feb-20	S&T Mar-20	S&T Apr-20	S&T May-20	S&T Jun-20	S&T Jul-19	S&T Aug-19	S&T Total
R-1	3,497	3,611	3,503	3,627	3,630	3,403	3,645	3,520	3,633	3,514	3,605	3,613	42,801
R-3	72,511	75,302	73,218	76,274	76,471	71,695	76,753	74,366	76,831	73,589	74,635	74,652	896,299
R-4	5,314	5,687	5,939	5,943	5,921	5,522	5,814	5,486	5,610	5,356	5,713	5,574	67,879
Total Resid.	**81,322**	**84,600**	**82,660**	**85,844**	**86,022**	**80,620**	**86,212**	**83,372**	**86,074**	**82,459**	**83,953**	**83,840**	**1,006,979**
G-41	8,868	9,414	9,424	9,851	9,899	9,280	9,918	9,534	9,722	9,135	9,210	9,149	113,403
G-42	1,409	1,467	1,434	1,483	1,487	1,394	1,492	1,442	1,486	1,419	1,441	1,457	17,411
G-43	56	59	58	64	63	59	63	61	63	60	59	56	721
G-51	1,306	1,353	1,311	1,350	1,347	1,260	1,346	1,298	1,340	1,272	1,345	1,357	15,886
G-52	392	409	401	417	419	393	421	406	419	402	401	406	4,886
G-53	33	34	33	34	34	32	34	33	34	33	34	33	402
G-54	26	27	26	28	29	26	29	28	28	27	28	27	329
Total C/I	**12,091**	**12,763**	**12,687**	**13,226**	**13,279**	**12,443**	**13,302**	**12,802**	**13,092**	**12,348**	**12,519**	**12,485**	**153,037**
Total All	**93,413**	**97,363**	**95,347**	**99,070**	**99,300**	**93,063**	**99,514**	**96,174**	**99,166**	**94,807**	**96,472**	**96,325**	**1,160,016**

2019-20 Benchmark Base Revenue Per Bill

	S&T Sep-19	S&T Oct-19	S&T Nov-19	S&T Dec-19	S&T Jan-20	S&T Feb-20	S&T Mar-20	S&T Apr-20	S&T May-20	S&T Jun-20	S&T Jul-19	S&T Aug-19
R-1	$ 18.859	$ 20.743	$ 23.630	$ 25.588	$ 26.326	$ 26.064	$ 24.359	$ 21.665	$ 20.932	$ 19.551	$ 18.941	$ 18.879
R-3	$ 25.472	$ 36.363	$ 58.483	$ 78.412	$ 89.883	$ 84.877	$ 72.716	$ 45.931	$ 33.622	$ 25.883	$ 23.299	$ 23.420
R-4	$ 9.916	$ 14.057	$ 22.321	$ 29.930	$ 33.822	$ 31.446	$ 28.720	$ 19.784	$ 13.134	$ 10.516	$ 9.417	$ 9.531
G-41	$ 72.158	$ 91.992	$ 141.061	$ 187.336	$ 213.824	$ 204.320	$ 174.282	$ 120.172	$ 89.749	$ 73.104	$ 68.903	$ 68.518
G-42	$ 350.138	$ 536.208	$ 831.437	$ 1,139.248	$ 1,275.090	$ 1,181.586	$ 995.503	$ 692.940	$ 478.158	$ 353.842	$ 302.305	$ 295.617
G-43	$ 1,571.363	$ 1,527.764	$ 6,630.216	$ 7,593.280	$ 8,769.856	$ 7,718.973	$ 6,633.048	$ 4,338.262	$ 2,120.739	$ 1,477.930	$ 1,300.970	$ 1,336.424
G-51	$ 89.704	$ 101.446	$ 117.110	$ 128.843	$ 132.447	$ 127.517	$ 117.280	$ 101.009	$ 95.963	$ 86.858	$ 87.995	$ 88.807
G-52	$ 364.914	$ 437.330	$ 635.041	$ 672.436	$ 670.683	$ 657.599	$ 601.232	$ 521.003	$ 376.781	$ 342.142	$ 352.146	$ 363.849
G-53	$ 2,344.638	$ 2,881.035	$ 5,288.039	$ 6,482.182	$ 5,443.345	$ 5,509.426	$ 5,382.287	$ 4,702.462	$ 2,553.307	$ 2,163.553	$ 2,187.837	$ 2,390.070
G-54	$ 2,869.470	$ 3,362.856	$ 4,517.444	$ 5,041.273	$ 4,376.519	$ 3,774.254	$ 2,908.047	$ 3,287.867	$ 2,028.236	$ 2,391.070	$ 2,406.224	$ 2,727.255

2019-20 Allowed Base Revenue

	S&T Sep-19	S&T Oct-19	S&T Nov-19	S&T Dec-19	S&T Jan-20	S&T Feb-20	S&T Mar-20	S&T Apr-20	S&T May-20	S&T Jun-20	S&T Jul-19	S&T Aug-19	S&T Total
R-1	$ 65,957	$ 74,907	$ 82,768	$ 92,799	$ 95,563	$ 88,684	$ 88,792	$ 76,262	$ 76,047	$ 68,708	$ 68,278	$ 68,211	$ 946,976
R-3	$ 1,846,975	$ 2,738,202	$ 4,282,002	$ 5,980,759	$ 6,873,453	$ 6,085,300	$ 5,581,209	$ 3,415,684	$ 2,583,185	$ 1,904,687	$ 1,738,889	$ 1,748,397	$ 44,778,744
R-4	$ 52,692	$ 79,937	$ 132,570	$ 177,882	$ 200,249	$ 173,658	$ 166,968	$ 108,535	$ 73,683	$ 56,324	$ 53,796	$ 53,132	$ 1,329,427
Total Resid.	**$ 1,965,623**	**$ 2,893,046**	**$ 4,497,340**	**$ 6,251,440**	**$ 7,169,264**	**$ 6,347,643**	**$ 5,836,969**	**$ 3,600,482**	**$ 2,732,916**	**$ 2,029,720**	**$ 1,860,963**	**$ 1,869,741**	**$ 47,055,148**
G-41	$ 639,934	$ 866,012	$ 1,329,324	$ 1,845,424	$ 2,116,677	$ 1,896,072	$ 1,728,486	$ 1,145,681	$ 872,510	$ 667,785	$ 634,584	$ 626,868	$ 14,369,358
G-42	$ 493,300	$ 786,658	$ 1,192,054	$ 1,689,567	$ 1,895,734	$ 1,646,593	$ 1,484,906	$ 999,164	$ 710,642	$ 502,140	$ 435,741	$ 430,853	$ 12,267,352
G-43	$ 88,677	$ 90,189	$ 387,205	$ 482,174	$ 556,009	$ 457,992	$ 419,430	$ 264,634	$ 132,900	$ 88,085	$ 76,627	$ 74,662	$ 3,118,584
G-51	$ 117,144	$ 137,262	$ 153,583	$ 173,920	$ 178,445	$ 160,626	$ 157,868	$ 131,160	$ 128,557	$ 110,508	$ 118,379	$ 120,531	$ 1,687,983
G-52	$ 143,140	$ 178,850	$ 254,475	$ 280,270	$ 280,973	$ 258,723	$ 252,859	$ 211,546	$ 157,870	$ 137,540	$ 141,230	$ 147,704	$ 2,445,180
G-53	$ 77,295	$ 98,243	$ 174,505	$ 221,042	$ 185,617	$ 175,751	$ 183,715	$ 155,338	$ 87,153	$ 71,397	$ 75,116	$ 78,952	$ 1,584,123
G-54	$ 74,606	$ 90,348	$ 117,454	$ 140,483	$ 126,627	$ 96,329	$ 83,977	$ 92,060	$ 57,331	$ 64,559	$ 68,417	$ 73,272	$ 1,085,462
Total C/I	**$ 1,634,096**	**$ 2,247,562**	**$ 3,608,600**	**$ 4,832,881**	**$ 5,340,082**	**$ 4,692,086**	**$ 4,311,241**	**$ 2,999,583**	**$ 2,146,964**	**$ 1,642,014**	**$ 1,550,094**	**$ 1,552,841**	**$ 36,558,043**
Total All	**$ 3,599,719**	**$ 5,140,608**	**$ 8,105,940**	**$ 11,084,321**	**$ 12,509,347**	**$ 11,039,729**	**$ 10,148,210**	**$ 6,600,065**	**$ 4,879,879**	**$ 3,671,734**	**$ 3,411,057**	**$ 3,422,582**	**$ 83,613,191**

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Uitilities
Revenue Decoupling Adjustment Factor (RDAF)
Actual and Estimated Base Revenue

SALES AND TRANSPORT DATA

CUSTOMER COMPONENT

EnergyNorth Natural Gas Inc

2019-20 Customers (Equivalent Bills)

	S&T Sep-19	S&T Oct-19	S&T Nov-19	S&T Dec-19	S&T Jan-20	S&T Feb-20	S&T Mar-20	S&T Apr-20	S&T May-20	S&T Jun-20	S&T Jul-19	S&T Aug-19	S&T Total
R-1	3,497	3,611	3,503	3,627	3,630	3,403	3,645	3,520	3,633	3,514	3,605	3,613	42,801
R-3	72,511	75,302	73,218	76,274	76,471	71,695	76,753	74,366	76,831	73,589	74,635	74,652	896,299
R-4	5,314	5,687	5,939	5,943	5,921	5,522	5,814	5,486	5,610	5,356	5,713	5,574	67,879
Total Resid.	**81,322**	**84,600**	**82,660**	**85,844**	**86,022**	**80,620**	**86,212**	**83,372**	**86,074**	**82,459**	**83,953**	**83,840**	**1,006,979**
G-41	8,868	9,414	9,424	9,851	9,899	9,280	9,918	9,534	9,722	9,135	9,210	9,149	113,403
G-42	1,409	1,467	1,434	1,483	1,487	1,394	1,492	1,442	1,486	1,419	1,441	1,457	17,411
G-43	56	59	58	64	63	59	63	61	63	60	59	56	721
G-51	1,306	1,353	1,311	1,350	1,347	1,260	1,346	1,298	1,340	1,272	1,345	1,357	15,886
G-52	392	409	401	417	419	393	421	406	419	402	401	406	4,886
G-53	33	34	33	34	34	32	34	33	34	33	34	33	402
G-54	26	27	26	28	29	26	29	28	28	27	28	27	329
Total C/I	**12,091**	**12,763**	**12,687**	**13,226**	**13,279**	**12,443**	**13,302**	**12,802**	**13,092**	**12,348**	**12,519**	**12,485**	**153,037**
Total All	**93,413**	**97,363**	**95,347**	**99,070**	**99,300**	**93,063**	**99,514**	**96,174**	**99,166**	**94,807**	**96,472**	**96,325**	**1,160,016**

2019-20 Customer Charge

	S&T Sep-19	S&T Oct-19	S&T Nov-19	S&T Dec-19	S&T Jan-20	S&T Feb-20	S&T Mar-20	S&T Apr-20	S&T May-20	S&T Jun-20	S&T Jul-19	S&T Aug-19
R-1	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.50	$ 15.50
R-3	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.50	$ 15.50
R-4	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.20	$ 15.50	$ 15.50
G-41	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 57.46	$ 57.46
G-42	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 172.39	$ 172.39
G-43	$ 725.66	$ 725.66	$ 725.66	$ 725.66	$ 725.66	$ 725.66	$ 725.66	$ 725.66	$ 725.66	$ 725.66	$ 739.83	$ 739.83
G-51	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 56.36	$ 57.46	$ 57.46
G-52	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 169.09	$ 172.39	$ 172.39
G-53	$ 746.81	$ 746.81	$ 746.81	$ 746.81	$ 746.81	$ 746.81	$ 746.81	$ 746.81	$ 746.81	$ 746.81	$ 761.39	$ 761.39
G-54	$ 746.81	$ 746.81	$ 746.81	$ 746.81	$ 746.81	$ 746.81	$ 746.81	$ 746.81	$ 746.81	$ 746.81	$ 761.39	$ 761.39

2019-20 Customer Revenue

	S&T Sep-19	S&T Oct-19	S&T Nov-19	S&T Dec-19	S&T Jan-20	S&T Feb-20	S&T Mar-20	S&T Apr-20	S&T May-20	S&T Jun-20	S&T Jul-19	S&T Aug-19	S&T Total
R-1	$ 53,168	$ 54,899	$ 53,249	$ 55,134	$ 55,184	$ 51,727	$ 55,415	$ 53,514	$ 55,232	$ 53,427	$ 55,861	$ 55,991	$ 652,802
R-3	$ 1,102,354	$ 1,144,785	$ 1,113,099	$ 1,159,557	$ 1,162,558	$ 1,089,947	$ 1,166,839	$ 1,130,552	$ 1,168,020	$ 1,118,738	$ 1,156,610	$ 1,156,878	$ 13,669,938
R-4	$ 80,780	$ 86,454	$ 90,291	$ 90,354	$ 90,008	$ 83,954	$ 88,381	$ 83,403	$ 85,290	$ 81,428	$ 88,531	$ 86,386	$ 1,035,261
Total Resid.	**$ 1,236,302**	**$ 1,286,137**	**$ 1,256,640**	**$ 1,305,045**	**$ 1,307,750**	**$ 1,225,629**	**$ 1,310,636**	**$ 1,267,470**	**$ 1,308,543**	**$ 1,253,592**	**$ 1,301,003**	**$ 1,299,256**	**$ 15,358,001**
G-41	$ 499,798	$ 530,542	$ 531,092	$ 555,163	$ 557,883	$ 522,986	$ 558,932	$ 537,287	$ 547,879	$ 514,803	$ 529,200	$ 525,705	$ 6,411,269
G-42	$ 238,226	$ 248,068	$ 242,429	$ 250,770	$ 251,394	$ 235,635	$ 252,217	$ 243,814	$ 251,303	$ 239,957	$ 248,486	$ 251,256	$ 2,953,556
G-43	$ 40,952	$ 42,838	$ 42,379	$ 46,080	$ 46,007	$ 43,056	$ 45,886	$ 44,265	$ 45,475	$ 43,250	$ 43,576	$ 41,332	$ 525,095
G-51	$ 73,596	$ 76,253	$ 73,908	$ 76,074	$ 75,929	$ 70,989	$ 75,860	$ 73,179	$ 75,498	$ 71,702	$ 77,302	$ 77,987	$ 898,278
G-52	$ 66,327	$ 69,151	$ 67,758	$ 70,476	$ 70,838	$ 66,526	$ 71,114	$ 68,657	$ 70,848	$ 67,974	$ 69,139	$ 69,982	$ 828,790
G-53	$ 24,620	$ 25,466	$ 24,645	$ 25,466	$ 25,466	$ 23,823	$ 25,491	$ 24,669	$ 25,491	$ 24,645	$ 26,141	$ 25,151	$ 301,074
G-54	$ 19,417	$ 20,064	$ 19,417	$ 20,811	$ 21,607	$ 19,060	$ 21,566	$ 20,911	$ 21,110	$ 20,164	$ 21,649	$ 20,456	$ 246,232
Total C/I	**$ 962,935**	**$ 1,012,382**	**$ 1,001,628**	**$ 1,044,840**	**$ 1,049,125**	**$ 982,075**	**$ 1,051,066**	**$ 1,012,782**	**$ 1,037,604**	**$ 982,494**	**$ 1,015,492**	**$ 1,011,869**	**$ 12,164,293**
Total All	**$ 2,199,237**	**$ 2,298,519**	**$ 2,258,268**	**$ 2,349,885**	**$ 2,356,875**	**$ 2,207,704**	**$ 2,361,701**	**$ 2,280,252**	**$ 2,346,147**	**$ 2,236,086**	**$ 2,316,495**	**$ 2,311,125**	**$ 27,522,294**

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities
Revenue Decoupling Adjustment Factor (RDAF)
Actual and Estimated Base Revenue

ENERGY COMPONENT

HEADBLOCK

2019-20 Decoupling Year Weather Normalized Volume Headblock

	S&T Sep-19	S&T Oct-19	S&T Nov-19	S&T Dec-19	S&T Jan-20	S&T Feb-20	S&T Mar-20	S&T Apr-20	S&T May-20	S&T Jun-20	S&T Jul-19	S&T Aug-19	S&T Total
R-1	36,731	48,388	69,360	92,468	104,854	92,558	89,084	67,481	52,537	39,414	33,122	33,964	759,961
R-3	1,280,794	2,898,865	6,121,788	9,184,431	10,850,958	9,128,626	7,762,529	4,580,874	2,576,646	1,261,056	997,806	1,016,132	57,660,505
R-4	93,668	213,998	481,354	694,312	815,920	691,531	582,047	338,974	192,040	94,713	78,973	78,238	4,355,768
Total Resid.	**1,411,193**	**3,161,252**	**6,672,502**	**9,971,211**	**11,771,732**	**9,912,715**	**8,433,660**	**4,987,329**	**2,821,223**	**1,395,183**	**1,109,901**	**1,128,334**	**62,776,234**
G-41	74,799	209,649	733,442	893,521	873,653	830,230	759,572	608,019	194,465	69,054	56,478	58,580	5,361,461
G-42	329,468	610,332	1,346,658	1,506,100	1,457,141	1,398,849	1,372,481	1,201,362	558,194	290,156	250,065	269,471	10,590,277
G-43	340,995	636,413	1,151,415	1,659,544	1,906,071	1,685,067	1,483,942	985,854	612,022	315,153	280,486	298,376	11,355,337
G-51	79,183	82,502	91,524	96,336	93,497	89,808	86,858	79,485	73,811	74,090	79,240	82,164	1,008,498
G-52	326,367	348,508	388,555	406,464	393,850	378,934	353,154	305,641	281,593	287,617	324,745	340,851	4,136,279
G-53	647,891	784,055	911,462	1,063,920	1,182,334	1,094,828	997,437	851,193	671,329	607,780	663,087	697,645	10,172,962
G-54	1,645,786	1,690,625	1,568,828	1,319,924	1,350,879	1,270,260	1,165,460	1,369,310	1,245,619	1,299,608	1,786,988	1,783,439	17,496,726
Total C/I	**3,444,489**	**4,362,084**	**6,191,884**	**6,945,808**	**7,257,425**	**6,747,976**	**6,218,905**	**5,400,863**	**3,637,033**	**2,943,458**	**3,441,088**	**3,530,527**	**60,121,539**
Total All	**4,855,682**	**7,523,336**	**12,864,386**	**16,917,019**	**19,029,157**	**16,660,691**	**14,652,565**	**10,388,192**	**6,458,256**	**4,338,641**	**4,550,988**	**4,658,861**	**122,897,773**

2019-20 Headblock Charge

	S&T Sep-19	S&T Oct-19	S&T Nov-19	S&T Dec-19	S&T Jan-20	S&T Feb-20	S&T Mar-20	S&T Apr-20	S&T May-20	S&T Jun-20	S&T Jul-19	S&T Aug-19
R-1	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3860	$ 0.3860
R-3	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5678	$ 0.5678
R-4	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5678	$ 0.5678
G-41	$ 0.4621	$ 0.4621	$ 0.4621	$ 0.4621	$ 0.4621	$ 0.4621	$ 0.4621	$ 0.4621	$ 0.4621	$ 0.4621	$ 0.4711	$ 0.4711
G-42	$ 0.4202	$ 0.4202	$ 0.4202	$ 0.4202	$ 0.4202	$ 0.4202	$ 0.4202	$ 0.4202	$ 0.4202	$ 0.4202	$ 0.4284	$ 0.4284
G-43	$ 0.1181	$ 0.1181	$ 0.2583	$ 0.2583	$ 0.2583	$ 0.2583	$ 0.2583	$ 0.2583	$ 0.1181	$ 0.1181	$ 0.1204	$ 0.1204
G-51	$ 0.2785	$ 0.2785	$ 0.2785	$ 0.2785	$ 0.2785	$ 0.2785	$ 0.2785	$ 0.2785	$ 0.2785	$ 0.2785	$ 0.2839	$ 0.2839
G-52	$ 0.1733	$ 0.1733	$ 0.2392	$ 0.2392	$ 0.2392	$ 0.2392	$ 0.2392	$ 0.2392	$ 0.1733	$ 0.1733	$ 0.1767	$ 0.1767
G-53	$ 0.0802	$ 0.0802	$ 0.1672	$ 0.1672	$ 0.1672	$ 0.1672	$ 0.1672	$ 0.1672	$ 0.0802	$ 0.0802	$ 0.0818	$ 0.0818
G-54	$ 0.0346	$ 0.0346	$ 0.0638	$ 0.0638	$ 0.0638	$ 0.0638	$ 0.0638	$ 0.0638	$ 0.0346	$ 0.0346	$ 0.0353	$ 0.0353

2019-20 Decoupling Year Weather Normalized Volume Headblock Revenue

	S&T Sep-19	S&T Oct-19	S&T Nov-19	S&T Dec-19	S&T Jan-20	S&T Feb-20	S&T Mar-20	S&T Apr-20	S&T May-20	S&T Jun-20	S&T Jul-19	S&T Aug-19	S&T Total
R-1	$ 13,908	$ 18,322	$ 26,263	$ 35,013	$ 39,703	$ 35,047	$ 33,731	$ 25,551	$ 19,893	$ 14,924	$ 12,785	$ 13,110	$ 288,249
R-3	$ 713,256	$ 1,614,337	$ 3,409,139	$ 5,114,682	$ 6,042,748	$ 5,083,604	$ 4,322,844	$ 2,551,025	$ 1,434,898	$ 702,264	$ 566,530	$ 576,935	$ 32,132,263
R-4	$ 52,163	$ 119,173	$ 268,059	$ 386,652	$ 454,374	$ 385,104	$ 324,134	$ 188,770	$ 106,944	$ 52,744	$ 44,839	$ 44,422	$ 2,427,378
Total Resid.	**$ 779,327**	**$ 1,751,832**	**$ 3,703,461**	**$ 5,536,347**	**$ 6,536,825**	**$ 5,503,755**	**$ 4,680,710**	**$ 2,765,346**	**$ 1,561,735**	**$ 769,933**	**$ 624,154**	**$ 634,466**	**$ 34,847,890**
G-41	$ 34,568	$ 96,889	$ 338,959	$ 412,939	$ 403,757	$ 383,690	$ 351,035	$ 280,995	$ 89,872	$ 31,913	$ 26,608	$ 27,599	$ 2,478,824
G-42	$ 138,458	$ 256,489	$ 565,927	$ 632,932	$ 612,357	$ 587,860	$ 576,779	$ 504,867	$ 234,579	$ 121,937	$ 107,129	$ 115,443	$ 4,454,756
G-43	$ 40,278	$ 75,172	$ 297,412	$ 428,662	$ 492,340	$ 435,255	$ 383,304	$ 254,647	$ 72,291	$ 37,225	$ 33,772	$ 35,926	$ 2,586,285
G-51	$ 22,056	$ 22,980	$ 25,494	$ 26,834	$ 26,043	$ 25,016	$ 24,194	$ 22,140	$ 20,560	$ 20,637	$ 22,499	$ 23,329	$ 281,782
G-52	$ 56,553	$ 60,390	$ 92,931	$ 97,215	$ 94,198	$ 90,630	$ 84,464	$ 73,101	$ 48,795	$ 49,838	$ 57,377	$ 60,223	$ 865,715
G-53	$ 51,937	$ 62,852	$ 152,403	$ 177,895	$ 197,695	$ 183,063	$ 166,779	$ 142,326	$ 53,815	$ 48,721	$ 54,218	$ 57,044	$ 1,348,749
G-54	$ 56,970	$ 58,522	$ 100,037	$ 84,166	$ 86,140	$ 80,999	$ 74,316	$ 87,315	$ 43,118	$ 44,987	$ 63,037	$ 62,912	$ 842,518
Total C/I	**$ 400,819**	**$ 633,294**	**$ 1,573,163**	**$ 1,860,643**	**$ 1,912,530**	**$ 1,786,513**	**$ 1,660,872**	**$ 1,365,391**	**$ 563,029**	**$ 355,259**	**$ 364,641**	**$ 382,477**	**$ 12,858,630**
Total All	**$ 1,180,145**	**$ 2,385,126**	**$ 5,276,624**	**$ 7,396,990**	**$ 8,449,355**	**$ 7,290,268**	**$ 6,341,581**	**$ 4,130,737**	**$ 2,124,764**	**$ 1,125,191**	**$ 988,795**	**$ 1,016,943**	**$ 47,706,520**

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Uitilities
Revenue Decoupling Adjustment Factor (RDAF)
Actual and Estimated Base Revenue

TAILBLOCK

2019-20 Decoupling Year Weather Normalized Volume Tailblock

	S&T Sep-19	S&T Oct-19	S&T Nov-19	S&T Dec-19	S&T Jan-20	S&T Feb-20	S&T Mar-20	S&T Apr-20	S&T May-20	S&T Jun-20	S&T Jul-19	S&T Aug-19	S&T Total
R-1	-	-	-	-	-	-	-	-	-	-	-	-	-
R-3	-	-	-	-	-	-	-	-	-	-	-	-	-
R-4	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Resid.	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
G-41	277,772	809,829	1,851,896	3,226,174	4,035,398	3,265,464	2,506,133	1,109,761	638,769	232,279	178,925	182,811	18,315,211
G-42	443,620	1,147,212	2,345,406	4,047,790	4,989,598	4,016,550	3,161,515	1,355,483	784,627	274,034	252,166	266,614	23,084,615
G-43	-	-	-	-	-	-	-	-	-	-	-	-	-
G-51	175,101	203,971	275,989	357,064	393,882	355,701	276,025	183,551	149,408	131,432	152,609	176,304	2,831,038
G-52	262,870	354,834	507,742	669,104	768,970	678,576	470,278	289,301	199,161	179,551	217,018	240,158	4,837,564
G-53	-	-	-	-	-	-	-	-	-	-	-	-	-
G-54	-	-	-	-	-	-	-	-	-	-	-	-	-
Total C/I	**1,159,363**	**2,515,846**	**4,981,033**	**8,300,132**	**10,187,848**	**8,316,290**	**6,413,950**	**2,938,096**	**1,771,966**	**817,297**	**800,719**	**865,888**	**49,068,428**
Total All	**1,159,363**	**2,515,846**	**4,981,033**	**8,300,132**	**10,187,848**	**8,316,290**	**6,413,950**	**2,938,096**	**1,771,966**	**817,297**	**800,719**	**865,888**	**49,068,428**

2019-20 Tailblock Charge

	S&T Sep-19	S&T Oct-19	S&T Nov-19	S&T Dec-19	S&T Jan-20	S&T Feb-20	S&T Mar-20	S&T Apr-20	S&T May-20	S&T Jun-20	S&T Jul-19	S&T Aug-19
R-1	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3786	$ 0.3860	$ 0.3860
R-3	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5678	$ 0.5678
R-4	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5569	$ 0.5678	$ 0.5678
G-41	$ 0.3104	$ 0.3104	$ 0.3104	$ 0.3104	$ 0.3104	$ 0.3104	$ 0.3104	$ 0.3104	$ 0.3104	$ 0.3104	$ 0.3165	$ 0.3165
G-42	$ 0.2800	$ 0.2800	$ 0.2800	$ 0.2800	$ 0.2800	$ 0.2800	$ 0.2800	$ 0.2800	$ 0.2800	$ 0.2800	$ 0.2855	$ 0.2855
G-43	$ 0.1181	$ 0.1181	$ 0.2583	$ 0.2583	$ 0.2583	$ 0.2583	$ 0.2583	$ 0.2583	$ 0.1181	$ 0.1181	$ 0.1204	$ 0.1204
G-51	$ 0.1811	$ 0.1811	$ 0.1811	$ 0.1811	$ 0.1811	$ 0.1811	$ 0.1811	$ 0.1811	$ 0.1811	$ 0.1811	$ 0.1846	$ 0.1846
G-52	$ 0.0985	$ 0.0985	$ 0.1593	$ 0.1593	$ 0.1593	$ 0.1593	$ 0.1593	$ 0.1593	$ 0.0985	$ 0.0985	$ 0.1004	$ 0.1004
G-53	$ 0.0802	$ 0.0802	$ 0.1672	$ 0.1672	$ 0.1672	$ 0.1672	$ 0.1672	$ 0.1672	$ 0.0802	$ 0.0802	$ 0.0818	$ 0.0818
G-54	$ 0.0346	$ 0.0346	$ 0.0638	$ 0.0638	$ 0.0638	$ 0.0638	$ 0.0638	$ 0.0638	$ 0.0346	$ 0.0346	$ 0.0353	$ 0.0353

2019-20 Decoupling Year Weather Normalized Volume Tailblock Revenue

	S&T Sep-19	S&T Oct-19	S&T Nov-19	S&T Dec-19	S&T Jan-20	S&T Feb-20	S&T Mar-20	S&T Apr-20	S&T May-20	S&T Jun-20	S&T Jul-19	S&T Aug-19	S&T Total
R-1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
R-3	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
R-4	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Resid.	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
G-41	$ 86,228	$ 251,393	$ 574,879	$ 1,001,492	$ 1,252,697	$ 1,013,688	$ 777,972	$ 344,500	$ 198,291	$ 72,106	$ 56,623	$ 57,853	$ 5,687,720
G-42	$ 124,197	$ 321,175	$ 656,623	$ 1,133,224	$ 1,396,894	$ 1,124,478	$ 885,102	$ 379,483	$ 219,665	$ 76,719	$ 71,985	$ 76,110	$ 6,465,655
G-43	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G-51	$ 31,706	$ 36,934	$ 49,974	$ 64,655	$ 71,322	$ 64,408	$ 49,981	$ 33,236	$ 27,054	$ 23,799	$ 28,177	$ 32,552	$ 513,799
G-52	$ 25,888	$ 34,945	$ 80,890	$ 106,597	$ 122,507	$ 108,106	$ 74,921	$ 46,089	$ 19,614	$ 17,683	$ 21,794	$ 24,118	$ 683,150
G-53	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G-54	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total C/I	**$ 268,019**	**$ 644,446**	**$ 1,362,366**	**$ 2,305,968**	**$ 2,843,419**	**$ 2,310,681**	**$ 1,787,975**	**$ 803,308**	**$ 464,624**	**$ 190,306**	**$ 178,579**	**$ 190,632**	**$ 13,350,324**
Total All	**$ 268,019**	**$ 644,446**	**$ 1,362,366**	**$ 2,305,968**	**$ 2,843,419**	**$ 2,310,681**	**$ 1,787,975**	**$ 803,308**	**$ 464,624**	**$ 190,306**	**$ 178,579**	**$ 190,632**	**$ 13,350,324**

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Uitilities
Revenue Decoupling Adjustment Factor (RDAF)
Actual and Estimated Base Revenue

HEADBLOCK + TAILBLOCK

2019-20 Decoupling Year Weather Normalized Volume Headblock + Tailblock

	S&T Sep-19	S&T Oct-19	S&T Nov-19	S&T Dec-19	S&T Jan-20	S&T Feb-20	S&T Mar-20	S&T Apr-20	S&T May-20	S&T Jun-20	S&T Jul-19	S&T Aug-19	S&T Total
R-1	36,731	48,388	69,360	92,468	104,854	92,558	89,084	67,481	52,537	39,414	33,122	33,964	759,961
R-3	1,280,794	2,898,865	6,121,788	9,184,431	10,850,958	9,128,626	7,762,529	4,580,874	2,576,646	1,261,056	997,806	1,016,132	57,660,505
R-4	93,668	213,998	481,354	694,312	815,920	691,531	582,047	338,974	192,040	94,713	78,973	78,238	4,355,768
Total Resid.	**1,411,193**	**3,161,252**	**6,672,502**	**9,971,211**	**11,771,732**	**9,912,715**	**8,433,660**	**4,987,329**	**2,821,223**	**1,395,183**	**1,109,901**	**1,128,334**	**62,776,234**
G-41	352,570	1,019,478	2,585,337	4,119,695	4,909,051	4,095,694	3,265,706	1,717,780	833,234	301,334	235,403	241,391	23,676,672
G-42	773,089	1,757,544	3,692,064	5,553,890	6,446,739	5,415,399	4,533,996	2,556,844	1,342,821	564,190	502,231	536,086	33,674,892
G-43	340,995	636,413	1,151,415	1,659,544	1,906,071	1,685,067	1,483,942	985,854	612,022	315,153	280,486	298,376	11,355,337
G-51	254,284	286,473	367,513	453,400	487,379	445,509	362,883	263,036	223,219	205,522	231,849	258,468	3,839,535
G-52	589,237	703,342	896,297	1,075,568	1,162,819	1,057,510	823,431	594,942	480,755	467,168	541,763	581,009	8,973,842
G-53	647,891	784,055	911,462	1,063,920	1,182,334	1,094,828	997,437	851,193	671,329	607,780	663,087	697,645	10,172,962
G-54	1,645,786	1,690,625	1,568,828	1,319,924	1,350,879	1,270,260	1,165,460	1,369,310	1,245,619	1,299,608	1,786,988	1,783,439	17,496,726
Total C/I	**4,603,853**	**6,877,930**	**11,172,917**	**15,245,940**	**17,445,273**	**15,064,266**	**12,632,855**	**8,338,958**	**5,408,999**	**3,760,755**	**4,241,806**	**4,396,414**	**109,189,967**
Total All	**6,015,045**	**10,039,182**	**17,845,419**	**25,217,151**	**29,217,005**	**24,976,981**	**21,066,515**	**13,326,287**	**8,230,222**	**5,155,938**	**5,351,707**	**5,524,748**	**171,966,201**

2019-20 Decoupling Year Weather Normalized Volume Headblock + Tailblock Revenue

	S&T Sep-19	S&T Oct-19	S&T Nov-19	S&T Dec-19	S&T Jan-20	S&T Feb-20	S&T Mar-20	S&T Apr-20	S&T May-20	S&T Jun-20	S&T Jul-19	S&T Aug-19	S&T Total
R-1	$ 13,908	$ 18,322	$ 26,263	$ 35,013	$ 39,703	$ 35,047	$ 33,731	$ 25,551	$ 19,893	$ 14,924	$ 12,785	$ 13,110	$ 288,249
R-3	$ 713,256	$ 1,614,337	$ 3,409,139	$ 5,114,682	$ 6,042,748	$ 5,083,604	$ 4,322,844	$ 2,551,025	$ 1,434,898	$ 702,264	$ 566,530	$ 576,935	$ 32,132,263
R-4	$ 52,163	$ 119,173	$ 268,059	$ 386,652	$ 454,374	$ 385,104	$ 324,134	$ 188,770	$ 106,944	$ 52,744	$ 44,839	$ 44,422	$ 2,427,378
Total Resid.	**$ 779,327**	**$ 1,751,832**	**$ 3,703,461**	**$ 5,536,347**	**$ 6,536,825**	**$ 5,503,755**	**$ 4,680,710**	**$ 2,765,346**	**$ 1,561,735**	**$ 769,933**	**$ 624,154**	**$ 634,466**	**$ 34,847,890**
G-41	$ 120,796	$ 348,282	$ 913,838	$ 1,414,431	$ 1,656,454	$ 1,397,378	$ 1,129,007	$ 625,495	$ 288,163	$ 104,019	$ 83,231	$ 85,451	$ 8,166,544
G-42	$ 262,654	$ 577,664	$ 1,222,550	$ 1,766,156	$ 2,009,251	$ 1,712,338	$ 1,461,881	$ 884,350	$ 454,244	$ 198,656	$ 179,115	$ 191,553	$ 10,920,411
G-43	$ 40,278	$ 75,172	$ 297,412	$ 428,662	$ 492,340	$ 435,255	$ 383,304	$ 254,647	$ 72,291	$ 37,225	$ 33,772	$ 35,926	$ 2,586,285
G-51	$ 53,762	$ 59,914	$ 75,468	$ 91,489	$ 97,365	$ 89,424	$ 74,175	$ 55,376	$ 47,613	$ 44,436	$ 50,677	$ 55,882	$ 795,581
G-52	$ 82,441	$ 95,334	$ 173,821	$ 203,811	$ 216,704	$ 198,736	$ 159,386	$ 119,190	$ 68,408	$ 67,521	$ 79,171	$ 84,341	$ 1,548,865
G-53	$ 51,937	$ 62,852	$ 152,403	$ 177,895	$ 197,695	$ 183,063	$ 166,779	$ 142,326	$ 53,815	$ 48,721	$ 54,218	$ 57,044	$ 1,348,749
G-54	$ 56,970	$ 58,522	$ 100,037	$ 84,166	$ 86,140	$ 80,999	$ 74,316	$ 87,315	$ 43,118	$ 44,987	$ 63,037	$ 62,912	$ 842,518
Total C/I	**$ 668,838**	**$ 1,277,740**	**$ 2,935,529**	**$ 4,166,611**	**$ 4,755,950**	**$ 4,097,193**	**$ 3,448,847**	**$ 2,168,699**	**$ 1,027,653**	**$ 545,565**	**$ 543,221**	**$ 573,109**	**$ 26,208,954**
Total All	**$ 1,448,164**	**$ 3,029,573**	**$ 6,638,990**	**$ 9,702,957**	**$ 11,292,774**	**$ 9,600,948**	**$ 8,129,557**	**$ 4,934,045**	**$ 2,589,388**	**$ 1,315,498**	**$ 1,167,374**	**$ 1,207,575**	**$ 61,056,844**

TOTAL REVENUE

2019-20 Decoupling Year Weather Normalized Base Revenue

	S&T Sep-19	S&T Oct-19	S&T Nov-19	S&T Dec-19	S&T Jan-20	S&T Feb-20	S&T Mar-20	S&T Apr-20	S&T May-20	S&T Jun-20	S&T Jul-19	S&T Aug-19	S&T Total
R-1	$ 67,076	$ 73,221	$ 79,512	$ 90,147	$ 94,887	$ 86,774	$ 89,147	$ 79,066	$ 75,125	$ 68,351	$ 68,646	$ 69,101	$ 941,051
R-3	$ 1,815,610	$ 2,759,122	$ 4,522,238	$ 6,274,239	$ 7,205,306	$ 6,173,552	$ 5,489,684	$ 3,681,577	$ 2,602,918	$ 1,821,002	$ 1,723,140	$ 1,733,813	$ 45,802,201
R-4	$ 132,942	$ 205,627	$ 358,351	$ 477,006	$ 544,382	$ 469,058	$ 412,515	$ 272,173	$ 192,234	$ 134,172	$ 133,370	$ 130,808	$ 3,462,639
Total Resid.	**$ 2,015,628**	**$ 3,037,969**	**$ 4,960,101**	**$ 6,841,392**	**$ 7,844,574**	**$ 6,729,384**	**$ 5,991,345**	**$ 4,032,816**	**$ 2,870,278**	**$ 2,023,525**	**$ 1,925,156**	**$ 1,933,722**	**$ 50,205,891**
G-41	$ 620,594	$ 878,823	$ 1,444,929	$ 1,969,594	$ 2,214,338	$ 1,920,364	$ 1,687,938	$ 1,162,782	$ 836,042	$ 618,822	$ 612,431	$ 611,156	$ 14,577,813
G-42	$ 500,881	$ 825,732	$ 1,464,979	$ 2,016,926	$ 2,260,645	$ 1,947,973	$ 1,714,098	$ 1,128,164	$ 705,547	$ 438,613	$ 427,600	$ 442,809	$ 13,873,967
G-43	$ 81,229	$ 118,010	$ 339,791	$ 474,742	$ 538,347	$ 478,311	$ 429,190	$ 298,913	$ 117,766	$ 80,475	$ 77,348	$ 77,258	$ 3,111,380
G-51	$ 127,358	$ 136,168	$ 149,376	$ 167,563	$ 173,294	$ 160,413	$ 150,035	$ 128,555	$ 123,112	$ 116,138	$ 127,978	$ 133,869	$ 1,693,859
G-52	$ 148,768	$ 164,485	$ 241,579	$ 274,288	$ 287,542	$ 265,262	$ 230,500	$ 187,846	$ 139,257	$ 135,495	$ 148,310	$ 154,323	$ 2,377,655
G-53	$ 76,556	$ 88,318	$ 177,048	$ 203,361	$ 223,161	$ 206,887	$ 192,270	$ 166,995	$ 79,306	$ 73,366	$ 80,359	$ 82,195	$ 1,649,823
G-54	$ 76,387	$ 78,586	$ 119,454	$ 104,977	$ 107,747	$ 100,059	$ 95,882	$ 108,225	$ 64,227	$ 65,150	$ 84,686	$ 83,368	$ 1,088,750
Total C/I	**$ 1,631,773**	**$ 2,290,123**	**$ 3,937,157**	**$ 5,211,450**	**$ 5,805,074**	**$ 5,079,268**	**$ 4,499,913**	**$ 3,181,481**	**$ 2,065,257**	**$ 1,528,059**	**$ 1,558,713**	**$ 1,584,978**	**$ 38,373,247**
Total All	**$ 3,647,401**	**$ 5,328,092**	**$ 8,897,257**	**$ 12,052,843**	**$ 13,649,649**	**$ 11,808,652**	**$ 10,491,258**	**$ 7,214,297**	**$ 4,935,535**	**$ 3,551,584**	**$ 3,483,870**	**$ 3,518,700**	**$ 88,579,138**

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities
Revenue Decoupling Adjustment Factor (RDAF)
Benchmark Base Revenue Per Bill

	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
R-1	$ 26.836	$ 26.569	$ 24.831	$ 22.085	$ 21.337	$ 19.929	$ 18.941	$ 18.879	$ 19.225	$ 21.145	$ 24.088	$ 26.084
R-3	$ 91.637	$ 86.534	$ 74.135	$ 46.826	$ 34.276	$ 26.386	$ 23.299	$ 23.420	$ 25.967	$ 37.071	$ 59.623	$ 79.942
R-4	$ 34.483	$ 32.060	$ 29.281	$ 20.168	$ 13.388	$ 10.719	$ 9.417	$ 9.531	$ 10.107	$ 14.329	$ 22.756	$ 30.514
Total Resid.	**$ 85.066**	**$ 80.388**	**$ 69.084**	**$ 43.914**	**$ 32.387**	**$ 25.074**	**$ 22.196**	**$ 22.309**	**$ 24.624**	**$ 34.804**	**$ 55.787**	**$ 74.302**
G-41	$ 217.988	$ 208.299	$ 177.678	$ 122.516	$ 91.502	$ 74.533	$ 68.903	$ 68.518	$ 73.569	$ 93.789	$ 143.811	$ 190.985
G-42	$ 1,300.031	$ 1,204.713	$ 1,014.988	$ 706.475	$ 487.498	$ 360.757	$ 302.305	$ 295.617	$ 356.975	$ 546.685	$ 847.694	$ 1,161.514
G-43	$ 8,941.080	$ 7,869.680	$ 6,762.553	$ 4,422.963	$ 2,161.934	$ 1,506.672	$ 1,300.970	$ 1,336.424	$ 1,601.915	$ 1,557.472	$ 6,759.666	$ 7,741.533
G-51	$ 135.041	$ 130.015	$ 119.578	$ 102.987	$ 97.842	$ 88.558	$ 87.995	$ 88.807	$ 91.459	$ 103.432	$ 119.402	$ 131.365
G-52	$ 683.793	$ 670.448	$ 612.975	$ 531.186	$ 384.169	$ 348.848	$ 352.146	$ 363.849	$ 372.067	$ 445.907	$ 647.457	$ 685.579
G-53	$ 5,549.435	$ 5,616.804	$ 5,487.188	$ 4,794.118	$ 2,604.037	$ 2,206.485	$ 2,187.837	$ 2,390.070	$ 2,391.193	$ 2,938.322	$ 5,391.104	$ 6,608.512
G-54	$ 4,463.989	$ 3,849.630	$ 2,966.031	$ 3,353.478	$ 2,067.260	$ 2,437.013	$ 2,406.224	$ 2,727.255	$ 2,924.536	$ 3,427.331	$ 4,607.744	$ 5,142.091
G-63	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total C/I	**$ 425.330**	**$ 400.240**	**$ 343.318**	**$ 243.051**	**$ 174.729**	**$ 138.106**	**$ 125.504**	**$ 125.814**	**$ 139.632**	**$ 183.779**	**$ 303.762**	**$ 386.269**
Total All	**$ 131.179**	**$ 123.654**	**$ 106.155**	**$ 71.438**	**$ 51.259**	**$ 40.386**	**$ 36.182**	**$ 36.329**	**$ 40.234**	**$ 55.407**	**$ 88.642**	**$ 116.519**

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities
Revenue Decoupling Adjustment Factor (RDAF)
Calculation Of Benchmark Base Revenue Per Bill

SALES AND TRANSPORT DATA

CUSTOMER COMPONENT

EnergyNorth Natural Gas Inc

2016 Customers (Equivalent Bills)

	S&T Jan-16	S&T Feb-16	S&T Mar-16	S&T Apr-16	S&T May-16	S&T Jun-16	S&T Jul-16	S&T Aug-16	S&T Sep-16	S&T Oct-16	S&T Nov-16	S&T Dec-16	S&T Total	S&T Winter	S&T Summer
R-1	3,744	3,378	3,449	4,027	3,010	3,634	3,658	3,457	3,579	4,017	2,993	3,746	42,693	21,338	21,354
R-3	76,501	70,269	71,991	75,178	68,613	73,366	74,096	70,010	70,749	71,998	68,057	74,878	865,706	436,874	428,832
R-4	5,629	5,175	5,301	5,515	5,072	5,405	5,462	5,162	5,214	5,293	5,032	5,519	63,778	32,171	31,607
Total Resid.	**85,874**	**78,822**	**80,741**	**84,721**	**76,695**	**82,405**	**83,216**	**78,628**	**79,542**	**81,308**	**76,081**	**84,144**	**972,177**	**490,383**	**481,794**
G-41	9,712	8,893	9,107	9,817	8,436	9,306	9,383	8,871	8,994	9,400	8,360	9,482	109,763	55,371	54,392
G-42	1,856	1,708	1,749	1,830	1,665	1,783	1,802	1,705	1,723	1,758	1,653	1,820	21,055	10,618	10,437
G-43	51	47	48	49	47	49	50	47	47	47	47	50	579	293	286
G-51	1,435	1,309	1,335	1,484	1,218	1,385	1,399	1,324	1,350	1,453	1,207	1,419	16,319	8,189	8,129
G-52	345	316	323	346	302	331	335	316	320	333	299	338	3,903	1,967	1,936
G-53	34	31	32	33	30	32	33	31	31	32	30	33	382	192	190
G-54	28	25	26	27	25	26	27	25	26	26	25	27	314	159	155
G-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total C/I	**13,462**	**12,330**	**12,621**	**13,587**	**11,723**	**12,912**	**13,030**	**12,318**	**12,492**	**13,050**	**11,620**	**13,169**	**152,314**	**76,789**	**75,525**
Total All	**99,336**	**91,153**	**93,361**	**98,308**	**88,418**	**95,317**	**96,246**	**90,947**	**92,034**	**94,358**	**87,701**	**97,312**	**1,124,491**	**567,172**	**557,319**

7/1/2018 CIBS Rate Customer Charge

	S&T Jan-16	S&T Feb-16	S&T Mar-16	S&T Apr-16	S&T May-16	S&T Jun-16	S&T Jul-16	S&T Aug-16	S&T Sep-16	S&T Oct-16	S&T Nov-16	S&T Dec-16
R-1	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50
R-3	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50	$ 15.50
R-4	$ 6.20	$ 6.20	$ 6.20	$ 6.20	$ 6.20	$ 6.20	$ 6.20	$ 6.20	$ 6.20	$ 6.20	$ 6.20	$ 6.20
G-41	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46
G-42	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39
G-43	$ 739.83	$ 739.83	$ 739.83	$ 739.83	$ 739.83	$ 739.83	$ 739.83	$ 739.83	$ 739.83	$ 739.83	$ 739.83	$ 739.83
G-51	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46	$ 57.46
G-52	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39	$ 172.39
G-53	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39
G-54	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39	$ 761.39
G-63	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2016 Customer Revenue Adjusted

	S&T Jan-16	S&T Feb-16	S&T Mar-16	S&T Apr-16	S&T May-16	S&T Jun-16	S&T Jul-16	S&T Aug-16	S&T Sep-16	S&T Oct-16	S&T Nov-16	S&T Dec-16	S&T Total	S&T Winter	S&T Summer
R-1	$ 58,023	$ 52,352	$ 53,455	$ 62,413	$ 46,651	$ 56,314	$ 56,694	$ 53,565	$ 55,459	$ 62,244	$ 46,379	$ 58,055	$ 661,605	$ 330,678	$ 330,927
R-3	$ 1,185,525	$ 1,088,949	$ 1,115,629	$ 1,165,018	$ 1,063,290	$ 1,136,944	$ 1,148,252	$ 1,084,938	$ 1,096,385	$ 1,115,738	$ 1,054,668	$ 1,160,369	$ 13,415,707	$ 6,770,160	$ 6,645,547
R-4	$ 34,890	$ 32,079	$ 32,858	$ 34,189	$ 31,438	$ 33,502	$ 33,856	$ 31,995	$ 32,322	$ 32,812	$ 31,190	$ 34,214	$ 395,345	$ 199,419	$ 195,926
Total Resid.	**$ 1,278,439**	**$ 1,173,381**	**$ 1,201,941**	**$ 1,261,620**	**$ 1,141,380**	**$ 1,226,760**	**$ 1,238,802**	**$ 1,170,498**	**$ 1,184,166**	**$ 1,210,794**	**$ 1,132,237**	**$ 1,252,638**	**$ 14,472,657**	**$ 7,300,257**	**$ 7,172,400**
G-41	$ 558,084	$ 511,024	$ 523,292	$ 564,100	$ 484,764	$ 534,745	$ 539,177	$ 509,731	$ 516,807	$ 540,154	$ 480,360	$ 544,814	$ 6,307,054	$ 3,181,675	$ 3,125,379
G-42	$ 320,042	$ 294,523	$ 301,501	$ 315,518	$ 287,101	$ 307,382	$ 310,715	$ 293,912	$ 297,116	$ 303,082	$ 285,006	$ 313,822	$ 3,629,719	$ 1,830,413	$ 1,799,307
G-43	$ 37,460	$ 35,019	$ 35,709	$ 36,572	$ 34,451	$ 35,956	$ 36,671	$ 34,772	$ 34,846	$ 35,093	$ 34,525	$ 37,164	$ 428,238	$ 216,450	$ 211,789
G-51	$ 82,484	$ 75,209	$ 76,695	$ 85,269	$ 69,963	$ 79,602	$ 80,409	$ 76,053	$ 77,590	$ 83,497	$ 69,341	$ 81,560	$ 937,672	$ 470,558	$ 467,114
G-52	$ 59,533	$ 54,515	$ 55,688	$ 59,642	$ 52,108	$ 56,982	$ 57,677	$ 54,441	$ 55,176	$ 57,383	$ 51,523	$ 58,188	$ 672,858	$ 339,090	$ 333,768
G-53	$ 25,684	$ 23,476	$ 24,644	$ 25,303	$ 22,537	$ 24,644	$ 25,405	$ 23,933	$ 23,476	$ 24,365	$ 22,461	$ 24,771	$ 290,700	$ 146,340	$ 144,360
G-54	$ 21,370	$ 19,085	$ 20,025	$ 20,913	$ 18,959	$ 19,923	$ 20,710	$ 18,883	$ 19,669	$ 19,746	$ 18,806	$ 20,685	$ 238,773	$ 120,884	$ 117,889
G-63	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total C/I	**$ 1,104,658**	**$ 1,012,851**	**$ 1,037,554**	**$ 1,107,318**	**$ 969,884**	**$ 1,059,234**	**$ 1,070,764**	**$ 1,011,725**	**$ 1,024,681**	**$ 1,063,319**	**$ 962,023**	**$ 1,081,004**	**$ 12,505,014**	**$ 6,305,408**	**$ 6,199,606**
Total All	**$ 2,383,097**	**$ 2,186,232**	**$ 2,239,495**	**$ 2,368,938**	**$ 2,111,264**	**$ 2,285,993**	**$ 2,309,566**	**$ 2,182,224**	**$ 2,208,847**	**$ 2,274,113**	**$ 2,094,260**	**$ 2,333,642**	**$ 26,977,671**	**$ 13,605,664**	**$ 13,372,006**

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities
Revenue Decoupling Adjustment Factor (RDAF)
Calculation Of Benchmark Base Revenue Per Bill

ENERGY COMPONENT

HEADBLOCK

2016 Calendar BF Volume Headblock Normal

	S&T Jan-16	S&T Feb-16	S&T Mar-16	S&T Apr-16	S&T May-16	S&T Jun-16	S&T Jul-16	S&T Aug-16	S&T Sep-16	S&T Oct-16	S&T Nov-16	S&T Dec-16	S&T Total	S&T Winter	S&T Summer
R-1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-3	7,139,879	5,316,981	5,557,488	3,485,317	1,725,221	982,760	818,531	822,089	1,120,449	1,867,511	3,141,159	6,797,961	38,775,346	31,438,785	7,336,561
R-4	519,381	386,713	422,029	288,155	125,345	74,063	63,185	65,653	79,560	139,131	222,013	501,754	2,886,982	2,340,045	546,937
Total Resid.	**7,659,260**	**5,703,694**	**5,979,517**	**3,773,473**	**1,850,565**	**1,056,823**	**881,717**	**887,742**	**1,200,010**	**2,006,642**	**3,363,172**	**7,299,715**	**41,662,328**	**33,778,830**	**7,883,498**
G-41	981,998	691,730	563,845	535,331	228,043	71,114	58,460	55,919	74,205	174,439	405,526	937,790	4,778,399	4,116,219	662,180
G-42	2,031,588	1,457,980	1,213,922	1,228,476	645,358	356,057	294,320	284,129	428,326	761,143	1,135,899	2,037,256	11,874,454	9,105,122	2,769,333
G-43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G-51	121,119	90,722	78,448	85,504	64,381	61,338	63,616	62,434	67,667	98,377	100,631	126,242	1,020,478	602,664	417,814
G-52	375,949	300,295	244,259	264,311	213,712	219,643	236,988	231,776	252,046	345,471	320,210	362,737	3,367,398	1,867,762	1,499,636
G-53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G-54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total C/I	**3,510,653**	**2,540,727**	**2,100,474**	**2,113,622**	**1,151,494**	**708,152**	**653,385**	**634,259**	**822,244**	**1,379,429**	**1,962,266**	**3,464,025**	**21,040,730**	**15,691,767**	**5,348,963**
Total All	**11,169,913**	**8,244,421**	**8,079,991**	**5,887,095**	**3,002,059**	**1,764,975**	**1,535,101**	**1,522,001**	**2,022,254**	**3,386,071**	**5,325,438**	**10,763,739**	**62,703,058**	**49,470,597**	**13,232,461**

7/1/2018 CIBS Rate Headblock Charge

	S&T Jan-16	S&T Feb-16	S&T Mar-16	S&T Apr-16	S&T May-16	S&T Jun-16	S&T Jul-16	S&T Aug-16	S&T Sep-16	S&T Oct-16	S&T Nov-16	S&T Dec-16
R-1	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860
R-3	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678
R-4	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272
G-41	$ 0.4711	$ 0.4711	$ 0.4711	$ 0.4711	$ 0.4711	$ 0.4711	$ 0.4711	$ 0.4711	$ 0.4711	$ 0.4711	$ 0.4711	$ 0.4711
G-42	$ 0.4284	$ 0.4284	$ 0.4284	$ 0.4284	$ 0.4284	$ 0.4284	$ 0.4284	$ 0.4284	$ 0.4284	$ 0.4284	$ 0.4284	$ 0.4284
G-43	$ 0.2633	$ 0.2633	$ 0.2633	$ 0.2633	$ 0.1204	$ 0.1204	$ 0.1204	$ 0.1204	$ 0.1204	$ 0.1204	$ 0.2633	$ 0.2633
G-51	$ 0.2839	$ 0.2839	$ 0.2839	$ 0.2839	$ 0.2839	$ 0.2839	$ 0.2839	$ 0.2839	$ 0.2839	$ 0.2839	$ 0.2839	$ 0.2839
G-52	$ 0.2439	$ 0.2439	$ 0.2439	$ 0.2439	$ 0.1767	$ 0.1767	$ 0.1767	$ 0.1767	$ 0.1767	$ 0.1767	$ 0.2439	$ 0.2439
G-53	$ 0.1705	$ 0.1705	$ 0.1705	$ 0.1705	$ 0.0818	$ 0.0818	$ 0.0818	$ 0.0818	$ 0.0818	$ 0.0818	$ 0.1705	$ 0.1705
G-54	$ 0.0650	$ 0.0650	$ 0.0650	$ 0.0650	$ 0.0353	$ 0.0353	$ 0.0353	$ 0.0353	$ 0.0353	$ 0.0353	$ 0.0650	$ 0.0650
G-63	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2016 Calendar BF Volume Headblock Normal Revenue Adjusted

	S&T Jan-16	S&T Feb-16	S&T Mar-16	S&T Apr-16	S&T May-16	S&T Jun-16	S&T Jul-16	S&T Aug-16	S&T Sep-16	S&T Oct-16	S&T Nov-16	S&T Dec-16	S&T Total	S&T Winter	S&T Summer
R-1	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
R-3	$ 4,053,849	$ 3,018,852	$ 3,155,406	$ 1,978,878	$ 979,538	$ 557,987	$ 464,742	$ 466,762	$ 636,164	$ 1,060,327	$ 1,783,473	$ 3,859,716	$ 22,015,696	$ 17,850,175	$ 4,165,520
R-4	$ 117,978	$ 87,842	$ 95,864	$ 65,455	$ 28,472	$ 16,823	$ 14,353	$ 14,913	$ 18,072	$ 31,604	$ 50,430	$ 113,974	$ 655,781	$ 531,544	$ 124,237
Total Resid.	**$ 4,171,827**	**$ 3,106,695**	**$ 3,251,271**	**$ 2,044,333**	**$ 1,008,010**	**$ 574,810**	**$ 479,095**	**$ 481,675**	**$ 654,236**	**$ 1,091,931**	**$ 1,833,904**	**$ 3,973,690**	**$ 22,671,476**	**$ 18,381,719**	**$ 4,289,758**
G-41	$ 462,643	$ 325,891	$ 265,641	$ 252,208	$ 107,437	$ 33,504	$ 27,542	$ 26,345	$ 34,960	$ 82,182	$ 191,053	$ 441,816	$ 2,251,220	$ 1,939,251	$ 311,969
G-42	$ 870,344	$ 624,608	$ 520,052	$ 526,287	$ 276,475	$ 152,537	$ 126,089	$ 121,723	$ 183,497	$ 326,078	$ 486,626	$ 872,773	$ 5,087,088	$ 3,900,689	$ 1,186,399
G-43	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G-51	$ 34,390	$ 25,759	$ 22,274	$ 24,278	$ 18,280	$ 17,416	$ 18,063	$ 17,727	$ 19,213	$ 27,933	$ 28,573	$ 35,845	$ 289,753	$ 171,120	$ 118,634
G-52	$ 91,683	$ 73,233	$ 59,568	$ 64,458	$ 37,760	$ 38,807	$ 41,872	$ 40,951	$ 44,533	$ 61,039	$ 78,090	$ 88,461	$ 720,456	$ 455,494	$ 264,962
G-53	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G-54	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
G-63	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total C/I	**$ 1,459,061**	**$ 1,049,491**	**$ 867,535**	**$ 867,230**	**$ 439,952**	**$ 242,264**	**$ 213,566**	**$ 206,746**	**$ 282,203**	**$ 497,233**	**$ 784,342**	**$ 1,438,894**	**$ 8,348,517**	**$ 6,466,553**	**$ 1,881,964**
Total All	**$ 5,630,888**	**$ 4,156,185**	**$ 4,118,805**	**$ 2,911,563**	**$ 1,447,962**	**$ 817,075**	**$ 692,660**	**$ 688,421**	**$ 936,439**	**$ 1,589,164**	**$ 2,618,246**	**$ 5,412,585**	**$ 31,019,993**	**$ 24,848,272**	**$ 6,171,721**

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities
Revenue Decoupling Adjustment Factor (RDAF)
Calculation Of Benchmark Base Revenue Per Bill

TAILBLOCK

2016 Calendar BF Volume Tailblock Normal

	S&T Jan-16	S&T Feb-16	S&T Mar-16	S&T Apr-16	S&T May-16	S&T Jun-16	S&T Jul-16	S&T Aug-16	S&T Sep-16	S&T Oct-16	S&T Nov-16	S&T Dec-16	S&T Total	S&T Winter	S&T Summer
R-1	109,996	96,907	83,413	68,737	45,550	41,731	32,647	30,286	34,562	58,775	66,613	102,753	771,970	528,420	243,550
R-3	3,119,161	3,474,753	1,877,559	662,885	544,199	424,297	199,601	154,946	184,169	868,226	2,148,126	1,700,996	15,358,917	12,983,479	2,375,438
R-4	181,473	202,476	116,607	51,040	35,172	33,477	14,188	10,075	10,164	50,330	144,742	89,070	938,814	785,409	153,406
Total Resid.	**3,410,631**	**3,774,137**	**2,077,579**	**782,661**	**624,920**	**499,505**	**246,436**	**195,307**	**228,895**	**977,330**	**2,359,481**	**1,892,819**	**17,069,701**	**14,297,308**	**2,772,393**
G-41	3,464,793	3,209,194	2,620,132	1,221,156	568,010	396,195	252,255	226,710	347,352	819,419	1,677,358	2,604,424	17,406,998	14,797,057	2,609,941
G-42	4,284,517	3,990,148	3,340,431	1,580,599	869,800	642,190	378,544	309,543	471,606	1,162,877	2,206,247	3,250,183	22,486,685	18,652,125	3,834,560
G-43	1,576,852	1,281,510	1,103,870	691,371	549,993	309,521	230,999	232,876	337,225	322,104	1,066,759	1,335,584	9,038,666	7,055,947	1,982,719
G-51	416,903	374,818	328,406	234,413	167,287	138,998	133,588	128,692	144,584	210,511	250,090	374,005	2,902,296	1,978,635	923,660
G-52	522,883	518,846	509,537	367,420	261,424	194,349	181,909	194,285	192,944	298,779	393,396	521,864	4,157,637	2,833,947	1,323,690
G-53	947,496	878,227	897,306	786,200	667,051	572,027	582,094	626,112	614,584	851,962	801,201	1,115,925	9,340,183	5,426,355	3,913,829
G-54	1,597,617	1,190,101	891,409	1,094,537	921,768	1,242,923	1,268,276	1,382,070	1,584,131	1,959,894	1,460,584	1,829,614	16,422,925	8,063,862	8,359,063
G-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total C/I	**12,811,060**	**11,442,845**	**9,691,092**	**5,975,696**	**4,005,332**	**3,496,203**	**3,027,665**	**3,100,288**	**3,692,427**	**5,625,547**	**7,855,635**	**11,031,600**	**81,755,390**	**58,807,927**	**22,947,463**
Total All	**16,221,691**	**15,216,982**	**11,768,671**	**6,758,357**	**4,630,252**	**3,995,708**	**3,274,101**	**3,295,595**	**3,921,321**	**6,602,877**	**10,215,116**	**12,924,419**	**98,825,090**	**73,105,235**	**25,719,855**

7/1/2018 CIBS Rate Tailblock Charge

	S&T Jan-16	S&T Feb-16	S&T Mar-16	S&T Apr-16	S&T May-16	S&T Jun-16	S&T Jul-16	S&T Aug-16	S&T Sep-16	S&T Oct-16	S&T Nov-16	S&T Dec-16
R-1	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860	$ 0.3860
R-3	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678	$ 0.5678
R-4	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272	$ 0.2272
		$ -	$ -	$ -								
		$ -	$ -	$ -								
G-41	$ 0.3165	$ 0.3165	$ 0.3165	$ 0.3165	$ 0.3165	$ 0.3165	$ 0.3165	$ 0.3165	$ 0.3165	$ 0.3165	$ 0.3165	$ 0.3165
G-42	$ 0.2855	$ 0.2855	$ 0.2855	$ 0.2855	$ 0.2855	$ 0.2855	$ 0.2855	$ 0.2855	$ 0.2855	$ 0.2855	$ 0.2855	$ 0.2855
G-43	$ 0.2633	$ 0.2633	$ 0.2633	$ 0.2633	$ 0.1204	$ 0.1204	$ 0.1204	$ 0.1204	$ 0.1204	$ 0.1204	$ 0.2633	$ 0.2633
G-51	$ 0.1846	$ 0.1846	$ 0.1846	$ 0.1846	$ 0.1846	$ 0.1846	$ 0.1846	$ 0.1846	$ 0.1846	$ 0.1846	$ 0.1846	$ 0.1846
G-52	$ 0.1624	$ 0.1624	$ 0.1624	$ 0.1624	$ 0.1004	$ 0.1004	$ 0.1004	$ 0.1004	$ 0.1004	$ 0.1004	$ 0.1624	$ 0.1624
G-53	$ 0.1705	$ 0.1705	$ 0.1705	$ 0.1705	$ 0.0818	$ 0.0818	$ 0.0818	$ 0.0818	$ 0.0818	$ 0.0818	$ 0.1705	$ 0.1705
G-54	$ 0.0650	$ 0.0650	$ 0.0650	$ 0.0650	$ 0.0353	$ 0.0353	$ 0.0353	$ 0.0353	$ 0.0353	$ 0.0353	$ 0.0650	$ 0.0650
G-63	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

2016 Calendar BF Volume Tailblock Normal Revenue Adjusted

	S&T Jan-16	S&T Feb-16	S&T Mar-16	S&T Apr-16	S&T May-16	S&T Jun-16	S&T Jul-16	S&T Aug-16	S&T Sep-16	S&T Oct-16	S&T Nov-16	S&T Dec-16	S&T Total	S&T Winter	S&T Summer
R-1	$ 42,458	$ 37,406	$ 32,197	$ 26,532	$ 17,582	$ 16,108	$ 12,602	$ 11,690	$ 13,341	$ 22,687	$ 25,712	$ 39,662	$ 297,975	$ 203,967	$ 94,009
R-3	$ 1,770,983	$ 1,972,880	$ 1,066,032	$ 376,370	$ 308,983	$ 240,906	$ 113,329	$ 87,974	$ 104,566	$ 492,957	$ 1,219,654	$ 965,784	$ 8,720,418	$ 7,371,703	$ 1,348,716
R-4	$ 41,222	$ 45,993	$ 26,487	$ 11,594	$ 7,989	$ 7,604	$ 3,223	$ 2,289	$ 2,309	$ 11,433	$ 32,878	$ 20,232	$ 213,253	$ 178,406	$ 34,846
Total Resid.	**$ 1,854,663**	**$ 2,056,279**	**$ 1,124,716**	**$ 414,495**	**$ 334,554**	**$ 264,618**	**$ 129,153**	**$ 101,953**	**$ 120,216**	**$ 527,076**	**$ 1,278,244**	**$ 1,025,678**	**$ 9,231,646**	**$ 7,754,076**	**$ 1,477,570**
G-41	$ 1,096,474	$ 1,015,587	$ 829,172	$ 386,449	$ 179,753	$ 125,381	$ 79,829	$ 71,745	$ 109,924	$ 259,315	$ 530,820	$ 824,200	$ 5,508,649	$ 4,682,703	$ 825,947
G-42	$ 1,223,093	$ 1,139,060	$ 953,586	$ 451,210	$ 248,300	$ 183,325	$ 108,062	$ 88,365	$ 134,629	$ 331,964	$ 629,813	$ 927,823	$ 6,419,231	$ 5,324,586	$ 1,094,645
G-43	$ 415,255	$ 337,478	$ 290,698	$ 182,069	$ 66,223	$ 37,268	$ 27,814	$ 28,040	$ 40,604	$ 38,783	$ 280,925	$ 351,719	$ 2,096,875	$ 1,858,143	$ 238,732
G-51	$ 76,976	$ 69,205	$ 60,636	$ 43,281	$ 30,887	$ 25,664	$ 24,665	$ 23,761	$ 26,695	$ 38,868	$ 46,176	$ 69,055	$ 535,870	$ 365,329	$ 170,542
G-52	$ 84,922	$ 84,266	$ 82,754	$ 59,673	$ 26,253	$ 19,517	$ 18,268	$ 19,511	$ 19,376	$ 30,004	$ 63,892	$ 84,756	$ 593,194	$ 460,264	$ 132,930
G-53	$ 161,515	$ 149,707	$ 152,959	$ 134,020	$ 54,542	$ 46,772	$ 47,596	$ 51,195	$ 50,252	$ 69,662	$ 136,577	$ 190,226	$ 1,245,024	$ 925,005	$ 320,019
G-54	$ 103,918	$ 77,411	$ 57,983	$ 71,195	$ 32,516	$ 43,845	$ 44,739	$ 48,753	$ 55,881	$ 69,137	$ 95,005	$ 119,009	$ 819,393	$ 524,521	$ 294,872
G-63	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total C/I	**$ 3,162,153**	**$ 2,872,715**	**$ 2,427,788**	**$ 1,327,898**	**$ 638,475**	**$ 481,772**	**$ 350,973**	**$ 331,370**	**$ 437,361**	**$ 837,733**	**$ 1,783,207**	**$ 2,566,789**	**$ 17,218,236**	**$ 14,140,551**	**$ 3,077,685**
Total All	**$ 5,016,816**	**$ 4,928,994**	**$ 3,552,505**	**$ 1,742,393**	**$ 973,029**	**$ 746,390**	**$ 480,126**	**$ 433,323**	**$ 557,577**	**$ 1,364,810**	**$ 3,061,451**	**$ 3,592,468**	**$ 26,449,882**	**$ 21,894,627**	**$ 4,555,255**

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities
Revenue Decoupling Adjustment Factor (RDAF)
Calculation Of Benchmark Base Revenue Per Bill

HEADBLOCK + TAILBLOCK

2016 Calendar BF Volume Headblock + Tailblock Normal	**S&T Jan-16**	**S&T Feb-16**	**S&T Mar-16**	**S&T Apr-16**	**S&T May-16**	**S&T Jun-16**	**S&T Jul-16**	**S&T Aug-16**	**S&T Sep-16**	**S&T Oct-16**	**S&T Nov-16**	**S&T Dec-16**	**S&T Total**	**S&T Winter**	**S&T Summer**
R-1	109,996	96,907	83,413	68,737	45,550	41,731	32,647	30,286	34,562	58,775	66,613	102,753	771,970	528,420	243,550
R-3	10,259,040	8,791,735	7,435,047	4,148,202	2,269,420	1,407,057	1,018,133	977,035	1,304,618	2,735,736	5,289,285	8,498,956	54,134,262	44,422,264	9,711,998
R-4	700,855	589,190	538,635	339,195	160,517	107,540	77,373	75,728	89,724	189,461	366,755	590,824	3,825,797	3,125,454	700,343
Total Resid.	**11,069,891**	**9,477,832**	**8,057,096**	**4,556,134**	**2,475,486**	**1,556,327**	**1,128,153**	**1,083,049**	**1,428,904**	**2,983,972**	**5,722,653**	**9,192,534**	**58,732,029**	**48,076,138**	**10,655,891**
G-41	4,446,791	3,900,924	3,183,977	1,756,487	796,053	467,309	310,715	282,629	421,557	993,858	2,082,884	3,542,213	22,185,397	18,913,276	3,272,121
G-42	6,316,104	5,448,128	4,554,353	2,809,075	1,515,158	998,247	672,864	593,672	899,932	1,924,020	3,342,146	5,287,439	34,361,139	27,757,246	6,603,893
G-43	1,576,852	1,281,510	1,103,870	691,371	549,993	309,521	230,999	232,876	337,225	322,104	1,066,759	1,335,584	9,038,666	7,055,947	1,982,719
G-51	538,022	465,540	406,853	319,917	231,667	200,336	197,205	191,126	212,251	308,889	350,721	500,246	3,922,774	2,581,299	1,341,474
G-52	898,832	819,141	753,797	631,731	475,136	413,992	418,898	426,061	444,990	644,249	713,606	884,602	7,525,035	4,701,709	2,823,326
G-53	947,496	878,227	897,306	786,200	667,051	572,027	582,094	626,112	614,584	851,962	801,201	1,115,925	9,340,183	5,426,355	3,913,829
G-54	1,597,617	1,190,101	891,409	1,094,537	921,768	1,242,923	1,268,276	1,382,070	1,584,131	1,959,894	1,460,584	1,829,614	16,422,925	8,063,862	8,359,063
G-63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total C/I	**16,321,713**	**13,983,571**	**11,791,566**	**8,089,318**	**5,156,826**	**4,204,356**	**3,681,050**	**3,734,547**	**4,514,671**	**7,004,976**	**9,817,901**	**14,495,625**	**102,796,119**	**74,499,694**	**28,296,426**
Total All	**27,391,604**	**23,461,403**	**19,848,661**	**12,645,452**	**7,632,312**	**5,760,683**	**4,809,203**	**4,817,595**	**5,943,575**	**9,988,948**	**15,540,554**	**23,688,158**	**161,528,148**	**122,575,832**	**38,952,316**

2016 Calendar BF Volume Headblock + Tailblock Normal Revenue Adjusted	**S&T Jan-16**	**S&T Feb-16**	**S&T Mar-16**	**S&T Apr-16**	**S&T May-16**	**S&T Jun-16**	**S&T Jul-16**	**S&T Aug-16**	**S&T Sep-16**	**S&T Oct-16**	**S&T Nov-16**	**S&T Dec-16**	**S&T Total**	**S&T Winter**	**S&T Summer**
R-1	$ 42,458	$ 37,406	$ 32,197	$ 26,532	$ 17,582	$ 16,108	$ 12,602	$ 11,690	$ 13,341	$ 22,687	$ 25,712	$ 39,662	$ 297,975	$ 203,967	$ 94,009
R-3	$ 5,824,832	$ 4,991,733	$ 4,221,438	$ 2,355,248	$ 1,288,521	$ 798,893	$ 578,071	$ 554,736	$ 740,730	$ 1,553,284	$ 3,003,127	$ 4,825,500	$ 30,736,114	$ 25,221,878	$ 5,514,236
R-4	$ 159,200	$ 133,835	$ 122,352	$ 77,048	$ 36,462	$ 24,428	$ 17,575	$ 17,202	$ 20,381	$ 43,036	$ 83,309	$ 134,206	$ 869,034	$ 709,950	$ 159,084
Total Resid.	**$ 6,026,490**	**$ 5,162,973**	**$ 4,375,987**	**$ 2,458,828**	**$ 1,342,564**	**$ 839,428**	**$ 608,248**	**$ 583,628**	**$ 774,452**	**$ 1,619,007**	**$ 3,112,148**	**$ 4,999,368**	**$ 31,903,123**	**$ 26,135,795**	**$ 5,767,328**
G-41	$ 1,559,117	$ 1,341,478	$ 1,094,812	$ 638,657	$ 287,190	$ 158,884	$ 107,371	$ 98,090	$ 144,883	$ 341,497	$ 721,873	$ 1,266,016	$ 7,759,869	$ 6,621,953	$ 1,137,916
G-42	$ 2,093,437	$ 1,763,667	$ 1,473,638	$ 977,497	$ 524,775	$ 335,862	$ 234,151	$ 210,087	$ 318,126	$ 658,042	$ 1,116,439	$ 1,800,596	$ 11,506,318	$ 9,225,275	$ 2,281,043
G-43	$ 415,255	$ 337,478	$ 290,698	$ 182,069	$ 66,223	$ 37,268	$ 27,814	$ 28,040	$ 40,604	$ 38,783	$ 280,925	$ 351,719	$ 2,096,875	$ 1,858,143	$ 238,732
G-51	$ 111,366	$ 94,965	$ 82,910	$ 67,559	$ 49,167	$ 43,080	$ 42,728	$ 41,489	$ 45,909	$ 66,801	$ 74,749	$ 104,900	$ 825,623	$ 536,448	$ 289,175
G-52	$ 176,605	$ 157,500	$ 142,322	$ 124,131	$ 64,013	$ 58,325	$ 60,140	$ 60,462	$ 63,909	$ 91,044	$ 141,982	$ 173,218	$ 1,313,650	$ 915,758	$ 397,892
G-53	$ 161,515	$ 149,707	$ 152,959	$ 134,020	$ 54,542	$ 46,772	$ 47,596	$ 51,195	$ 50,252	$ 69,662	$ 136,577	$ 190,226	$ 1,245,024	$ 925,005	$ 320,019
G-54	$ 103,918	$ 77,411	$ 57,983	$ 71,195	$ 32,516	$ 43,845	$ 44,739	$ 48,753	$ 55,881	$ 69,137	$ 95,005	$ 119,009	$ 819,393	$ 524,521	$ 294,872
G-63	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total C/I	**$ 4,621,214**	**$ 3,922,206**	**$ 3,295,323**	**$ 2,195,127**	**$ 1,078,426**	**$ 724,037**	**$ 564,539**	**$ 538,116**	**$ 719,564**	**$ 1,334,966**	**$ 2,567,549**	**$ 4,005,684**	**$ 25,566,752**	**$ 20,607,104**	**$ 4,959,649**
Total All	**$ 10,647,704**	**$ 9,085,179**	**$ 7,671,310**	**$ 4,653,956**	**$ 2,420,991**	**$ 1,563,465**	**$ 1,172,787**	**$ 1,121,744**	**$ 1,494,016**	**$ 2,953,973**	**$ 5,679,697**	**$ 9,005,052**	**$ 57,469,875**	**$ 46,742,898**	**$ 10,726,977**

TOTAL REVENUE

2016 Calendar BF Base Normal Revenue Adjusted	**S&T Jan-16**	**S&T Feb-16**	**S&T Mar-16**	**S&T Apr-16**	**S&T May-16**	**S&T Jun-16**	**S&T Jul-16**	**S&T Aug-16**	**S&T Sep-16**	**S&T Oct-16**	**S&T Nov-16**	**S&T Dec-16**	**S&T Total**	**S&T Winter**	**S&T Summer**
R-1	$ 100,481	$ 89,758	$ 85,652	$ 88,945	$ 64,233	$ 72,421	$ 69,296	$ 65,255	$ 68,800	$ 84,930	$ 72,092	$ 97,717	$ 959,580	$ 534,645	$ 424,936
R-3	$ 7,010,358	$ 6,080,682	$ 5,337,067	$ 3,520,266	$ 2,351,811	$ 1,935,837	$ 1,726,323	$ 1,639,675	$ 1,837,115	$ 2,669,022	$ 4,057,795	$ 5,985,869	$ 44,151,821	$ 31,992,038	$ 12,159,783
R-4	$ 194,090	$ 165,914	$ 155,209	$ 111,237	$ 67,900	$ 57,930	$ 51,432	$ 49,197	$ 52,703	$ 75,849	$ 114,499	$ 168,420	$ 1,264,378	$ 909,369	$ 355,010
Total Resid.	**$ 7,304,929**	**$ 6,336,354**	**$ 5,577,928**	**$ 3,720,449**	**$ 2,483,945**	**$ 2,066,188**	**$ 1,847,050**	**$ 1,754,126**	**$ 1,958,618**	**$ 2,829,802**	**$ 4,244,385**	**$ 6,252,006**	**$ 46,375,779**	**$ 33,436,051**	**$ 12,939,728**
G-41	$ 2,117,202	$ 1,852,502	$ 1,618,104	$ 1,202,757	$ 771,954	$ 693,630	$ 646,548	$ 607,821	$ 661,691	$ 881,651	$ 1,202,233	$ 1,810,830	$ 14,066,923	$ 9,803,628	$ 4,263,295
G-42	$ 2,413,479	$ 2,058,190	$ 1,775,139	$ 1,293,015	$ 811,876	$ 643,244	$ 544,866	$ 503,999	$ 615,241	$ 961,124	$ 1,401,445	$ 2,114,419	$ 15,136,038	$ 11,055,688	$ 4,080,350
G-43	$ 452,715	$ 372,497	$ 326,407	$ 218,641	$ 100,674	$ 73,224	$ 64,485	$ 62,812	$ 75,450	$ 73,876	$ 315,450	$ 388,883	$ 2,525,114	$ 2,074,593	$ 450,521
G-51	$ 193,850	$ 170,173	$ 159,605	$ 152,829	$ 119,131	$ 122,683	$ 123,137	$ 117,542	$ 123,499	$ 150,298	$ 144,090	$ 186,459	$ 1,763,295	$ 1,007,006	$ 756,289
G-52	$ 236,138	$ 212,015	$ 198,011	$ 183,773	$ 116,121	$ 115,306	$ 117,817	$ 114,903	$ 119,085	$ 148,427	$ 193,504	$ 231,406	$ 1,986,507	$ 1,254,847	$ 731,660
G-53	$ 187,199	$ 173,183	$ 177,603	$ 159,323	$ 77,079	$ 71,416	$ 73,001	$ 75,128	$ 73,729	$ 94,026	$ 159,038	$ 214,997	$ 1,535,724	$ 1,071,344	$ 464,379
G-54	$ 125,288	$ 96,497	$ 78,007	$ 92,108	$ 51,475	$ 63,768	$ 65,449	$ 67,636	$ 75,551	$ 88,882	$ 113,812	$ 139,694	$ 1,058,166	$ 645,405	$ 412,761
G-63	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total C/I	**$ 5,725,872**	**$ 4,935,057**	**$ 4,332,877**	**$ 3,302,445**	**$ 2,048,310**	**$ 1,783,271**	**$ 1,635,303**	**$ 1,549,841**	**$ 1,744,245**	**$ 2,398,285**	**$ 3,529,573**	**$ 5,086,688**	**$ 38,071,767**	**$ 26,912,512**	**$ 11,159,255**
Total All	**$ 13,030,801**	**$ 11,271,411**	**$ 9,910,805**	**$ 7,022,894**	**$ 4,532,255**	**$ 3,849,458**	**$ 3,482,353**	**$ 3,303,968**	**$ 3,702,863**	**$ 5,228,086**	**$ 7,773,958**	**$ 11,338,694**	**$ 84,447,546**	**$ 60,348,563**	**$ 24,098,983**
Total Vol	27,391,604	23,461,403	19,848,661	12,645,452	7,632,312	5,760,683	4,809,203	4,817,595	5,943,575	9,988,948	15,540,554	23,688,158	161,528,148	122,575,832	38,952,316
Unit Rate	$ 0.0113	$ 0.0113	$ 0.0113	$ 0.0113	$ 0.0113	$ 0.0113	$ 0.0113	$ 0.0113	$ 0.0113	$ 0.0113	$ 0.0113	$ 0.0113	$ 0.0113	$ 0.0113	$ 0.0113
R-4 @ R-3	**$ 308,703**	**$ 264,409**	**$ 223,694**	**$ 142,514**	**$ 86,016**	**$ 64,923**	**$ 54,200**	**$ 54,294**	**$ 66,984**	**$ 112,575**	**$ 175,142**	**$ 266,965**	**$ 1,820,418**	**$ 1,381,426**	**$ 438,991**
Grand TTL	**$ 13,339,503**	**$ 11,535,821**	**$ 10,134,499**	**$ 7,165,408**	**$ 4,618,271**	**$ 3,914,381**	**$ 3,536,552**	**$ 3,358,262**	**$ 3,769,847**	**$ 5,340,662**	**$ 7,949,099**	**$ 11,605,659**	**$ 86,267,964**	**$ 61,729,989**	**$ 24,537,975**

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities
Revenue Decoupling Adjustment Factor (RDAF)
Calculation Of Benchmark Base Revenue Per Bill

Base Revenue Per Customer

	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T
	Jan-16	**Feb-16**	**Mar-16**	**Apr-16**	**May-16**	**Jun-16**	**Jul-16**	**Aug-16**	**Sep-16**	**Oct-16**	**Nov-16**	**Dec-16**
R-1	$ 26.836	$ 26.569	$ 24.831	$ 22.085	$ 21.337	$ 19.929	$ 18.941	$ 18.879	$ 19.225	$ 21.145	$ 24.088	$ 26.084
R-3	$ 91.637	$ 86.534	$ 74.135	$ 46.826	$ 34.276	$ 26.386	$ 23.299	$ 23.420	$ 25.967	$ 37.071	$ 59.623	$ 79.942
R-4	$ 34.483	$ 32.060	$ 29.281	$ 20.168	$ 13.388	$ 10.719	$ 9.417	$ 9.531	$ 10.107	$ 14.329	$ 22.756	$ 30.514
Total Resid.	**$ 85.066**	**$ 80.388**	**$ 69.084**	**$ 43.914**	**$ 32.387**	**$ 25.074**	**$ 22.196**	**$ 22.309**	**$ 24.624**	**$ 34.804**	**$ 55.787**	**$ 74.302**
G-41	$ 217.988	$ 208.299	$ 177.678	$ 122.516	$ 91.502	$ 74.533	$ 68.903	$ 68.518	$ 73.569	$ 93.789	$ 143.811	$ 190.985
G-42	$ 1,300.031	$ 1,204.713	$ 1,014.988	$ 706.475	$ 487.498	$ 360.757	$ 302.305	$ 295.617	$ 356.975	$ 546.685	$ 847.694	$ 1,161.514
G-43	$ 8,941.080	$ 7,869.680	$ 6,762.553	$ 4,422.963	$ 2,161.934	$ 1,506.672	$ 1,300.970	$ 1,336.424	$ 1,601.915	$ 1,557.472	$ 6,759.666	$ 7,741.533
G-51	$ 135.041	$ 130.015	$ 119.578	$ 102.987	$ 97.842	$ 88.558	$ 87.995	$ 88.807	$ 91.459	$ 103.432	$ 119.402	$ 131.365
G-52	$ 683.793	$ 670.448	$ 612.975	$ 531.186	$ 384.169	$ 348.848	$ 352.146	$ 363.849	$ 372.067	$ 445.907	$ 647.457	$ 685.579
G-53	$ 5,549.435	$ 5,616.804	$ 5,487.188	$ 4,794.118	$ 2,604.037	$ 2,206.485	$ 2,187.837	$ 2,390.070	$ 2,391.193	$ 2,938.322	$ 5,391.104	$ 6,608.512
G-54	$ 4,463.989	$ 3,849.630	$ 2,966.031	$ 3,353.478	$ 2,067.260	$ 2,437.013	$ 2,406.224	$ 2,727.255	$ 2,924.536	$ 3,427.331	$ 4,607.744	$ 5,142.091
G-63	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total C/I	**$ 425.330**	**$ 400.240**	**$ 343.318**	**$ 243.051**	**$ 174.729**	**$ 138.106**	**$ 125.504**	**$ 125.814**	**$ 139.632**	**$ 183.779**	**$ 303.762**	**$ 386.269**
Total All	**$ 131.179**	**$ 123.654**	**$ 106.155**	**$ 71.438**	**$ 51.259**	**$ 40.386**	**$ 36.182**	**$ 36.329**	**$ 40.234**	**$ 55.407**	**$ 88.642**	**$ 116.519**

Base Fixed Revenue Per Customer

	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T
	Jan-16	**Feb-16**	**Mar-16**	**Apr-16**	**May-16**	**Jun-16**	**Jul-16**	**Aug-16**	**Sep-16**	**Oct-16**	**Nov-16**	**Dec-16**
R-1	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497
R-3	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497	$ 15.497
R-4	$ 6.199	$ 6.199	$ 6.199	$ 6.199	$ 6.199	$ 6.199	$ 6.199	$ 6.199	$ 6.199	$ 6.199	$ 6.199	$ 6.199
Total Resid.	**$ 14.887**	**$ 14.886**	**$ 14.886**	**$ 14.892**	**$ 14.882**	**$ 14.887**	**$ 14.887**	**$ 14.886**	**$ 14.887**	**$ 14.892**	**$ 14.882**	**$ 14.887**
G-41	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461
G-42	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392
G-43	$ 739.831	$ 739.831	$ 739.831	$ 739.831	$ 739.831	$ 739.831	$ 739.831	$ 739.831	$ 739.831	$ 739.831	$ 739.831	$ 739.831
G-51	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461	$ 57.461
G-52	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392	$ 172.392
G-53	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394
G-54	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394	$ 761.394
G-63	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total C/I	**$ 82.056**	**$ 82.144**	**$ 82.211**	**$ 81.496**	**$ 82.735**	**$ 82.033**	**$ 82.178**	**$ 82.131**	**$ 82.029**	**$ 81.481**	**$ 82.794**	**$ 82.088**
Total All	**$ 23.990**	**$ 23.984**	**$ 23.987**	**$ 24.097**	**$ 23.878**	**$ 23.983**	**$ 23.996**	**$ 23.995**	**$ 24.000**	**$ 24.101**	**$ 23.880**	**$ 23.981**

Base Variable Revenue Per Customer

	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T	S&T
	Jan-16	**Feb-16**	**Mar-16**	**Apr-16**	**May-16**	**Jun-16**	**Jul-16**	**Aug-16**	**Sep-16**	**Oct-16**	**Nov-16**	**Dec-16**
R-1	$ 11.340	$ 11.072	$ 9.334	$ 6.588	$ 5.840	$ 4.433	$ 3.445	$ 3.382	$ 3.728	$ 5.648	$ 8.591	$ 10.587
R-3	$ 76.140	$ 71.037	$ 58.639	$ 31.329	$ 18.779	$ 10.889	$ 7.802	$ 7.924	$ 10.470	$ 21.574	$ 44.127	$ 64.445
R-4	$ 28.284	$ 25.861	$ 23.082	$ 13.970	$ 7.189	$ 4.520	$ 3.218	$ 3.333	$ 3.909	$ 8.130	$ 16.557	$ 24.315
Total Resid.	**$ 70.178**	**$ 65.501**	**$ 54.198**	**$ 29.023**	**$ 17.505**	**$ 10.187**	**$ 7.309**	**$ 7.423**	**$ 9.736**	**$ 19.912**	**$ 40.905**	**$ 59.415**
G-41	$ 160.528	$ 150.839	$ 120.217	$ 65.055	$ 34.042	$ 17.073	$ 11.443	$ 11.057	$ 16.109	$ 36.328	$ 86.350	$ 133.525
G-42	$ 1,127.639	$ 1,032.321	$ 842.595	$ 534.083	$ 315.106	$ 188.365	$ 129.913	$ 123.225	$ 184.583	$ 374.293	$ 675.302	$ 989.122
G-43	$ 8,201.249	$ 7,129.848	$ 6,022.722	$ 3,683.132	$ 1,422.103	$ 766.841	$ 561.139	$ 596.593	$ 862.083	$ 817.640	$ 6,019.834	$ 7,001.702
G-51	$ 77.580	$ 72.554	$ 62.117	$ 45.526	$ 40.381	$ 31.097	$ 30.534	$ 31.346	$ 33.999	$ 45.971	$ 61.942	$ 73.904
G-52	$ 511.401	$ 498.055	$ 440.583	$ 358.794	$ 211.776	$ 176.456	$ 179.754	$ 191.457	$ 199.675	$ 273.515	$ 475.064	$ 513.187
G-53	$ 4,788.041	$ 4,855.409	$ 4,725.794	$ 4,032.724	$ 1,842.643	$ 1,445.091	$ 1,426.442	$ 1,628.676	$ 1,629.799	$ 2,176.928	$ 4,629.709	$ 5,847.118
G-54	$ 3,702.594	$ 3,088.236	$ 2,204.637	$ 2,592.083	$ 1,305.866	$ 1,675.619	$ 1,644.829	$ 1,965.861	$ 2,163.142	$ 2,665.936	$ 3,846.349	$ 4,380.696
G-63	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total C/I	**$ 343.273**	**$ 318.096**	**$ 261.107**	**$ 161.555**	**$ 91.994**	**$ 56.073**	**$ 43.327**	**$ 43.684**	**$ 57.603**	**$ 102.297**	**$ 220.968**	**$ 304.180**
Total All	**$ 107.189**	**$ 99.670**	**$ 82.168**	**$ 47.340**	**$ 27.381**	**$ 16.403**	**$ 12.185**	**$ 12.334**	**$ 16.233**	**$ 31.306**	**$ 64.762**	**$ 92.538**

Liberty Utilities (Energy North Natural Gas) Corp. d/b/a Liberty Utilities
Revenue Decoupling Adjustment Factor (RDAF)
Calculation Of Benchmark Base Revenue Per Bill

Base Variable Revenue Per Therm

	S&T Jan-16	S&T Feb-16	S&T Mar-16	S&T Apr-16	S&T May-16	S&T Jun-16	S&T Jul-16	S&T Aug-16	S&T Sep-16	S&T Oct-16	S&T Nov-16	S&T Dec-16
R-1	$ 0.38599	$ 0.38599	$ 0.38599	$ 0.38599	$ 0.38599	$ 0.38599	$ 0.38599	$ 0.38599	$ 0.38599	$ 0.38599	$ 0.38599	$ 0.38599
R-3	$ 0.56778	$ 0.56778	$ 0.56778	$ 0.56778	$ 0.56778	$ 0.56778	$ 0.56778	$ 0.56778	$ 0.56778	$ 0.56778	$ 0.56778	$ 0.56778
R-4	$ 0.22715	$ 0.22715	$ 0.22715	$ 0.22715	$ 0.22715	$ 0.22715	$ 0.22715	$ 0.22715	$ 0.22715	$ 0.22715	$ 0.22715	$ 0.22715
Total Resid.	**$ 0.54440**	**$ 0.54474**	**$ 0.54312**	**$ 0.53967**	**$ 0.54234**	**$ 0.53936**	**$ 0.53915**	**$ 0.53888**	**$ 0.54199**	**$ 0.54257**	**$ 0.54383**	**$ 0.54385**
G-41	$ 0.35062	$ 0.34389	$ 0.34385	$ 0.36360	$ 0.36077	$ 0.34000	$ 0.34556	$ 0.34706	$ 0.34369	$ 0.34361	$ 0.34657	$ 0.35741
G-42	$ 0.33144	$ 0.32372	$ 0.32357	$ 0.34798	$ 0.34635	$ 0.33645	$ 0.34799	$ 0.35388	$ 0.35350	$ 0.34201	$ 0.33405	$ 0.34054
G-43	$ 0.26334	$ 0.26334	$ 0.26334	$ 0.26334	$ 0.12041	$ 0.12041	$ 0.12041	$ 0.12041	$ 0.12041	$ 0.12041	$ 0.26334	$ 0.26334
G-51	$ 0.20699	$ 0.20399	$ 0.20378	$ 0.21118	$ 0.21223	$ 0.21504	$ 0.21667	$ 0.21708	$ 0.21629	$ 0.21626	$ 0.21313	$ 0.20970
G-52	$ 0.19648	$ 0.19227	$ 0.18881	$ 0.19649	$ 0.13473	$ 0.14088	$ 0.14357	$ 0.14191	$ 0.14362	$ 0.14132	$ 0.19896	$ 0.19581
G-53	$ 0.17047	$ 0.17047	$ 0.17047	$ 0.17047	$ 0.08177	$ 0.08177	$ 0.08177	$ 0.08177	$ 0.08177	$ 0.08177	$ 0.17047	$ 0.17047
G-54	$ 0.06505	$ 0.06505	$ 0.06505	$ 0.06505	$ 0.03528	$ 0.03528	$ 0.03528	$ 0.03528	$ 0.03528	$ 0.03528	$ 0.06505	$ 0.06505
G-63	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total C/I	**$ 0.28313**	**$ 0.28049**	**$ 0.27946**	**$ 0.27136**	**$ 0.20913**	**$ 0.17221**	**$ 0.15336**	**$ 0.14409**	**$ 0.15938**	**$ 0.19057**	**$ 0.26152**	**$ 0.27634**
Total All	**$ 0.38872**	**$ 0.38724**	**$ 0.38649**	**$ 0.36803**	**$ 0.31720**	**$ 0.27140**	**$ 0.24386**	**$ 0.23284**	**$ 0.25137**	**$ 0.29572**	**$ 0.36548**	**$ 0.38015**

Use Per Customer

	S&T Jan-16	S&T Feb-16	S&T Mar-16	S&T Apr-16	S&T May-16	S&T Jun-16	S&T Jul-16	S&T Aug-16	S&T Sep-16	S&T Oct-16	S&T Nov-16	S&T Dec-16
R-1	29.4	28.7	24.2	17.1	15.1	11.5	8.9	8.8	9.7	14.6	22.3	27.4
R-3	134.1	125.1	103.3	55.2	33.1	19.2	13.7	14.0	18.4	38.0	77.7	113.5
R-4	124.5	113.9	101.6	61.5	31.6	19.9	14.2	14.7	17.2	35.8	72.9	107.0
Total Resid.	**128.9**	**120.2**	**99.8**	**53.8**	**32.3**	**18.9**	**13.6**	**13.8**	**18.0**	**36.7**	**75.2**	**109.2**
G-41	457.8	438.6	349.6	178.9	94.4	50.2	33.1	31.9	46.9	105.7	249.2	373.6
G-42	3,402.2	3,188.9	2,604.1	1,534.8	909.8	559.9	373.3	348.2	522.2	1,094.4	2,021.6	2,904.6
G-43	31,142.7	27,074.2	22,870.1	13,986.0	11,810.9	6,368.8	4,660.4	4,954.8	7,159.8	6,790.7	22,859.2	26,587.6
G-51	374.8	355.7	304.8	215.6	190.3	144.6	140.9	144.4	157.2	212.6	290.6	352.4
G-52	2,602.8	2,590.3	2,333.5	1,826.0	1,571.9	1,252.5	1,252.1	1,349.1	1,390.3	1,935.5	2,387.7	2,620.8
G-53	28,088.1	28,483.3	27,722.9	23,657.2	22,535.5	17,673.4	17,445.4	19,918.7	19,932.4	26,623.8	27,159.3	34,300.9
G-54	56,922.8	47,477.8	33,893.5	39,850.0	37,018.9	47,500.7	46,627.8	55,728.5	61,321.0	75,574.3	59,132.8	67,347.7
G-63	-	-	-	-	-	-	-	-	-	-	-	-
Total C/I	**1,212.4**	**1,134.1**	**934.3**	**595.4**	**439.9**	**325.6**	**282.5**	**303.2**	**361.4**	**536.8**	**844.9**	**1,100.8**
Total All	**275.7**	**257.4**	**212.6**	**128.6**	**86.3**	**60.4**	**50.0**	**53.0**	**64.6**	**105.9**	**177.2**	**243.4**

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Energy Efficiency Programs
For Residential Non-Heating and Heating Classes
November 1, 2020 - October 31, 2021
Energy Efficiency Charge

Month	Actual or Forecast	Beginning Balance (Over)/Under	Residential DSM Rate Per Therm	DSM Collections	Forecasted DSM Expenditures	Actual DSM Expenditures Residential	Actual DSM Expenditures Low-Income	Incentive	Ending Balance (Over)/Under	Average Balance (Over)/Under	Interest Monthly Federal Prime Rate	Interest @ Fed Reserve Bank Loan Rate	Ending Bal. Plus Interest (Over)/Under	Forecasted Residential Therm Sales	Residential Therm Sales	# of Days
May 20	Actual	(110,032)	($0.0640)	(308,762)	316,259	109,664	57,347	15,562	(236,221)	(173,126)	3.25%	(1,204)	(237,425)	4,066,455	4,824,165	31
June 20	Actual	(237,425)	($0.0640)	(140,008)	316,259	229,611	9,424	15,562	(122,836)	(180,131)	3.25%	(1,207)	(124,043)	1,969,131	2,187,747	30
July 20	Forecast	(124,043)	($0.0640)	(71,801)	316,259	0	0	0	120,415	(1,814)	3.25%	(5)	120,410	1,121,890		31
August 20	Forecast	120,410	($0.0640)	(69,431)	316,259	0	0	0	367,239	243,825	3.25%	673	367,912	1,084,856	0	31
September 20	Forecast	367,912	($0.0640)	(102,761)	316,259	0	0	0	581,411	474,661	3.25%	1,268	582,679	1,605,635	0	30
October 20	Forecast	582,679	($0.0640)	(181,622)	316,259	0	0	0	717,316	649,997	3.25%	1,794	719,110	2,837,843	0	31
November 20	Forecast	719,110	($0.0831)	(573,541)	316,259	0	0	0	461,828	590,469	3.25%	1,577	463,405	6,901,820	0	30
December 20	Forecast	463,405	($0.0831)	(835,401)	316,259	0	0	0	(55,736)	203,835	3.25%	563	(55,173)	10,052,958	0	31
January 21	Forecast	(55,173)	($0.0831)	(960,762)	398,237	0	0	0	(617,698)	(336,436)	3.25%	(929)	(618,627)	11,561,514	0	31
February 21	Forecast	(618,627)	($0.0831)	(750,240)	398,237	0	0	0	(970,630)	(794,628)	3.25%	(1,981)	(972,611)	9,028,156	0	28
March 21	Forecast	(972,611)	($0.0831)	(727,444)	398,237	0	0	0	(1,301,819)	(1,137,215)	3.25%	(3,139)	(1,304,958)	8,753,844	0	31
April 21	Forecast	(1,304,958)	($0.0831)	(432,798)	398,237	0	0	0	(1,339,519)	(1,322,238)	3.25%	(3,532)	(1,343,051)	5,208,158	0	30
May 21	Forecast	(1,343,051)	($0.0831)	(241,118)	398,237	0	0	0	(1,185,932)	(1,264,492)	3.25%	(3,490)	(1,189,423)	2,901,545	0	31
June 21	Forecast	(1,189,423)	($0.0831)	(109,497)	398,237	0	0	0	(900,683)	(1,045,053)	3.25%	(2,792)	(903,475)	1,317,656	0	30
July 21	Forecast	(903,475)	($0.0831)	(80,574)	398,237	0	0	0	(585,812)	(744,643)	3.25%	(2,055)	(587,867)	969,602	0	31
August 21	Forecast	(587,867)	($0.0831)	(82,771)	398,237	0	0	0	(272,401)	(430,134)	3.25%	(1,187)	(273,588)	996,041	0	31
September 21	Forecast	(273,588)	($0.0831)	(149,205)	398,237	0	0	0	(24,556)	(149,072)	3.25%	(398)	(24,955)	1,795,484	0	30
October 21	Forecast	(24,955)	($0.0831)	(370,009)	398,237	0	0	0	3,273	(10,841)	3.25%	(30)	3,243	4,452,576	0	31
November 21	Forecast	3,243	($0.0831)	(573,541)	398,237	0	0	0	(172,061)	(84,409)	3.25%	(225)	(172,287)	6,901,820	0	30
December 21	Forecast	(172,287)	($0.0831)	(835,401)	398,237	0	0	0	(609,451)	(390,869)	3.25%	(1,079)	(610,529)	10,052,958	0	31

Estimated Residential Conservation Charge Effective November 1, 2020 - October 31, 2021		
Beginning Balance	$	719,110
Program Budget Nov 2020-Oct 2021		**4,614,887**
Projected Interest		(17,532)
Projected Budget with Interest	$	5,316,465
Total Charges	**$**	**5,316,465**
Projected Therm Sales		**63,939,354**
Residential Rate		**$0.0831**
Total Charges with Interest	**$**	**5,316,465**
Projected Therm Sales		**63,939,354**
Residential Rate		**$0.0831**

Residential Non Heating Therm Sales	0%	**711,615**	**699,327**	0%
Residential Heating Therm Sales	34%	**63,227,739**	**63,382,533**	36%
C&I Therm Sales	66%	**121,652,799**	**112,542,801**	64%
Total Therms	100%	**185,592,152**	**176,624,661**	100%
		Budget **2020**	Budget **2021**	
Low-Income Program Budget		**$ 1,676,441**	**$ 1,523,570**	
Other Refund		-	-	
Total Shared Budget		**$ 1,676,441**	**$ 1,523,570**	
Residential Program Budget		**$ 2,962,415**	**$ 3,926,326**	
Residential Program Incentive		**$ 255,137**	**$ 299,744**	
Total Residential Program Budget		**$ 3,217,552**	**$ 4,226,070**	
Commercial/Industrial Program Budget		**$ 4,083,759**	**$ 3,512,260**	
Commercial/Industrial Program Incentive		**$ 224,607**	**$ 193,174**	
Total Commercial/Industrial Program Budget		**$ 4,308,366**	**$ 3,705,434**	
Total Program Budget		**$ 9,202,359**	**$ 9,455,074**	
Shared Expenses Allocation to Residential		$ 577,560	$ 552,772	
Shared Expenses Allocation to C&I		1,098,881	970,798	
Total Allocated Shared Expenses		**$ 1,676,441**	**$ 1,523,570**	
Total Residential (including allocation of Shared Budget)		$ 3,795,112	$ 4,778,842	
Total C&I (including allocation of Shared Budget)		5,407,247	4,676,232	
Total Budget		**$ 9,202,359**	**$ 9,455,074**	

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Energy Efficiency Programs
For Commercial/Industrial Classes
November 1, 2020 - October 31, 2021
Energy Efficiency Charge

Month	Actual or Forecast	Beginning Balance (Over)/Under	DSM Rate Per Therm	DSM Collections	Forecasted DSM Expenditures	Actual DSM Expenditures		Incentive	Ending Balance (Over)/Under	Average Balance (Over)/Under	Interest Fed Reserve Prime Rate	Interest @ Fed Reserve Bank Loan Rate	Ending Bal. Plus Interest (Over)/Under	Forecasted Commercial/ Industrial Therm Sales	Actual Commercial/ Industrial Therm Sales	# of Days
						C&I	Low-Income									
May 20	Actual	(628,844)	($0.0426)	(349,588)	455,607	177,056	76,019	14,422	(710,935)	(669,889)	3.25%	(1,116)	(712,051)	8,443,740	8,205,951	31
June 20	Actual	(712,051)	($0.0426)	(216,372)	455,607	227,776	12,493	14,422	(673,733)	(692,892)	3.25%	(1,119)	(674,851)	5,816,016	5,079,339	30
July 20	Forecast	(674,851)	($0.0426)	(188,185)	455,607	0	0		(407,429)	(541,140)	3.25%	(1,494)	(408,923)	4,417,480	0	31
August 20	Forecast	(408,923)	($0.0426)	(183,699)	455,607	0	0		(137,015)	(272,969)	3.25%	(753)	(137,768)	4,312,181	0	31
September 20	Forecast	(137,768)	($0.0426)	(203,791)	455,607	0	0		114,047	(11,861)	3.25%	(32)	114,015	4,783,833	0	30
October 20	Forecast	114,015	($0.0426)	(270,127)	455,607	0	0		299,495	206,755	3.25%	571	300,066	6,340,998	0	31
November 20	Forecast	300,066	($0.0441)	(504,827)	455,607	0	0		250,846	275,456	3.25%	736	251,582	11,447,324	0	30
December 20	Forecast	251,582	($0.0441)	(678,482)	455,607	0	0		28,707	140,144	3.25%	387	29,094	15,385,075	0	31
January 21	Forecast	29,094	($0.0441)	(768,610)	389,686	0	0		(349,831)	(160,369)	3.25%	(443)	(350,273)	17,428,801	0	31
February 21	Forecast	(350,273)	($0.0441)	(659,265)	389,686	0	0		(619,852)	(485,063)	3.25%	(1,209)	(621,062)	14,949,322	0	28
March 21	Forecast	(621,062)	($0.0441)	(580,130)	389,686	0	0		(811,506)	(716,284)	3.25%	(1,977)	(813,483)	13,154,881	0	31
April 21	Forecast	(813,483)	($0.0441)	(399,341)	389,686	0	0		(823,138)	(818,311)	3.25%	(2,186)	(825,324)	9,055,353	0	30
May 21	Forecast	(825,324)	($0.0441)	(294,904)	389,686	0	0		(730,542)	(777,933)	3.25%	(2,147)	(732,689)	6,687,163	0	31
June 21	Forecast	(732,689)	($0.0441)	(213,144)	389,686	0	0		(556,148)	(644,419)	3.25%	(1,721)	(557,869)	4,833,207	0	30
July 21	Forecast	(557,869)	($0.0441)	(200,426)	389,686	0	0		(368,609)	(463,239)	3.25%	(1,279)	(369,887)	4,544,800	0	31
August 21	Forecast	(369,887)	($0.0441)	(208,090)	389,686	0	0		(188,291)	(279,089)	3.25%	(770)	(189,062)	4,718,593	0	31
September 21	Forecast	(189,062)	($0.0441)	(241,904)	389,686	0	0		(41,279)	(115,171)	3.25%	(308)	(41,587)	5,485,342	0	30
October 21	Forecast	(41,587)	($0.0441)	(350,395)	389,686	0	0		(2,296)	(21,942)	3.25%	(61)	(2,357)	7,945,466	0	31
November 21	Forecast	(2,357)	($0.0441)	(504,827)	389,686	0	0		(117,498)	(59,927)	3.25%	(160)	(117,658)	11,447,324	0	30
December 21	Forecast	(117,658)	($0.0441)	(678,482)	389,686	0	0		(406,454)	(262,056)	3.25%	(723)	(407,177)	15,385,075	0	31

Estimated C&I Conservation Charge **November 1, 2020 - October 31, 2021**	
Beginning Balance	300,066
Program Budget Nov 2020-Oct 2021	**4,808,073**
Projected Interest	(10,978)
Program Budget with Interest	5,097,161
Total Charges	**$5,097,161**
Projected Therm Sales	**115,635,325**
C&I Rate	$0.0441
Total Charges with Interest	**$5,099,518**
Projected Therm Sales	**115,635,325**
C&I Rate	**$0.0441**

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Energy Efficiency Programs
For Residential and Commercial/Industrial Classes
November 1, 2020 - October 31, 2021
Energy Efficiency Charge

Month	Actual or Forecast	Beginning Balance (Over)/Under	DSM Rate Per Therm	DSM Collections	Forecasted DSM Expenditures	Actual DSM Expenditures				Incentive	Ending Balance (Over)/Under	Average Balance (Over)/Under	Interest Plus Interest Prime Rate	Interest @ Fed Reserve Bank Loan Rate	Ending Bal. Plus Interest (Over)/Under	Forecasted Therm Sales	Actual Therm Sales	# of Days
						Residential	C&I	Low-Income	Total									
May 20	Actual	(738,875)	n/a	(658,351)	771,866	109,664	177,056	133,366	420,086	29,984	(947,156)	(843,016)	3.25%	(2,327)	(949,483)	12,333,808	12,290,578	31
June 20	Actual	(949,477)	n/a	(356,380)	771,866	229,611	227,776	21,917	479,305	29,984	(796,568)	(873,023)	3.25%	(2,332)	(798,901)	7,703,669	7,740,734	30
July 20	Forecast	(798,894)	n/a	(259,986)	771,866	0	0	0	0		(287,014)	(542,954)	3.25%	(1,499)	(288,512)	5,471,615	2,303,736	31
August 20	Forecast	(288,512)	n/a	(253,130)	771,866	0	0	0	0		230,224	(29,144)	3.25%	(80)	230,143	5,317,216	0	31
September 20	Forecast	230,143	n/a	(306,552)	771,866	0	0	0	0		695,458	462,801	3.25%	1,236	696,694	6,269,177	0	30
October 20	Forecast	696,694	n/a	(451,748)	771,866	0	0	0	0		1,016,811	856,753	3.25%	2,365	1,019,176	9,068,225	0	31
November 20	Forecast	1,019,176	n/a	(1,078,368)	771,866	0	0	0	0		712,674	865,925	3.25%	2,313	714,987	13,857,797	0	30
December 20	Forecast	714,987	n/a	(1,513,883)	771,866	0	0	0	0		(27,029)	343,979	3.25%	949	(26,080)	21,185,695	0	31
January 21	Forecast	(26,080)	n/a	(1,729,372)	787,923	0	0	0	0		(967,529)	(496,804)	3.25%	(1,371)	(968,900)	28,674,991	0	31
February 21	Forecast	(968,900)	n/a	(1,409,505)	787,923	0	0	0	0		(1,590,482)	(1,279,691)	3.25%	(3,190)	(1,593,673)	30,438,317	0	28
March 21	Forecast	(1,593,673)	n/a	(1,307,575)	787,923	0	0	0	0		(2,113,325)	(1,853,499)	3.25%	(5,116)	(2,118,441)	26,349,344	0	31
April 21	Forecast	(2,118,441)	n/a	(832,139)	787,923	0	0	0	0		(2,162,657)	(2,140,549)	3.25%	(5,718)	(2,168,375)	19,706,228	0	30
May 21	Forecast	(2,168,375)	n/a	(536,022)	787,923	0	0	0	0		(1,916,474)	(2,042,425)	3.25%	(5,638)	(1,922,112)	12,611,378	0	31
June 21	Forecast	(1,922,112)	n/a	(322,642)	787,923	0	0	0	0		(1,456,831)	(1,689,471)	3.25%	(4,513)	(1,461,344)	7,850,220	0	30
July 21	Forecast	(1,461,344)	n/a	(281,000)	787,923	0	0	0	0		(954,420)	(1,207,882)	3.25%	(3,334)	(957,755)	5,539,370	0	31
August 21	Forecast	(957,755)	n/a	(290,861)	787,923	0	0	0	0		(460,693)	(709,224)	3.25%	(1,958)	(462,650)	5,397,037	0	31
September 21	Forecast	(462,650)	n/a	(391,108)	787,923	0	0	0	0		(65,836)	(264,243)	3.25%	(706)	(66,542)	6,389,467	0	30
October 21	Forecast	(66,542)	n/a	(720,404)	787,923	0	0	0	0		977	(32,782)	3.25%	(90)	887	9,178,841	0	31
November 21	Forecast	887	n/a	(1,078,368)	787,923	0	0	0	0		(289,559)	(144,336)	3.25%	(386)	(289,944)	13,857,797	0	30
December 21	Forecast	(289,944)	n/a	(1,513,883)	787,923	0	0	0	0		(1,015,904)	(652,924)	3.25%	(1,802)	(1,017,707)	21,185,695	0	31

Residential (R-1 & R-3) and C & I Conservation Charge November 1, 2020 - October 31, 2021		
Beginning Balance	$	1,019,176
Program Budget Nov 2020-Oct 2021	$	9,422,960
Projected Interest	$	(28,510)
Program Budget with Interest	$	10,413,627
Total Charges		**$10,413,627**

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Residential Gas Assistance Program

Ln					
1	**Distribution**	**Customer Charge**	**Block**	**Total**	
2	R-3 Base Rates	$ 15.50	$ 0.5678		
3	R-4 Base Rates at 55% of R-3	$ 8.53	$ 0.3123		
4	Program Distribution Subsidy	$ 6.9750	$ 0.2555		
5	Average Winter Therms			601	
6					
7	Estimated Winter 2020/2021 Distribution Subsidy	$ 41.85	$ 153.52	$ 195.37	
8					
9	Number of Estimated 2020/2021 Participants	4,841	39	4,880	(a)
10					
11	**COG**	**ENNG**	**Keene**	**Total**	
12	R-3 COG Rates	$ 0.5571	$ 0.8114		
13	R-4 COG Rates at 55% of R-3	$ 0.3064	$ 0.4463		
14	Program COG Subsidy	$ 0.2507	$ 0.3651		
15					
16	Estimated Winter 2020/2021 COG Subsidy (Ln 5 * Ln 14)	$ 150.63	$ 219.39	$ 370.01	
17					
18	Winter Distribution Subsidy times Number of Participants (Ln 7 * Ln 9)			$ 953,414	
19	Winter COG Subsidy times Number of Participants (Ln 7 * Ln 16)			$ 737,749	
20	Prior Year Ending Balance - Gas Assistance Page 2			$ 476,754	
21	Estimated Annual Administrative Costs			-	
22	Total Program Costs			$ 2,167,917	
23					
24	Estimated weather normalized firm therms billed for the				
25	twelve months ended 10/31/21 sales and transportation			179,574,679	
26					
27	**Total Gas Assistance Program Charge**			**$ 0.0121**	

(a) Estimated number of participants for 2020/21 is based on the actual number participants as of June 2020.

Liberty Utilities (EnergyNorth Natural Gas) Corp.

NOVEMBER 2019 THROUGH OCTOBER 2020
RESIDENTIAL GAS ASSISTANCE PROGRAM RECONCILIATION
ACCOUNT 175.6

		(Actual)	(Actual)	(Actual)	(Actual)	(Actual)	(Actual)	(Actual)	(Actual)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	
1	**FOR THE MONTH OF:**	**Nov-19**	**Dec-19**	**Jan-20**	**Feb-20**	**Mar-20**	**Apr-20**	**May-20**	**Jun-20**	**Jul-20**	**Aug-20**	**Sep-20**	**Oct-20**	**Total**
2	**DAYS IN MONTH**	**30**	**31**	**31**	**29**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	
3	Beginning Balance	$ 442,273	$ 418,530	$ 370,228	$ 339,742	$ 350,731	$ 381,114	$ 408,869	$ 410,790	$ 432,187	$ 451,707	$ 469,038	$ 480,607	$ 442,273
4														
5	Add: Actual Costs	120,273.8	222,087.6	296,346.4	308,540.0	304,033.7	237,868.1	161,038.0	109,660.2	86,436.0	82,446.0	88,892.9	107,726.7	2,125,349
6														
7	Less: Collected Revenue	(145,694.4)	(272,070.7)	(328,258.7)	(297,544.0)	(276,426.3)	(211,163.4)	(160,243.5)	(89,385.0)	(68,134.2)	(66,383.6)	(78,590.4)	(112,899.7)	(2,106,794)
8														
9	Add: Administrative and Start Up Costs	-	-	-	-	-	-	-	-	-	-	-	-	-
10														
11	Ending Balance Pre-Interest	$ 416,853	$ 368,547	$ 338,316	$ 350,738	$ 378,338	$ 407,818	$ 409,664	$ 431,065	$ 450,488	$ 467,769	$ 479,341	$ 475,434	**$ 460,829**
12														
13	Month's Average Balance	$ 429,563	$ 393,538	$ 354,272	$ 345,240	$ 364,534	$ 394,466	$ 409,266	$ 420,928	$ 441,338	$ 459,738	$ 474,189	$ 478,021	
14														
15	Interest Rate	4.75%	4.75%	4.75%	4.75%	4.75%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	
16														
17	Interest Applied	$ 1,677	$ 1,682	$ 1,425	$ (7)	$ 2,775	$ 1,051	$ 1,127	$ 1,121	$ 1,218	$ 1,269	$ 1,267	$ 1,319	**15,925**
18														
19	Ending Balance	**$ 418,530**	**$ 370,228**	**$ 339,742**	**$ 350,731**	**$ 381,114**	**$ 408,869**	**$ 410,790**	**$ 432,187**	**$ 451,707**	**$ 469,038**	**$ 480,607**	**$ 476,754**	**$ 476,754**

Liberty Utilities (EnergyNorth Natural Gas) Corp d/b/a Liberty Utilities
Quarterly Report
Residential Low Income Assistance Program (RLIAP)
2019-20 Discounted 60%

		Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Summary: Actual/ Projected Total To Date (1)	Summary: Original Projection (2)	Summary: Variance
Customer Count		Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Projected	Projected	Projected	Projected			
Actual / Projected No. of Customers														Average		
LIHEAP		3,968	3,881	3,951	4,060	4,115	4,112	4,107	4,098	3,881	3,881	3,881	3,881	3,985	5,013	1028
Non-LIHEAP		812	798	810	825	770	752	740	743	743	743	743	743	769	919	151
Total	(a)	4,780	4,679	4,761	4,885	4,885	4,864	4,847	4,841	4,624	4,624	4,624	4,624	4,753	5,932	1,179
RLIAP Recoveries																
Actual / Projected																
Therm Sales		11,403,881	21,806,137	26,581,445	24,189,924	22,580,498	17,168,895	13,030,115	7,269,346	5,499,313	5,362,316	6,343,759	9,098,408	170,334,037	187,178,686	16,844,649
RLIAP Rate Per Therm		$ 0.0123	$ 0.0123	$ 0.0123	$ 0.0123	$ 0.0123	$ 0.0123	$ 0.0123	$ 0.0123	$ 0.0123	$ 0.0123	$ 0.0123	$ 0.0123	$ 0.0123	$ 0.0123	
Total		$ 140,268	$ 268,215	$ 326,952	$ 297,536	$ 277,740	$ 211,177	$ 160,270	$ 89,413	$ 67,642	$ 65,956	$ 78,028	$ 111,910	$ 2,095,109	$ 2,302,298	$ 207,189
Adjustment		3,749	2,174	(119)	15	(4,089)	(14)	(27)	(28)					1,662	0	
Total Adjusted Recoveries (3)		$ 144,017	$ 270,390	$ 326,833	$ 297,551	$ 273,651	$ 211,164	$ 160,244	$ 89,385	$ 67,642	$ 65,956	$ 78,028	$ 111,910	$ 2,096,771	$ 2,302,298	$ 205,527
Program Costs																
Actual & Projected Costs																
IT		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Admin.	(b)	0												0	0	0
Education		0												0	0	0
Prior Period Ending Balance	(c)	442,273												442,273	445,596	3,323
Other (incl. Reporting Costs)		1,677	(0)	0	0	(0)	0	(0)	0					1,677	0	(1,677)
Discounts LIHEAP		99,842	184,211	245,928	256,432	256,110	201,981	137,407	93,779	78,523	76,973	77,364	77,096	1,785,646	1,573,233	(212,413)
Discounts Non-LIHEAP		20,431	37,877	50,418	52,108	47,923	36,938	24,758	17,003	15,033	14,736	14,811	14,760	346,796	288,410	(58,386)
Total Costs (3)	(d)	$ 564,224	$ 222,087	$ 296,347	$ 308,540	$ 304,033	$ 238,919	$ 162,165	$ 110,782	$ 93,556	$ 91,710	$ 92,174	$ 91,856	$ 2,576,392	$ 2,307,239	$ (269,153)
Avg Monthly Residential Customer Bill		$ 71.29	$ 131.75	$ 148.12	$ 148.72	$ 140.74	$ 124.47	$ 75.33	$ 455.83	$ 36.44	$ 34.93	$ 35.18	$ 40.62	$ 1,443.43	$ 1,317.75	$ (125.68)
Avg Monthly Residential Low Income Customer Bill		$ 47.03	$ 91.08	$ 101.17	$ 101.60	$ 95.90	$ 84.27	$ 47.28	$ 26.15	$ 20.67	$ 19.47	$ 19.64	$ 25.14	$ 679.40	$ 892.26	$ 212.86
Avg Monthly RLIAP Customer Discount		$ 24.26	$ 40.68	$ 46.95	$ 47.12	$ 44.84	$ 40.19	$ 28.05	$ 429.68	$ 15.77	$ 15.46	$ 15.54	$ 15.48	$ 764.03	$ 425.49	$ (338.54)
Avg Monthly RLIAP Customer Discount as a % to Avg Monthly Residential Customer Bill		34%	31%	32%	32%	32%	32%	37%	94%	43%	44%	44%	38%	53%	32%	
Gross Monthly Revenues		$ 17,595,696	$ 21,121,298	$ 28,990,263	$ 20,353,998	$ 18,671,873	$ 10,364,428	$ 6,521,640	$ 4,901,552	$ 4,997,762	$ 6,467,910	$ 5,113,368	$ 8,930,712	$ 154,030,500	$ 161,677,049	$ 7,646,549
Total Costs as a percent of Gross Monthly Revenues		3.21%	1.05%	1.02%	1.52%	1.63%	2.31%	2.49%	2.26%	1.87%	1.42%	1.80%	1.03%	1.67%	1.43%	

(1) This column represents actual data for the months in which such data is available plus projected data for the remaining months in the 12-month program year.
(2) See RLIAP Projection on Bates Page 130 of the 2019-20 Cost of Gas Filing, DG 19-145
(3) Ties to the Company's RLIAP deferral account 8840-2-0000-10-1169-1756

(a) The actual number of customers provided for this report are the number of registered customers that were billed during the month.
(b) Actual administrative costs consists of bill inserts and advertising.
(c) The Prior Year 2018-19 under/(over) ending balance.
(d) The total discount is calculated from the actual Residential Low Income R-4 bills for the month. The discount by LIHEAP and Non-LIHEAP are prorated by the number of customers listed above.

Environmental Surcharge - Manufactured Gas Plants

Manufactured Gas Plants

Required Annual Environmental Increase	$2,864,179	
First one-third of prior period under recoveries (through June 2019)	$341,389	
July 2019 - June 2020 recovery difference between actual and estimate	$338,564	
Environmental Subtotal	$3,544,132	
Overall Annual Net Increase to Rates	$3,544,132	
Estimated weather normalized firm therms billed for the twelve months ended 10/31/20 - sales and transportation	179,574,679	therms
Surcharge per therm	$0.0197	per therm

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NASHUA FORMER MGP

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1. SITE LOCATION: 38 Bridge Street, Nashua, New Hampshire.

2. DATE SITE WAS FIRST INVESTIGATED: At the end of 1998, the New Hampshire Department of Environmental Services (NHDES) sent a "Notification of Site Listing and Request for Site Investigation" for the former Nashua Manufactured Gas Plant (MGP) to the former plant owners/operators: EnergyNorth Natural Gas, Inc. d/b/a National Grid (ENGI)[1], and Public Service Company of New Hampshire (PSNH) and its parent company, Northeast Utilities Services Company (NU). NHDES designated the site DES #199810022.

3. NATURE AND SCOPE OF SITE CONTAMINATION: Residual materials from the former MGP have been identified at the site and in the adjacent Nashua River. These residuals, which include tars and oils, have been found mainly in subsurface soil at discrete locations, in groundwater, and in localized river sediments.

4. SUMMARY OF MATERIAL DEVELOPMENTS AND INTERACTIONS WITH ENVIRONMENTAL AUTHORITIES:

   - Prior to the time NHDES issued its notice letter to ENGI, the US Environmental Protection Agency (EPA) was remediating contamination (asbestos) at the former Johns Manville plant located adjacent to, and downstream from the 38 Bridge Street property. In the course of that work, EPA detected what it determined to be MGP related residuals in Nashua River sediments containing asbestos. EPA sought reimbursement from ENGI and PSNH of only those incremental additional costs it incurred to dispose of sediments containing MGP related wastes in addition to asbestos. ENGI and PSNH entered into a settlement agreement with the EPA at the end of September 2000. Under the terms of the agreement, each company received a release from liability associated with the so-called Nashua River Superfund Site and contribution protection against future claims associated with that site. The settlement agreement made it clear that EPA does not contend that ENGI or PSNH contributed any asbestos to the Nashua River.

   - In response to the 1998 notice from NHDES, QST Environmental, Inc. (QST, subsequently Environmental Science and Engineering, Inc. (ESE), and later Harding ESE, Inc. (Harding ESE)), submitted a Scoping Phase Field Investigation Scope of Work to NHDES on behalf of ENGI in February 1999.

[1] In July 2012, EnergyNorth was acquired by Liberty Utilities and its legal name changed to Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities. For consistency purposes, the acronym ENGI will be used throughout this document.

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- In response to comments from NHDES, QST and ENGI refined the Scope of Work for the Scoping Phase Field Investigation and resubmitted to NHDES in April 1999.

- NHDES approved the refined Scoping Phase Field Investigation Scope of Work in May 1999.

- During the summer of 1999, ENGI and QST conducted the Scoping Phase Field Investigation, collecting site background information and soil, groundwater, surface water and sediment samples from the former Nashua MGP and the adjacent Nashua River.

- ENGI and ESE submitted the Scoping Phase Field Investigation Report to NHDES in December 1999.

- NHDES provided comments to ENGI and ESE in February 2000 on the Scoping Phase Field Investigation Report and requested a Phase II Investigation Scope of Work.

- On behalf of ENGI, ESE submitted a Draft Phase II Investigation Work Plan to NHDES in April 2000.

- ENGI and ESE met with the NHDES site manager in April 2000 to discuss the Draft Phase II Investigation Work Plan.

- NHDES provided written comments on the Draft Phase II Investigation Work Plan in June 2000.

- ENGI and ESE met with NHDES in August 2000 to discuss NHDES' comments on the Phase II Work Plan.

- ENGI submitted a letter to NHDES in August 2000 discussing revisions to the Draft Phase II Investigation Work Plan in response to comments from NHDES and PSNH/NU, along with a proposed schedule for implementation of the work.

- NHDES approved the Revised Phase II Work Plan for the site at the end of August 2000.

- NHDES provided comments to ENGI and Harding ESE on the proposed schedule for Phase II Work Plan implementation in September 2000.

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- ENGI submitted an addendum to the Phase II Work Plan, including a proposed approach for risk evaluation, to NHDES in November 2000.
- Subsequent to meetings and discussions throughout 2000, ENGI and PSNH reached agreement in late 2000 regarding sharing of costs for the remediation work and transfer of management of the remediation work to ENGI.
- Harding ESE implemented the Phase II Work Plan during the fall and winter of 2000/2001. Work entailed a comprehensive field program that included the advancement of river borings and collection of sediment samples as well as the installation of borings and monitoring wells on and off the property.
- NHDES provided comments on the Phase II Work Plan addendum in February 2001.
- Harding ESE responded to NHDES comments on the Phase II Work Plan addendum in March 2001.
- In May 2001, ENGI submitted to NHDES a Draft Site Conceptual Model to assist with finalization of the Phase II Work Plan Addendum and met with NHDES to discuss.
- ENGI and Harding ESE revised the Draft Site Conceptual Model and outlined supplemental field activities to be included in the Phase II Work Plan Addendum and submitted to NHDES in June 2001.
- In July 2001, ENGI and Harding ESE met with NHDES to review the Site Conceptual Model and proposed Phase II supplemental investigation activities.
- ENGI and NHDES met in August 2001 to discuss the overall site objectives.
- In September 2001, Harding ESE, on behalf of ENGI, submitted a Phase IIB Supplemental Site Investigation (SI) Scope of Work to NHDES.
- NHDES provided verbal approval for the Phase IIB Supplemental SI, and Harding ESE initiated the field program on behalf of ENGI in October 2001.
- NHDES provided written approval of the Phase IIB Supplemental SI in October 2001. A modification to the proposed scope of work relating to investigations adjacent to

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the gas lines was proposed and verbal approval was obtained from NHDES on November 19, 2001.

- Property owners north of the Nashua River did not provide access to install monitoring wells proposed in the Phase IIB SOW. Harding ESE completed all on-site work outlined in the Phase IIB SOW in February 2002.

- ENGI received access from PSNH to install Phase IIB monitoring wells west of the site in March 2002.

- Harding ESE installed additional groundwater monitoring wells west of the site in March and sampled all newly installed monitoring wells in April 2002. All work outlined in the Phase IIB SOW was completed except for the proposed monitoring wells north of the Nashua River where access was denied.

- The Phase II Report was submitted to NHDES in February 2003. The report was approved by NHDES in August 2003. At the time of approval, NHDES required ENGI to begin work on the Remedial Action Plan for the site, due in 2004.

- ENGI met with NHDES on November 3, 2003, to review the proposed remedial schedule, which called for the Remedial Action Plan to be submitted in July 2004, and remediation to occur in 2005. NHDES approved the schedule by letter dated December 1, 2003. In that letter they concurred with ENGI's request to divide the site into terrestrial and aquatic portions, to facilitate remediation of sediments concurrent with re-armoring of ENGI's gas mains crossing the river.

- By way of a May 5, 2004 letter, ENGI requested that NHDES waive the Remedial Action Plan (RAP) requirement for the aquatic portion of the site and allow ENGI to proceed with capping sediments in conjunction with gas main rearmoring, which was scheduled for completion in 2004. NHDES approved the request by letter dated May 14, 2004.

- ENGI held pre-application meetings with state and federal agencies (NHDES Wetlands Bureau, United States Army Corps of Engineers, United States Department of Fish and Wildlife, United States Environmental Protection Agency and National Oceanic and Atmospheric Administration) in June 2004. These meetings were held in advance of permit application submission for the capping/rearmoring project, to review the project and expedite the approval process. The application was submitted to these agencies as well as the City of Nashua on July 1, 2004. On July 6, 2004, NHDES deemed the permit application administratively complete. The hearing was closed on July 26, 2004 and the permit was issued in September 2004.

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The capping and re-armoring was completed in October 2004 and the Remedial Completion Report, submitted to NHDES in January 2005, was subsequently approved.

- In October 2005, ENGI submitted the Terrestrial Remedial Action Plan to NHDES, and the document was deemed complete by NHDES in March 2006. NHDES requested supplemental information to be submitted before ENGI proceeded with remediation, and in 2007 ENGI gathered the requested data.

- In November 2007, ENGI submitted a Workplan for DNAPL Recovery Pilot Test to NHDES and the document was approved by NHDES on November 14, 2007.

- ENGI applied for three permits required for the implementation of the NHDES-approved DNAPL pilot testing activities: Nashua Conservation Commission Permit, Nashua Zoning Board of Appeals Permit and NHDES Dredge and Fill Permit. ENGI attended numerous hearings related to obtaining the permits and obtained the three permits on April 21, 2008, April 23, 2008, and May 31, 2008, respectively.

- In June 2008, ENGI installed six extraction wells for DNAPL recovery pilot testing at the site. ENGI completed the construction of the coal tar recovery system trailer (i.e., the equipment that will be used to pump, collect and temporarily store the coal tar) in December 2008. Trenching for the subsurface piping and final system installation was delayed in late 2008 due to weather. ENGI performed manual DNAPL recovery throughout 2008 and the first three quarters of 2009.

- In Spring 2009, ENGI began trenching and final system installation activities for the DNAPL recovery pilot testing. The trenching, pump installations and system electrical work were completed in July 2009. Electrical service was installed in late August 2009. The system was started up in November 2009 and has been operational since that time.

- In September 2010, ENGI submitted an Installation Summary and DNAPL Recovery Pilot test summary report to NHDES. This report recommended that DNAPL extraction activities continue. In October 2010, a work plan for an off-site groundwater investigation program to support the delineation of a Groundwater Management Zone was submitted to NHDES. This work plan was approved by NHDES in a letter dated November 5, 2010. Access negotiations and environmental permitting for the NHDES-approved investigation were completed in June 2011.

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- The NHDES-approved subsurface soil and groundwater investigation program was initiated on September 26, 2011. The goal of this program was to delineate a Groundwater Management Zone for the site, and allow for the filing of a Groundwater Management Permit (GMP). Due to known asbestos in the off-site area to be investigated, ENGI submitted an "In-active Asbestos Disposal Site (ADS) Work Plan"; NHDES approved the asbestos work plan in October 2011. Soil boring and well installation work was performed between October and December 2011. An In-active ADS Site Completion Report was submitted to and accepted by NHDES on May 4, 2012. Groundwater sampling events were conducted in February and May 2012. A meeting to discuss the preliminary results of the Groundwater Management Zone (GMZ) investigation program with NHDES took place on August 16, 2012. It was agreed that two more rounds of groundwater sampling should occur before a delineation of the GMZ is considered.

- On November 27, 2012 and December 6, 2012, 8.25 feet and 10.83 feet of DNAPL appeared in MW-106, situated in the foot print of historical Holder #2. A weekly monitoring and removal plan was initiated at this time and is ongoing as of July 2013. To date, 109 gallons of DNAPL has been removed manually, in addition to the system removal discussed above.

- In January 2013, a Supplemental Investigation Report (SIR) and DNAPL Recovery System Pilot Test Progress report was submitted to NHDES reporting on additional investigation activities, including the installation of sixteen additional wells in 2011, and the May and September 2012 (second and third of three) rounds of sampling to define groundwater quality and hydrogeologic conditions at the site, so that the GMZ can be delineated. Additionally, the report includes information regarding DNAPL recovery system O&M activities and DNAPL recovery rates demonstrating that the system still effectively recovers DNAPL. A meeting with NHDES took place on March 22, 2013, to discuss these results and next steps.

- NHDES responded to the January 2013 submittal via letter dated May 21, 2013, accepting the SI Report and authorizing ENGI to proceed with the delineation of the GMZ in order to submit a Groundwater Management Permit (GMP) application, and the preparation of a revised Remedial Action Plan (RAP) for the terrestrial portion of the site. NHDES allows ENGI to utilize manual removal of DNAPL as these methods are more effective than the automated recovery system.

- ENGI responded to the NHDES letter on June 19 with a schedule targeting December 31, 2013, for submittal of the GMP application and revised RAP.

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- In December 2013, ENGI submitted a request to revise the RAP. The purpose of the request was to summarize activities conducted since submittal of the 2013 Supplemental Investigation Report and to propose a revision to the approved RAP for the area on site known as "Holder # 2."

- The RAP submitted in 2005 selected asphalt capping in the area of Holder #2. The entire area of the Holder was not designated to be capped with asphalt. At the time of the preparation of the RAP, separate phase NAPL was not considered to be present in recoverable quantities in Holder #2. In order to address what appears to be a limited area and quantity of NAPL in a monitoring well in Holder #2, continued manual NAPL recovery from two additional wells in the Holder #2 area was proposed as part of the GMP monitoring program.

- In addition to the NAPL recovery activity, the area of asphalt capping was proposed to be expanded to include all of former Holder #2. This expansion of paving will also address the asbestos contaminated material (ACM) present in this area of the site. The asphalt cap detail presented in the proposed RAP revision will be modified (as necessary) to address the relevant solid waste regulations for ACM in soil.

- On June 4, 2014, the NHDES approved of the requested RAP revision and required that a RAP Summary Report, with the necessary engineering details for the selected remedies, be provided. ENGI plans to submit this RAP Summary Report by December 31, 2014.

- The GMP Application was submitted in March 2014. The GMP proposed a list of monitoring wells and analytical methods in order to monitor the Groundwater Management Zone.

- On June 5, 2014, the NHDES approved the GMP application. This Permit was issued for a period of five years requiring the monitoring of groundwater quality, assessing and recovering any free product found, and visually inspecting the Nashua River sediment cap area. During the first year of the Permit, monitoring events will be conducted in October 2014 and April 2015, and each successive April and October. Annual summary reports are submitted to the NHDES in January of each year.

- The first groundwater monitoring annual summary report was submitted to NHDES in February 2015, and included the groundwater data from the first GMP round of sampling on October 27, 2014.

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- ENGI submitted the draft Activity and Use Restriction (AUR) and RAP Engineering Design details for the cap on September 14, 2015. ENGI received comments from NHDES on December 15, 2016. NHDES altered the design to include an impermeable capping layer, and incorporation of standards in the Waste Management Bureau's Asbestos Disposal Site rules. As ENGI is planning to pave the Nashua property in 2018, the cap will be installed in conjunction with this capital project.

- In May 2017, the NHDES requested by letter that all active hazardous waste sites managed by the Hazardous Waste Remediation Bureau include sampling for Per- and Polyfluoroalkyl Substances (PFAS) in one of their groundwater sampling rounds, as part of a statewide study of these compounds. ENGI fulfilled this request during regularly scheduled sampling in 2018.

- The capping remedy was planned for 2018 in conjunction with an overall paving of the property, however a portion of the City's sewer pipe that transects the property collapsed in early February 2018 prompting the City to plan a lining upgrade to it during summer 2018. This event has caused the remedy construction to be pushed out to 2019.

- **In a letter dated May 2, 2019, NHDES approved ENGI's 5-year Groundwater Management Permit (GMP) renewal application decreasing the frequency of sampling for all but two wells in the perimeter groundwater management zone. Additionally, NHDES required that a second confirmatory round of PFAS samples be taken in the 2019 GMP monitoring round.**

- **In the same May 2, 2019 letter, NHDES approved GZA Geoenvironmental's (GZA) proposed cap design transmitted to them on January 30, 2019. The cap design was altered to require an impermeable barrier only under "non-paved" surfaces.**

- **The cap installation and subsequent paving of the entire property has been pushed out to 2021, due to delays in permitting and the COVID-19 pandemic.**

5. NEW HAMPSHIRE SITE REMEDIATION PROGRAM PHASE: All Supplemental Phase II Site Investigation Work that could be performed (based on property access) has been

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completed. Phase II Report was submitted to NHDES in February 2003, and approved by NHDES on August 28, 2003. Remediation of the Nashua River sediments was completed in the fall of 2004. A Remedial Action Plan (RAP) for the upland and groundwater was submitted in October 2005, and approved by NHDES in March 2006. DNAPL recovery is on-going. A Groundwater Management Permit was granted on June 5, 2014. A RAP Summary, involving the asphalt capping of the area over Holder #2 and continued groundwater monitoring, was submitted on April 2, 2015. A Monitoring Summary and Progress Report was submitted by ENGI on February 7, 2015. NHDES accepted the RAP Summary on April 10, 2015, with the provisions that ENGI submit the draft Activity and Use Restriction (AUR) and final engineering design plan for the cap by September 15, 2015. ENGI submitted the draft Activity and Use Restriction (AUR) and RAP Engineering Design details for the cap on September 14, 2015. NHDES responded to ENGI with their comments on December 15, 2016. **Design for the engineered cap remedy is complete and approved by NHDES. ENGI is in the process of obtain State and City permitting for this construction, now planned for the 2021 construction season.**

6. HISTORY AND CURRENT STATUS OF USE AND OWNERSHIP: The Nashua Gas Light Company built the original coal gas facility in 1852 or 1853. In 1889, the Nashua Gas Light Company merged with the Nashua Electric Company to form the Nashua Light, Heat and Power Company (NHLPC). In 1914, the NLHPC merged with the Manchester Traction Light & Power Company, and PSNH acquired the facility in 1926. The MGP facility was upgraded and expanded. In 1945, PSNH divested the gas operations to Gas Service, Inc. Gas production was eliminated in 1952 when natural gas was supplied to the city via pipeline. In 1981, Gas Service, Inc. merged with Manchester Gas Company to form ENGI. ENGI currently owns the majority of the former gas plant property.

7. LISTING AND STATUS OF INSURANCE AND 3RD PARTY LAWSUITS AND SETTLEMENTS: The EPA made a claim against ENGI and PSNH related to the so-called Nashua River Asbestos Site located adjacent to the former MGP. EPA was removing asbestos from the Nashua River, when some was found to be mixed with wastes allegedly from the MGP. Without admitting any facts or liability, by agreement effective December 21, 2000, ENGI resolved EPA's claim in exchange for a payment of $387,371.46, plus interest accrued between settlement and final approval of an administrative consent order by EPA.

ENGI and PSNH have entered into a confidential Site Responsibility and Indemnity Agreement effective as of September 15, 2000, which governs the financial and decision-making responsibilities of the two companies through the remainder of site study and remediation. Under this agreement, ENGI will take the lead on site investigation and remediation.

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Numerous, confidential insurance settlements have been entered into. A jury trial commenced against the London Market Insurers and Century Indemnity on November 1, 2005. On November 14, 2005, the jury returned a verdict in favor of EnergyNorth finding that the defendants were obligated to indemnify EnergyNorth for response costs incurred at the site. The Court then awarded ENGI its reasonable costs and attorneys fees to be paid by the defendants. Subsequent to the verdict, the London Market and ENGI entered into a confidential settlement. Century appealed to the First Circuit Court of Appeals in the summer of 2006. However, on the day its brief was due at the First Circuit, Century withdrew its appeal. Because the site has not yet been remediated, the jury was not asked to make a damage determination. Future proceedings will take place after the remedy has been approved by the NHDES to determine the indemnification amounts to be paid by Century. The New Hampshire Supreme Court's ruling and guidance on the proper manner in which costs are to be allocated among insurers (discussed in more detail in the Manchester MGP summary) will be used in the calculation of that figure.

Note: This summary is an overview only and is not intended to be a comprehensive recitation of all relevant information relating to the site and the associated liability.

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MANCHESTER FORMER MGP

LINE
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1. SITE LOCATION: 130 Elm Street, Manchester, New Hampshire.

2. DATE SITE WAS FIRST INVESTIGATED: The New Hampshire Department of Environmental Services (NHDES) compiled a list of all former Manufactured Gas Plants (MGPs) in New Hampshire that were not already subject to a site investigation or remediation. In March of 2000, NHDES sent out notice letters to all parties it deemed responsible for the sites. EnergyNorth Natural Gas, Inc. (ENGI)[1] received a "Notification of Site Listing and Request for Site Investigation" for the former Manchester MGP from NHDES, which designated the site DES #200003011.

3. NATURE AND SCOPE OF SITE CONTAMINATION: Residual materials from the former MGP have been identified at the site. These residuals, which include tars and oils, have been found mainly in subsurface soil at discrete locations and in groundwater at the former MGP, as well as in the downgradient Singer Park and river sediment.

4. SUMMARY OF MATERIAL DEVELOPMENTS AND INTERACTIONS WITH ENVIRONMENTAL AUTHORITIES:

   - On behalf of ENGI, Harding ESE, Inc. (Harding ESE), submitted a Scoping Phase Field Investigation Scope of Work to NHDES in March 2000.

   - NHDES approved the Scoping Phase Field Investigation Scope of Work in June 2000.

   - During the summer and fall of 2000, ENGI and Harding ESE conducted the Scoping Phase Field Investigation, collecting site background information and soil, groundwater, surface water and sediment samples from the former Manchester MGP and the nearby Merrimack River.

   - On August 31, 2000, an underground tank containing MGP residuals was discovered at the site. As required by NHDES regulations, the tank contents were removed and disposed of subject to a permit from NHDES. Harding ESE, on behalf of ENGI, submitted a summary report to NHDES in January 2001 documenting the response action.

   - ENGI and Harding ESE submitted the Scoping Phase Field Investigation Report to NHDES in February 2001.

[1] In July 2012, EnergyNorth was acquired by Liberty Utilities and its legal name changed to Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities. For consistency purposes, the acronym ENGI will be used throughout this document.

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- NHDES provided comments to ENGI and Harding ESE in April 2001 on the Scoping Phase Field Investigation Report and requested a Phase II Investigation Scope of Work.

- ENGI responded to NHDES' comments on the Scoping Phase Investigation Report and indicated that ENGI planned to solicit bids for the Phase II Scope of Work.

- In July 2001, on behalf of ENGI, Harding ESE submitted a Scope of Work to NHDES to fence the ravine near the former Manchester MGP to prevent access to impacted sediments. In October 2001, NHDES accepted ENGI's fence installation plan, but requested clarification on the fence location and signage. In correspondence dated April 3, 2002, ENGI provided proposed language to NHDES for the signs to be attached to the ravine fence. NHDES approved the ravine sign language in April 2002.

- On May 1, 2002, ENGI issued a Request for Proposals to eight environmental consultants for the Phase II Site Investigation and Risk Characterization. ENGI received six proposals for the Phase II work in June 2002.

- In June 2002, the City of Manchester approved the ravine fence location and granted access to City property to install. The work was completed in August 2002.

- URS Consultants were awarded the contract to undertake the next phase of work. A Phase II Site Investigation Scope of Work was submitted in September 2002.

- Phase II field investigations began in the fall of 2002.

- In June 2003, the City of Manchester approved a proposal to construct a minor league ballpark, retail shops, parking garage, hotel and high-rise condominium complex on the Singer Park site, in the same general areas that MGP impacts were detected in ongoing Phase II investigations. Following supplemental ravine investigations during the spring and summer of 2003, the Drainage Ravine Engineering Evaluation was submitted to NHDES in January 2004, and presented four potential remedial alternatives for the ravine, which is located on a portion of Singer Park.

- ENGI had been a regular participant in monthly Singer Park redevelopment meetings with NHDES, the City of Manchester and the various developers from April 2003 until the regular meetings ended on November 15, 2004. ENGI had attended these coordination meetings to ensure that the environmental and construction aspects of

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the redevelopment were being addressed concurrently and that ENGI avoided incurring costs associated with another entity's contamination.

- ENGI entered into confidential agreements with Manchester Parkside Place (the owner of the ravine property) for access and cleanup of MGP byproducts in the ravine in January 2005.

- In January 2005, ENGI submitted a Remedial Design Report to NHDES selecting excavation and off-site disposal of source material and impacted soils as the remedial alternative for the ravine. NHDES approved of this alternative via a letter dated February 7, 2005. Eleven contractors were invited to bid on the ravine remediation in January 2005. The contract was awarded to the low bidder (ENTACT) in February 2005. Remediation of the ravine began in March and was completed in July 2005. A remedial completion report was submitted to NHDES on September 2, 2005.

- ENGI submitted a Phase II Site Investigation Report to NHDES in March 2004. The report concluded that MGP impacts (including impacted soil and groundwater and separate phase coal tar) were present in the subsurface beneath the 130 Elm Street property, portions of Singer Park at depth and the Merrimack River sediment. Further investigations were recommended by ENGI to further assess the nature and extent of this contamination and a work plan proposing those investigations was submitted to NHDES in May 2004 and approved in July 2004. These supplemental investigations were completed and documented in the Supplemental Phase II Investigation Report and the Stage I Ecological Screening Report for the Merrimack River, submitted to NHDES in February and March 2005, respectively. The reports concluded that Remedial Action Plans for the upland and Merrimack River portions of the site were required. On September 15, 2005, NHDES issued a letter accepting the reports and requested ENGI prepare a Remedial Action Plan (RAP) to address impacted sediments in the Merrimack River, as well as MGP-related impacts on the upland portion of the site. Preparation of the RAPs began in August 2006.

- Additional Merrimack River investigations were completed in 2007 and the Remedial Design Report for dredging approximately 9,000 cubic yards of coal tar-impacted sediments from the river was submitted to NHDES on May 11, 2007. ENGI applied for, and was granted, a Dredge and Fill Permit for the remedial dredging from NHDES and the United States Army Corps of Engineers on May 18, 2007. Dredging of the river commenced in June 2007 and was substantially completed by the end of the year. Final site restoration activities associated with the sediment remediation were complete in May 2008. A Remedial Action Implementation Report

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documenting the sediment remediation activities was submitted to NHDES in May 2008.

- Certain pre-design investigations were completed on the upland portion of the site in 2008/2009. ENGI also completed interim Phase I Corrective Actions at the site, including pilot scale light non-aqueous phase liquid (LNAPL) recovery, pilot scale dense non-aqueous phase (DNAPL) recovery, and design for repair/replacement of a deteriorated portion of the site drainage system located within a known LNAPL area of the site. Limited surface soil removal activities were conducted during the summer/fall of 2008 in an area with detected Upper Concentration Limit exceedances in shallow soils.

- ENGI was issued a Groundwater Management Zone (GMZ) permit No. GWP-200003011-M-001 for the former MGP site on June 15, 2009. The permit establishes a groundwater management zone in the vicinity of the former MGP site with associated notification/groundwater monitoring requirements. Groundwater monitoring events to support this GMZ permit have been ongoing, every April and October.

- ENGI submitted an RAP for the upland portion of the site to NHDES on June 30, 2010. The remedial objectives for the site include control of mobile DNAPL, reduction in contaminant mass (where practicable), and management of residual contamination through the use of administrative controls. The recommended remedial alternative includes removal of the contents of certain subsurface structures where removal is anticipated to provide a reduction in the potential for the further release of DNAPL to the subsurface; NAPL recovery from the subsurface; construction of a barrier wall proximate to the Merrimack River to mitigate potential DNAPL migration; and use of administrative controls to address potential human exposure to residual soil and groundwater contamination. Additional investigation activities were recommended to support the preparation of Design Plans and Construction Specifications following NHDES approval of the RAP and to confirm the appropriateness of certain remedial alternatives recommended in the RAP.

- In Fall 2010, ENGI performed storm drain rehabilitation activities on a deteriorated portion of the site drainage system that is located within a known LNAPL area. This work was performed to mitigate the migration of LNAPL to the Merrimack River via the storm drain system. These activities were mainly completed in late 2010.

- In April 2011, NHDES approved of the upland RAP and requested that ENGI proceed with the additional investigation activities recommended in the June 2010 RAP. In addition, ENGI was contacted by both the developer and condominium association

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associated with the property directly downgradient of the site regarding potential impacts to the property, as well as the proposed remedy; ENGI met with both parties in early and mid-2011.

- After meeting with the developer of the property directly downgradient of the site at the potential location of the barrier wall regarding potential impacts to the property in September/October 2011, access was obtained to conduct certain approved pre-design off-site investigation activities as recommended in the June 2010 RAP. The off-property investigations were substantially completed in December 2011. A meeting was held with NHDES in December 2011 to discuss the results. A Remedial Design Report for the off-site property is currently being finalized.

- On-site pre-design investigation activities were conducted during the spring and summer of 2012 including: additional groundwater quality monitoring, former gas holder foundation test pit excavations, supplemental LNAPL delineation, cyanide source investigation test pit excavations, cyanide delineation and source investigation monitoring well installation, and storm drain inspection.

- Further storm drain inspections occurred during July and August 2013. The remedial design and construction specifications report was drafted including a summary of the design investigation activities and findings. The remedial design includes the monitoring and practicable recovery of NAPL at strategic on-site and off-site locations, as well as excavation of subsurface structures with concurrent source removal if encountered. The Remedial Design Report drafted, also summarizes the results of cyanide source investigation and delineation work, with further source delineation work anticipated.

- In addition to routine Groundwater Management Permit (GMP) sampling and reporting, an application for GMP renewal was also submitted to NHDES in July 2014, with the Annual Summary Report for the 2013/2014 groundwater Monitoring year. The Remedial Design Report was submitted to NHDES on December 19, 2014. On July 15, 2015, NHDES accepted the proposed remedial design with exceptions involving further remediation of historical Holder 3, and further investigation of the storm drain system beneath and downstream of the site. ENGI responded to NHDES' comments and requests on May 12, 2017.

- ENGI removed material from a tar-separator and other subsurface structures, installed three new monitoring wells and an extraction well on-site, prior to property paving in Fall 2017. Further removals from subsurface structures were planned for 2018.

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- During 2017, NHDES required active hazardous waste sites managed by the NHDES Hazardous Waste Remediation Bureau to include Per- and Polyfluoroalkyl Substances (PFAS) in one of their sampling rounds.

- In 2019, ENGI continued to address potential site impacts per the 2014 Remedial Design Report by removing approximately 9,000 gallons of contaminated liquids and sludge from a subsurface tar liquor decanter structure in the gas plant area. After removal, ENGI cleaned the structure and filled it with inert fill. **The details of these activities were reported to NHDES in the 2018/2019 Annual Summary Report dated July 24, 2019.**

- In June 2019, three extraction wells were also installed at the western boundary of the site where an existing well in that area was detecting recoverable product. These wells will be used to remove free product on an ongoing basis. Three additional groundwater monitoring wells were installed in the Holder #3 area to monitor potential impacts detected during previous test pit excavation.

- A pump-down of an existing well on the east side of the property, installed in 2017 to recover oil from a known historical oil tank impact in that area, took place in June 2019. The test succeeded to return recoverable product to the well and it will be used to remove free product on an ongoing basis.

5. NEW HAMPSHIRE SITE REMEDIATION PHASE: Phase I Site Investigation complete. Phase II Site Investigation complete and supplemental report submitted to NHDES in February 2005. Remedial Action Plan (RAP) for the ravine submitted and approved by NHDES in 2005; remediation of ravine completed in July 2005. Remediation of the river sediment was completed in 2007. A RAP for the upland portion of the site was submitted to NHDES for review on June 30, 2010. NHDES issued its approval of the RAP for the upland portion of the site in a letter dated April 11, 2011. The Remedial Design Report summarizing the activities for addressing on-site and off-site impacts was submitted on December 19, 2014. On July 15, 2015, NHDES accepted the proposed remedial design with exceptions. ENGI addressed these concerns and implemented the remedial activities on-site and off-site in 2017.

In 2019, ENGI continued to address potential site impacts per the Remedial Design Report by removing approximately 9,000 gallons of contaminated liquids and sludge from a subsurface structure in the gas plant area, installing three extraction wells at the western boundary of the site, and installing three groundwater monitoring wells in one of the gas holder footprints. Also in 2019, needed repairs

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to a major water supply line near the entrance to the property resulted in the removal of a substantial amount of MGP-impacted soil.

6. HISTORY AND CURRENT STATUS OF USE AND OWNERSHIP: The former Manchester MGP is believed to have started producing coal gas in 1852. Gas was produced at the site by the Manchester Gas Company and its predecessors until the MGP was shut down in 1952 when natural gas was supplied to the city via pipeline. ENGI is the successor by merger to the Manchester Gas Company. ENGI continues to own and operate the 130 Elm Street property as an operations center.

7. LISTING AND STATUS OF INSURANCE AND 3RD PARTY LAWSUITS AND SETTLEMENTS: In late 2000, ENGI filed suit against UGI Utilities, Inc. in the United States District Court for the District of New Hampshire, alleging that during much of the early part of the 20th century, a predecessor to that entity “operated” the Manchester Gas Plant, as defined by the Comprehensive Environmental Response, Compensation and Liability Act (commonly referred to as “CERCLA” or “Superfund”). This claim was similar to a claim litigated and ultimately settled by the parties in the late 1990s, related to the former gas plant in Concord, NH. The case went to trial in June 2003 and was settled after 8 days of trial.

Insurance recovery efforts are complete, and confidential settlements have been entered into with all insurance company defendants. An agreement with the last remaining insurance carrier was negotiated in August 2008, under which that carrier paid ENGI's legal fees incurred in the litigation. That settlement came about after a ruling from the New Hampshire Supreme Court, in response to a question certified by the United States District Court, on allocation of coverage, and the scope and meaning of NH RSA 491:22-a, as it relates to awards of attorneys’ fees. EnergyNorth Natural Gas, Inc. v. Certain Underwriters at Lloyds, 156 N.H. 333 (2007). As to allocation, the Court ruled as proposed by the carrier that insurance coverage should be allocated on a *pro rata* basis when multiple policies are triggered by an ongoing event. ENGI had argued for an "all sums" allocation approach in which the insured could choose the policy years from which to obtain indemnity. With respect to legal fees, the Court held that " [i]f the insured has obtained rulings that require the excess insurer to indemnify it, the insured has prevailed within the meaning of RSA 491:22-b, and is immediately entitled to recover its reasonable attorneys' fees and costs. Recovery of these fees and costs does not depend on whether, after all is said and done; the excess insurer actually has to pay any indemnification. The insured becomes entitled to the fees and costs once it obtains rulings that demonstrate there is coverage under the excess insurance policy." Under that finding, the insurance carrier was obligated to reimburse legal fees even if the *pro rata* allocation analysis resulted in the carrier owning no indemnity.

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Note: This summary is an overview and is not intended to be a comprehensive recitation of all relevant information relating to the site and the associated liability.

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LACONIA FORMER MGP AND LIBERTY HILL DISPOSAL AREA

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1. SITE LOCATION: The former MGP was located on Messer Street in Laconia. Sometime in the early 1950s, during decommissioning of the MGP, wastes from the MGP were disposed of at a location on Liberty Hill Road in Gilford. At the time of the disposal, the property was utilized as a gravel pit, and the disposal reportedly occurred with the permission of the gravel pit owner. The property currently comprises part of a residential neighborhood.

2. DATE SITE WAS FIRST INVESTIGATED: In 1994 and 1995, Public Service Company of New Hampshire (PSNH), one of the former owners and operators of the Laconia Manufactured Gas Plant (MGP), conducted limited site investigations at the plant. In 1996, the New Hampshire Department of Environmental Services (NHDES) sent a "Notification of Site Listing and Request for Site Investigation" for the former Laconia MGP to PSNH and its parent company, Northeast Utilities Services Company (NU), and to EnergyNorth Natural Gas, Inc. (ENGI)[1], another former owner. NHDES designated the site DES #199312038. ENGI and PSNH reached a settlement, reported previously to the New Hampshire Public Utilities Commission (NHPUC), in September 1999. As a result of that settlement, PSNH has had responsibility for the MGP site remediation and interactions with NHDES.

   Per the aforementioned settlement, ENGI retained responsibility for any decommissioning-related liabilities, including off-site disposal. Therefore, in October 2004, ENGI notified NHDES of the possibility that wastes from the MGP were disposed of at a location on Liberty Hill Road sometime in the early 1950s during decommissioning of the plant. Drinking water samples were collected from two residential properties in the vicinity in December 2004, and from three additional properties in June and July 2005 by the NHDES; no MGP-related contaminants were detected. At the request of NHDES, ENGI began preliminary site investigations in July 2005 that culminated in the submission of a Site Investigation Report to NHDES in June 2006. As detailed in the report, MGP-related constituents have been detected in soil and shallow groundwater on four residential properties, and in the abutting brook. The report concluded that further investigations were necessary to determine the extent of the contamination. Additional investigation activities were completed between 2006 and 2009.

3. NATURE AND SCOPE OF SITE CONTAMINATION: Residual materials from the former MGP have been identified at the Laconia MGP site and in the adjacent Winnipesaukee River. Please contact PSNH and refer to PSNH filings with NHDES for complete information on the nature and extent of site contamination at the MGP. Residual materials

[1] In July 2012, EnergyNorth was acquired by Liberty Utilities and its legal name changed to Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities. For consistency purposes, the acronym ENGI will be used throughout this document.

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from the former MGP were disposed of at the Liberty Hill disposal area, and MGP-related constituents have been detected in soil and ground water.

4. SUMMARY OF MATERIAL DEVELOPMENTS AND INTERACTIONS WITH ENVIRONMENTAL AUTHORITIES: Based on the settlement with PSNH that has previously been reported to the Commission, ENGI has had no further involvement with the MGP site since the summer of 1999, except with regard to the Liberty Hill disposal area. Please contact PSNH and refer to PSNH filings with NHDES for complete information on material developments and interactions with environmental authorities.

With respect to the Liberty Hill disposal area, in October 2004, ENGI notified NHDES of the possible existence of this disposal site; the site was assigned disposal site number 200411113 by NHDES. NHDES collected drinking water samples from two residential wells in the vicinity in December 2004 and from three additional residential wells in June and July 2005; no MGP-related contaminants were detected. In January 2005, NHDES requested that ENGI conduct a preliminary site investigation on the two residential properties. ENGI submitted a scope of work for the investigation to NHDES on March 2, 2005. The investigation began in July 2005 and was completed in June 2006 with the submission of the Site Investigation Report.

Additional site investigations were conducted in 2006 and summarized in the December 20, 2006, Interim Data Report #2 submitted to NHDES. Based upon the results of the investigations, remediation is required at the site. In response, a Remedial Action Plan (RAP) was submitted to NHDES on February 28, 2007. The RAP presented NHDES with several remedial alternatives to address soil and groundwater contamination at the site. The February 2007 RAP identified soil excavation (to a depth of 3 feet), construction of a containment wall and impermeable cap on the four residential properties purchased by ENGI as the recommended alternative. In September 2007, NHDES responded to the February 2007 RAP and required that ENGI evaluate additional remedial alternatives that included further soil removal. In November 2007, a RAP Addendum was submitted to NHDES. The revised RAP recommended a remedial alternative that included removal of tar-saturated soils to a depth of approximately 45 feet, construction of a containment wall and impermeable cap on the four residential properties owned by ENGI. On February 29, 2008, NHDES issued a letter to ENGI indicating that NHDES had reached a preliminary determination that the remedy recommended in the November 2007 RAP met the NHDES requirements and that a final decision would be reached following a public meeting and comment period.

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On March 24, 2008, NHDES held a public comment meeting to discuss the recommended alternative and began 30-day public comment period. In April 2008, NHDES received a request to extend the public comment period closing date to May 8, 2008, to allow the Town time to provide technical comment. On June 26, 2008, NHDES issued a letter deferring its final decision on the recommended remedial alternative for the Liberty Hill site pending further data analysis following the development of a scope prepared collaboratively between the Town of Gilford and ENGI. In July and August 2008, technical representatives from ENGI, the Town of Gilford, the Liberty Hill neighborhood and NHDES met twice to discuss the comments provided to NHDES during the public comment period and discuss the scope for additional groundwater modeling activities and limited additional site data collection. The Company submitted Scopes of Work for additional data collection and groundwater modeling to NHDES in September and October 2008, respectively. The field activities were completed between November 2008 and January 2009. Modeling efforts began in late 2008 and were completed in May 2009. In March and May 2009, technical representatives from ENGI, the Town of Gilford, the Liberty Hill neighborhood and NHDES met to discuss the results of the field investigations and the modeling activities. One topic discussed with the technical team was that the modelling results indicate that low-flow pumping would need to be added to the selected remedy meet the remedial goals for the site. On June 30, 2009, NHDES issued a letter to ENGI requesting that a second RAP Addendum be prepared for the site to evaluate the technical changes (mainly the addition of low-flow pumping) to the proposed remedy that resulted from the modeling effort. ENGI submitted the second RAP Addendum to NHDES on August 17, 2009 and presented the findings at a public meeting held in Gilford on September 10, 2009. In October 2009, NHDES hired a third party consultant to review the RAP cost estimates and the results were presented in a report to NHDES in April 2010. In October 2010, NHDES issued a Preliminary Decision on RAP Addendum No. 2, in which NHDES indicated that it did not concur with ENGI's recommended remedial alternative and further recommended the complete removal of coal tar-impacted soils at the site. On January 28, 2011, ENGI submitted a comment letter to NHDES further explaining its rationale for the remedial alternative recommended in RAP Addendum No. 2. On November 2, 2011, NHDES announced a Final Decision indicating that it did not concur with ENGI's recommended remedial approach and selecting the full removal option as the remedy for the site. On December 2, 2011, ENGI filed an appeal of the NHDES Final Decision with the New Hampshire Waste Management Council. In March 2012, ENGI attended the Pre-Conference Hearing with the Council related to the appeal. Hearings on the matter were scheduled for October 18 and November 15, 2012. On July 26, 2012, the Hearing Officer granted an Assented to Motion to Continue the hearing until a date after January 3, 2013.

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During the period of time the appeal was subject to the continuance, the company, the New Hampshire Department of Justice and NHDES engaged in settlement discussions on a confidential basis. At the conclusion of those negotiations, NHDES and the company agreed on a final remedy for the site, which was approved by NHDES. That approval allowed ENGI to withdraw its appeal as of December 19, 2012, and proceed with implementation of the remedy. The town of Gilford was briefed on the agreed-upon remedy concurrently with NHDES approval and ENGI's withdrawal of the appeal.

ENGI has also performed numerous other activities requested by NHDES between 2008 and 2011, including remediation of the groundwater seep area near Jewett Brook in accordance with NHDES-approved September 2008 Initial Response Action Plan; evaluation of options for providing financial assurances to NHDES for the site remediation activities; coal tar recovery; semi-annual groundwater and surface water sampling activities; and drinking water well sampling. Groundwater sampling is reported to the NHDES in semi-annual reports. In addition, ENGI developed a Liberty Hill Road site website to assist in updating interested parties.

In conjunction with the Site Investigation work, ENGI has acquired 4 properties on Liberty Hill Road to facilitate remediation activities, and eliminate any potential risk to residents associated with a significant remediation and construction project. The properties were obtained based upon arms-length negotiations, and in one instance to settle potential litigation.

The site was remediated in 2014-2015 construction seasons, and was restored to a grass field by December 2015. NHDES approved the Notice of Activity and Use Restriction (AUR) in February 2017. In May 2017, ENGI received the post-construction groundwater monitoring permit, requiring annual groundwater sampling.

5. NEW HAMPSHIRE SITE REMEDIATION PROGRAM PHASE: On December 10, 2012, ENGI submitted a Conceptual Remedial Design Report to NHDES describing the approach for full removal. NHDES approved this Conceptual RAP Addendum design on December 18, 2012, and ENGI withdrew their appeal before the New Hampshire Waste Management Council on December 19, 2012. A public meeting was held in the Town of Gilford to present the approved Conceptual Remedial Design on January 23, 2013. The pre-design investigation to confirm extent and depth of contamination commenced on February 20, 2013 and was completed first week in April 2013. A public meeting was held on September 25, 2013 to present the design to the Town. The Remedial Design Report was finalized and approved by NHDES in December 2013. Plans and Specifications were developed concurrently, and the bidding process commenced in September 2013 with a Request for

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Information to ten (10) prospective contractors. On October 28, six (6) contractors were selected to participate in the bidding for the construction, with bids due back on December 6, 2013. On January 9, 2014, three (3) of the bidders were interviewed and Charter Environmental of Boston, MA (the Contractor) was selected for the project. A public meeting took place on February 12, 2014 to further explain details of the anticipated construction and to introduce the project team to the community.

The Contractor mobilized to the site and began set-up in May 2014, with the first load of soil being hauled from the site on June 6, 2014. Construction began to remove tar-impacted soil on the south side of the site in the first season, with little to no impact to the surrounding community. In 2014, approximately 65% of the impacted soil was removed for treatment. On April 8, 2015, ENGI presented the results of the first season of construction at a Gilford Town Select Board meeting, and presented expectations for the second season to the community. Starting on April 13, 2015, the north side of the site was remediated, with the removal of all tar-impacted soil completed on August 3, 2015. The entire project was completed on September 24, 2015 with 2,662 truckloads hauling 93,502 tons of tar-impacted soil removed for thermal treatment. Some additional site restoration work was needed in October 2015 and another seeding in April 2016 to repair damage to the original restoration caused by a heavy rainstorm that occurred on September 30, 2015. Throughout the course of the project there was no disruption to the neighboring community and no safety incidents, logging 26,975 safe working hours. The project was completed within budget parameters.

The only activities on this site during the past year and ongoing are mowing and groundwater and surface sampling, per the new post-remedial Groundwater Management Permit received on May 10, 2017. In May 2017, the NHDES requested by letter that all active hazardous waste sites managed by the Hazardous Waste Remediation Bureau include sampling for Per- and Polyfluoroalkyl Substances (PFAS) in one of their groundwater sampling rounds, as part of a statewide study of these compounds. ENGI fulfilled this request during regularly scheduled sampling in 2018. **ENGI continues to mow the site twice a year and sample the groundwater per the Groundwater Management Permit each September.**

6. HISTORY AND CURRENT STATUS OF USE AND OWNERSHIP: ENGI is the successor by merger to Gas Service, Inc. (GSI). In 1945, GSI acquired the gas manufacturing assets of PSNH. The Laconia MGP, which began operating in 1894, was included in that transaction. Gas manufacturing took place at the property until 1952, when the MGP was converted to propane. Half of the property is now owned by Robert Irwin and maintained

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as an open field, and the other half is owned by PSNH, which operates an electric substation on the parcel.

The Liberty Hill Road parcel on which disposal was believed to have occurred was utilized as a gravel pit at the time of the disposal. It was subdivided in May 1970, and currently constitutes part of a residential subdivision.

7. LISTING AND STATUS OF INSURANCE AND 3RD PARTY LAWSUITS AND SETTLEMENTS: ENGI and PSNH entered into a confidential settlement in 1999. Under this agreement, PSNH took the lead on the MGP site investigation and remediation and all communications with NHDES. ENGI retained responsibility for any decommissioning-related liabilities, including off-site disposal.

Insurance recovery efforts are complete with respect to the MGP, and numerous confidential settlements have been entered into. In 2003, the United States District Court certified a question to the New Hampshire Supreme Court asking what “trigger of coverage” should be applied to the insurance policies issued by Lloyds of London to ENGI’s predecessor, Gas Service, Inc. In May 2004, the Supreme Court responded that a “continuous injury-in-fact” trigger should be applied. The federal court conducted a jury trial against Lloyds of London - the only remaining defendant – in October 5, 2004. At the end of that trial the jury returned a verdict in favor of ENGI. Subsequent to the verdict, ENGI and Lloyds of London entered into a confidential settlement.

With respect to Liberty Hill, insurance carriers have been placed on notice of a potential claim, but no litigation has been initiated. The Company does not expect to pursue any insurance litigation.

Note: This summary is an overview only and is not intended to be a comprehensive recitation of all relevant information relating to the site and the associated liability.

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1. SITE LOCATION: One Gas Street, Concord, New Hampshire.

2. DATE SITE WAS FIRST INVESTIGATED: EnergyNorth Natural Gas, Inc. (ENGI)[1] received a Notice Letter from the New Hampshire Department of Environmental Services (NHDES) in September 1992. The Notice related primarily to contamination identified in the pond adjacent to Exit 13 off Interstate 93, although it was broad enough to also include the former manufactured gas plant (MGP) site itself.

3. NATURE AND SCOPE OF SITE CONTAMINATION: Residual materials from the historic operation of the MGP were discovered in the area of the Exit 13 pond, as the NHDOT began site preparation work for the reconfiguration of that interchange. Subsequent investigations by ENGI and others indicate that contaminants originating from the MGP on Gas Street are present in soil and groundwater between the MGP and the Merrimack River, including within the Exit 13 pond.

4. SUMMARY OF MATERIAL DEVELOPMENTS AND INTERACTIONS WITH ENVIRONMENTAL AUTHORITIES:

Concord MGP: The New Hampshire Department of Transportation (NHDOT) contacted ENGI in August 2001 and February 2002 regarding possible coal tar-related impacts in a sewer line on a parcel adjacent to the former gas plant. NHDOT is currently conducting groundwater monitoring as part of a Groundwater Management Zone Permit on this parcel. ENGI met with NHDOT and NHDES in January 2003 to review the results of its 2002 site investigation. Limited coal tar impacts were observed in groundwater and subsurface soils at select locations.

On July 15, 2003, NHDES issued a letter to ENGI requesting submission of a schedule and scope of work for a site investigation of the MGP site by mid-September 2003. ENGI proposed a May 2005 date for submission of a Site Investigation Report for the MGP site on Gas Street to NHDES by way of a letter dated October 6, 2003. NHDES agreed to the proposed schedule in their response letter dated October 31, 2003.

ENGI submitted the work plan for the MGP site investigation to NHDES on May 20, 2004. NHDES accepted the work plan on June 16, 2004. The investigation took place between September 2004 and March 2005, and the Site Investigation Report was submitted to NHDES on June 6, 2005. The report indicated that subsurface impacts are present at the MGP, and additional investigation as well as limited remediation will be required. NHDES accepted the report on August 12, 2005, and requested ENGI

[1] In July 2012, EnergyNorth was acquired by Liberty Utilities and its legal name changed to Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities. For consistency purposes, the acronym ENGI will be used throughout this document.

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submit a supplemental scope of work to complete the delineation of MGP-related impacts on and off Site. The document was submitted in November 2005. Site investigation activities at and downgradient of the MGP were conducted in 2006. ENGI submitted an additional supplemental scope of work to further delineate MGP impacts on May 31, 2007 and NHDES subsequently approved the scope on June 5, 2007. ENGI bid the NHDES-approved scope of work in June 2008 and awarded the contract in late July 2008. ENGI met with NHDES at the site in August 2008 to discuss the additional supplemental site investigation activities. The field work took place during October through December 2008, during which time 8 groundwater monitoring wells were installed at 4 off-site locations. The Additional Supplemental Site Investigation Report was submitted to NHDES in September 2009. ENGI met with NHDES to discuss the report findings and strategy for moving forward in October 2009. NHDES issued an approval letter for the Supplemental Site Investigation Report on February 9, 2010. The correspondence approved the report and requested that certain additional activities be completed by ENGI. These requested activities include the following: a) preparation and submission of an Initial Response Action Work Plan to remove approximately 3,500 gallons of liquid and sludge from historic subsurface drip pots and tar wells at the MGP property on Gas Street; b) evaluation of the groundwater conditions in the vicinity of the "Tar Pond" which is depicted on a referenced NHDOT site plan; and c) evaluation of potential indoor air impacts at select locations identified during the additional SSI work.

ENGI submitted the Initial Response Work Plan to NHDES in July 2010 to remove approximately 3,500 gallons of liquid and sludge from historic subsurface drip pots. NHDES issued an approval letter for this Work Plan on August 3, 2010 and the work was completed in June 2011. In addition, ENGI submitted a Supplemental Data Collection Work Plan for the additional off-ENGI-owned property investigation activities (items b and c above) to NHDES in August 2010. NHDES approved of the Work Plan on September 16, 2010. ENGI obtained access to 4 properties in the vicinity of the site in order to conduct the supplemental investigation activities, which included soil, ground water and soil vapor sampling, along with further investigation of the brick tar sewer. ENGI submitted a revised Work Plan with revised sampling locations to NHDES in November 2011; the revision was necessary because site access was not granted by the property owners for some of the originally proposed locations. The investigation work was completed in July 2012, and summarized in a Supplement Data Collection Report that was submitted in August 2013, in preparation for submittal of the Remedial Action Plan. This Supplement Data Collection Report was accepted by NHDES on October 24, 2013, and ENGI was authorized to prepare a RAP and Groundwater Management Permit (GMP) application. The GMP application was submitted on September 4, 2014, and the permit was received on December 1, 2014.

LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
d/b/a LIBERTY UTILITIES

CONCORD FORMER MGP

LINE
NO.

On June 16, 2013, wind during a thunderstorm caused a tree to fall on the northern side of the roof of the Holder House located on the former Concord MGP property. Damage to the slate roof and brick was sustained. In a letter dated February 24, 2014 NHDES stated that the holder structure "…serves as a physical barrier to prevent infiltration of precipitation into the foundation and thereby limits the amount of MGP byproducts that may be released to the environment."

On March 31, 2015, ENGI submitted a proposed Remedial Action Plan involving removal of shallow soils displaying MGP-related residual impacts, investigation and remediation of remaining known subsurface structures, capping of components of the local storm water drainage system, site capping design, and continued monitoring of groundwater on the site. NHDES approved the RAP on May 29, 2015, with the condition that roof of the brick gas holder either be restored, or the holder be razed and the soils beneath it remediated. Soil vapor monitoring; soil vapor probe installation; and remedial design investigations including subsurface structure location and inspection, shallow tar-saturated soil delineation, and site storm drain system inspections, as approved by the RAP, were performed in December 2015. A Remedial Design Report (RDR) was submitted to NHDES on March 16, 2016 summarizing the above remedial design investigations. The remediation activities, required to be completed prior to site capping, include tar-impacted material removals and plugging of the on-site drain system, took place in 2017.

In early 2016 ENGI was approached by a commercial developer who was interested in purchasing the property and repurposing the holder house structure. Several site meetings took place with the developer, and ENGI was negotiating the terms of the property's sale. If the property is transferred, the purchaser's future use design will be taken into account when the final design of the engineered cap is being developed. This site developer has not contacted ENGI since May 2017, and appears to have lost interest in the redevelopment project.

There has been no movement or activity on a transfer of the holder site. In 2020, further deterioration of the holder structure has been observed. In addition, fencing was repaired and added to the areas around the deteriorated areas near the vestibule and the outside scaffolding where the tree fell in 2013.

Concord Pond: ENGI has continued to monitor groundwater semi-annually at the Exit 13 pond, in May and November, as required by the Groundwater Management Zone Permit that was issued in 1999 as part of the overall remedy following the remediation of the southern end of the Exit 13 pond. The permit was renewed in 2003, 2007 and 2012, and NHDES specified semiannual collection of surface water samples from the pond as an additional condition of the permit.

LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
d/b/a LIBERTY UTILITIES

CONCORD FORMER MGP

LINE
NO.

When the Exit 13 pond was remediated in 1999, NHDES required that the northern portion remained untouched, allowing for storm water input to the pond, with the knowledge that some contamination remained and may require remediation in the future. In 2006, NHDES requested ENGI address the residual contamination in the pond, and in response, ENGI submitted an Interim Data Collection Report and Scope of Work in May 2006, which was approved in July 2006. This Scope of Work was implemented in 2006 and the results were to be used to prepare the Remedial Action Plan (RAP) which NHDES requested be submitted by August 31, 2006. In July 2006, NHDES extended the deadline for submittal of the RAP to June 30, 2007, to allow ENGI additional time for data collection and design. ENGI submitted an Interim Data Collection Report to NHDES in September 2006, and a Conceptual Remedial Design in March 2007. On March 25, 2009, ENGI submitted a Presumptive Remedy Approval Request to NHDES, in order to allow for the design and implementation of an engineered cap without the need to prepare a RAP. On May 4, 2009, NHDES granted the Presumptive Remedy Approval, and the project moved into the remedial design phase.

The proposed remedial work is to be performed on city-owned land and within a NHDOT right-of-way; therefore ENGI is working with these parties to come to agreement on the design features, negotiate access and clarify the responsibilities of the three parties. In April 2010, ENGI met with representatives from NHDES, the City of Concord, and NHDOT to present the proposed remedy, and ENGI submitted the draft design plans to the parties in June 2010. ENGI met with the regulatory permitting agencies in October 2010. The agencies requested that ENGI modify the remedial design to include an upland cap versus a wetland cap to minimize the impacts of the project. The cap was redesigned and ENGI met with the stakeholders in December 2010. At a subsequent meeting in January 2011, the City of Concord requested that the design be further modified to relocate the City's storm water outfall location.

ENGI met with the City in March 2011 to present the feasibility evaluation that was conducted for several alternatives, and concluded that the original design was the appropriate design. Contact was reconvened with the City in 2013, and adjustments to the original design were made to address outfall maintenance and access concerns of the City and NHDOT, respectively. The design was presented to the City on January 26, 2016. A rigorous schedule toward construction in late summer 2017 was agreed to by ENGI and the City in February 2016. The City did not meet an early deadline to determine and communicate details regarding access to their storm water system. Communication was again resumed in July 2016 by the City, however the City remained unresponsive to ENGI on implementation of the joint remedial design.

In March 2018, discussions with the new City Engineer took place and the City's engagement level has increased to come to a design solution on outfall maintenance. These discussions are frequent and ongoing.

LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
d/b/a LIBERTY UTILITIES

CONCORD FORMER MGP

LINE
NO.

Semiannual groundwater monitoring at the pond is ongoing, as is recovery of separate phase coal tar from a monitoring well in the vicinity of the pond. In May 2017, the NHDES requested by letter that all active hazardous waste sites managed by the Hazardous Waste Remediation Bureau include sampling for Per- and Polyfluoroalkyl Substances (PFAS) in one of their groundwater sampling rounds, as part of a statewide study of these compounds. ENGI fulfilled this request during regularly scheduled sampling in 2018.

During May 19, 2009 through May 22, 2009, ENGI implemented a NHDES-approved sediment sampling program in the Merrimack River to evaluate potential MGP-related impacts. ENGI met with NHDES in October 2009 to present the results of the sediment investigation, and submitted the sediment sampling data report to NHDES in October 2009. The investigation indicated limited site-related impacts to the shallow near-shore sediments of the Merrimack River. Based upon the results of the sediment investigation, it is unlikely that remedial actions will be necessary in the river. ENGI met with NHDES on February 20, 2013 to discuss all sampling activities to date, summarized in an SIR Addendum Report, submitted in June 2013.

In May 2016, ENGI submitted a proposed plan for monitoring the near-bank sediments to the pond area in the Merrimack River. After discussions regarding frequency, duration of the Monitored Natural Recovery (MNR) program, and methodologies to be used in determining the contaminant trending in the river sediment, NHDES approved a revised MNR Plan in a letter dated July 2017. The 5-year sampling plan began in 2017 with the first of 5 annual samplings. The second round of sediment sampling took place in October 2018, **and the third round of sediment sampling took place in October 2019. NHDES has accepted the MNR reports submitted by ENGI summarizing the sediment sampling results.**

5. NEW HAMPSHIRE SITE REMEDIATION PROGRAM PHASE:

Concord MGP: In July 2003, NHDES requested that ENGI submit a schedule and scope of work for completion of a site investigation of the MGP site. ENGI submitted the scope to NHDES in May 2004 and implemented the work between September 2004 and March 2005. The results of the investigation were documented in the Site Investigation Report, dated June 6, 2005, which was subsequently approved by NHDES. Supplemental investigation activities were performed in 2006. Additional investigation activities were performed in 2008. The additional SSI report was submitted to NHDES in September 2009. In addition, ENGI submitted the Initial Response Work Plan to NHDES in July 2010 to remove approximately 3,500 gallons of liquid and sludge from historic subsurface drip pots. NHDES issued an approval letter for this Work Plan on August 3, 2010 and the work was completed in June 2011. The Supplemental Data Collection report summarizing the investigation activities was accepted in October 2013, authorizing ENGI to prepare a RAP and GMP Application. The GMP application was submitted on

**LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
d/b/a LIBERTY UTILITIES**

CONCORD FORMER MGP

LINE
NO.

September 4, 2014, and the permit was received on December 1, 2014. On March 31, 2015, ENGI submitted a proposed RAP, and NHDES approved the RAP with conditions. A Remedial Design Report, summarizing pre-design investigations, was provided to NHDES in March 2016**.**

Outstanding remedial activities including the decommissioning of the deep well (historic water supply well), closure of the “old tar separator” and a small drip pot, closure of the on-site storm drain, and removal of an area of soil containing hardened tar, planned for 2020, have been delayed due to the COVID-19 pandemic.

Concord Pond: ENGI submitted an application for a five-year Groundwater Management Zone Permit to the NHDES in April 2002 for the Exit 13 pond. The permit was renewed in October 2007, with the collection of pond surface water samples as an additional condition. Under that permit, groundwater monitoring is expected to be required for the foreseeable future. In addition, as requested by NHDES, ENGI undertook a review of remedial technologies to address the residual contamination remaining in the pond. A conceptual remedial design was submitted to NHDES in March 2007, a Presumptive Remedy Approval was granted by NHDES in May 2009, and the engineered cap design has been drafted. The work will be undertaken pending agreement between the City, NHDOT, and ENGI. ENGI met with these parties on several occasions in 2010 and 2011. The Company reinitiated discussion with the City in July 2014 regarding access to the site to implement the approved design of the wetland cap. The design was adjusted to accommodate the City’s desire to simplify maintenance of the storm water system. **ENGI has altered the design of the construction to provide temporary access through the wetland area and a permanent access road that does not encroach on the NHDOT right-of-way. ENGI will undergo a pre-design investigation once the City agrees to formal access of the area, with a target date for construction of late summer 2021. ENGI is designing the wetland cap remedy pre-design investigation, and plans to construct the remedy in late summer 2021. ENGI has delivered a draft access agreement to the property to allow access by the City for the wetland cap remedy construction.**

A renewal application for the Groundwater Management Permit was submitted on August 24, 2017, and the renewed permit was granted by NHDES on November 22, 2017. Groundwater and surface water monitoring continues under this permit every May and November. **The 5-year sediment sampling plan to monitor natural attenuation of MGP residuals in the river began in autumn 2017 and are ongoing each October.**

6. HISTORY AND CURRENT STATUS OF USE AND OWNERSHIP: The Concord MGP operated from approximately 1850 to 1952, when the natural gas pipeline was extended

LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
d/b/a LIBERTY UTILITIES

CONCORD FORMER MGP

LINE
NO.

to Concord. The plant was constructed and operated by predecessors of the Concord Gas Company, which later became known as the Concord Natural Gas Company. By virtue of a merger, ENGI acquired Concord Natural Gas. As has been reported previously by ENGI, it filed a contribution claim in the United States District Court for the District of New Hampshire against the successor to the United Gas Improvement Company. In that claim, ENGI alleged that under the federal Superfund statute, the United Gas Improvement Company exercised control over the operations of the Concord Gas Plant to the extent that the United Gas Improvement Company should be considered an "operator" under the statute. That matter was settled in 1997.

7. LISTING AND STATUS OF INSURANCE AND 3RD PARTY LAWSUITS AND SETTLEMENTS: Numerous confidential settlements with insurance carriers and with one private party have been entered into. *Insurance recovery efforts at the Concord Site are complete.*

Note: This summary is an overview only and is not intended to be a comprehensive recitation of all relevant information relating to the site and the associated liability.

ENERGYNORTH NATURAL GAS, INC.
MANUFACTURED GAS PLANT ENVIRONMENTAL COSTS

2020 SUMMARY BY SITE

LINE NO.	SITE	REF NO.	1101 LEGAL EXPENSES	1102 CONSULTING EXPENSES	1105 REMEDIATION EXPENSES	1106 SETTLEMENT EXPENSES	1107 OTHER EXPENSES	100 % RECOVERABLE EXPENSES	1108 INSURANCE & THIRD PARTY EXPENSES	1109 INSURANCE & THIRD PARTY RECOVERIES	TOTAL
1	Concord Pond	DEF056	0.00	152,790.27	0.00	0.00	34,567.39	187,357.66	[redacted]	[redacted]	172,763.62
2	Concord MGP	DEF077	0.00	66,817.40	0.00	0.00	12,373.89	79,191.29	[redacted]	[redacted]	66,587.71
3	Laconia/Liberty Hill	DEF086	0.00	23,947.82	0.00	0.00	3,977.78	27,925.60	[redacted]	[redacted]	27,925.60
4	Manchester MGP	DEF057	0.00	104,451.19	126,195.25	0.00	81,786.55	312,432.99	[redacted]	[redacted]	155,032.39
5	Nashua MGP	DEF054		37,489.06	0.00	0.00	2,044.41	39,533.47	[redacted]	[redacted]	11,471.80
6	General Expenses	DEF064	0.00	0.00	0.00	0.00	7,110.73	7,110.73	[redacted]	[redacted]	7,110.73
								0.00	[redacted]	[redacted]	0.00
	Total Pool Activity		**0.00**	**385,495.74**	**126,195.25**	**0.00**	**141,860.75**	**653,551.74**	**0.00**	**(212,659.89)**	**440,891.85**

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LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
MANUFACTURED GAS PLANT ENVIRONMENTAL COSTS
NASHUA - REMEDIATION
PROJECT DEF054

			1101	1102	1105	1106	1107		1108	1109	
LINE NO.	VENDOR	REF NO.	LEGAL EXPENSES	CONSULTING EXPENSES	REMEDIATION EXPENSES	SETTLEMENT EXPENSES	OTHER EXPENSES	SUBTOTAL EXPENSES	INSURANCE & THIRD PARTY EXPENSE	INSURANCE & THIRD PARTY RECOVERIES	TOTAL SUBMITTED
1	INNOVATIVE ENGINEERING SOLUTIONS, INC.	13255		4,590.58				4,590.58			4,590.58
2	NH DEPT OF ENVIRONMENTAL SERVICES	199810022 072619					954.62	954.62			954.62
3	[redacted]										
4	INNOVATIVE ENGINEERING SOLUTIONS, INC.	13285		2,200.58				2,200.58			2,200.58
5	INNOVATIVE ENGINEERING SOLUTIONS, INC.	13312		2,570.75				2,570.75			2,570.75
6	INNOVATIVE ENGINEERING SOLUTIONS, INC.	13336		5,281.13				5,281.13			5,281.13
7	CLEAN HARBORS	1003064660					640.71	640.71			640.71
8	INNOVATIVE ENGINEERING SOLUTIONS, INC.	13361		1,957.55				1,957.55			1,957.55
9	INNOVATIVE ENGINEERING SOLUTIONS, INC.	13386		2,444.46				2,444.46			2,444.46
10	[redacted]										
11	INNOVATIVE ENGINEERING SOLUTIONS, INC.	13408		4,473.30				4,473.30			4,473.30
12	NH DEPT OF ENVIRONMENTAL SERVICES	199810022 012920					134.64	134.64			134.64
13	INNOVATIVE ENGINEERING SOLUTIONS, INC.	13457		3,578.89				3,578.89			3,578.89
14	[redacted]										
15	INNOVATIVE ENGINEERING SOLUTIONS, INC.	13432		9,353.78				9,353.78			9,353.78
16	INNOVATIVE ENGINEERING SOLUTIONS, INC.	13509		754.35				754.35			754.35
17	INNOVATIVE ENGINEERING SOLUTIONS, INC.	13526		283.69				283.69			283.69
18								0.00			0.00
19								0.00			0.00
20								0.00			0.00
21	Environmental Staff Time						314.44	314.44			314.44
	[redacted]										

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LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
MANUFACTURED GAS PLANT ENVIRONMENTAL COSTS
CONCORD POND - REMEDIATION
PROJECT DEF056

LINE NO.	VENDOR	REF NO.	1101 LEGAL EXPENSES	1102.00 CONSULTING EXPENSES	1105 REMEDIATION EXPENSES	1106 SETTLEMENT EXPENSES	1107 OTHER EXPENSES	SUBTOTAL EXPENSES	1108 INSURANCE & THIRD PARTY EXPENSES	1109 INSURANCE & THIRD PARTY RECOVERIES	TOTAL SUBMITTED
1	GEI CONSULTANTS, INC.	3056476		7,344.92				7,344.92			7,344.92
2	CLEAN HARBORS	1002924499					908.85	908.85			908.85
3	PARKER FENCE	19-602					27,700.00	27,700.00			27,700.00
4	GEI CONSULTANTS, INC.	3058507		1,320.32				1,320.32			1,320.32
5	ANCHOR QEA LLC	64375		7,718.00				7,718.00			7,718.00
6	GEI CONSULTANTS, INC.	3060104		984.98				984.98			984.98
7	GEI CONSULTANTS, INC.	3057174		4,157.38				4,157.38			4,157.38
8	GEI CONSULTANTS, INC.	3063405		3,105.76				3,105.76			3,105.76
9	CASEY MARY	EXP0902-121919					35.23	35.23			35.23
10	GEI CONSULTANTS, INC.	3064852		1,254.54				1,254.54			1,254.54
11	[redacted]										
12											
13											
14											
15											
16	NH DEPT OF ENVIRONMENTAL SERVICES	199212014 012920					1,882.83	1,882.83			1,882.83
17	GEI CONSULTANTS, INC.	3066463		1,076.06				1,076.06			1,076.06
18	GEI CONSULTANTS, INC.	3061743		1,023.38				1,023.38			1,023.38
19	GEI CONSULTANTS, INC.	3067839		1,630.10				1,630.10			1,630.10
20	ANCHOR QEA LLC	64839		1,608.50				1,608.50			1,608.50
21	ANCHOR QEA LLC	66175		12,981.50				12,981.50			12,981.50
22	ANCHOR QEA LLC	66706		12,454.00				12,454.00			12,454.00
23	ANCHOR QEA LLC	67077		11,929.84				11,929.84			11,929.84
24	ANCHOR QEA LLC	65292		6,327.17				6,327.17			6,327.17
25	ANCHOR QEA LLC	65770		29,358.01				29,358.01			29,358.01
26	GEI CONSULTANTS, INC.	3069861		2,004.26				2,004.26			2,004.26
27	ANCHOR QEA LLC	67640		19,750.42				19,750.42			19,750.42
28	NH DEPT OF ENVIRONMENTAL SERVICES	199212014 042920					753.13	753.13			753.13
29	GEI CONSULTANTS, INC.	3070960		997.00				997.00			997.00
30	CITY OF CONCORD	20003858					1,020.00	1,020.00			1,020.00
31	CLEAN HARBORS	1003310444					1,292.62	1,292.62			1,292.62
32	GEI CONSULTANTS, INC.	3072478		2,523.09				2,523.09			2,523.09
33	ANCHOR QEA LLC	68133		14,300.79				14,300.79			14,300.79
34	ANCHOR QEA LLC	68541		8,940.25				8,940.25			8,940.25
35	[redacted]										
36								0.00			-
37	Environmental Staff Time						974.73	974.73			974.73
	[redacted]										

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LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
MANUFACTURED GAS PLANT ENVIRONMENTAL COSTS
MANCHESTER - REMEDIATION
PROJECT DEF057

			1101	1102	1105	1106	1107		1108	1109	
LINE NO.	VENDOR	REF NO.	LEGAL EXPENSES	CONSULTING EXPENSES	REMEDIATION EXPENSES	SETTLEMENT EXPENSES	OTHER EXPENSES	SUBTOTAL EXPENSES	INSURANCE & THIRD PARTY EXPENSE	INSURANCE & THIRD PARTY RECOVERIES	TOTAL SUBMITTED
1	CLEAN HARBORS	1002904126			125,771.12			125,771.12			125,771.12
2	CLEAN HARBORS	1002899474					11,707.93	11,707.93			11,707.93
3	CLEAN HARBORS	1002892956					11,752.52	11,752.52			11,752.52
4	CLEAN HARBORS	1002901011					7,216.18	7,216.18			7,216.18
5	GZA GEOENVIRONMENTAL INC	0778032		21,141.77				21,141.77			21,141.77
6	[redacted]										
7	CLEAN HARBORS	1002943503			424.13			424.13			424.13
8	NH DEPT OF ENVIRONMENTAL SERVICES	NHD500012257 Q2-2019					864.00	864.00			864.00
9	GZA GEOENVIRONMENTAL INC	0779445		14,241.05				14,241.05			14,241.05
10	CASEY MARY	EXP0301-053119					17.16	17.16			17.16
11	ENVIRONMENTAL SOIL MANAGEMENT	1017849					20,532.96	20,532.96			20,532.96
12	GZA GEOENVIRONMENTAL INC	0782065		21,124.15				21,124.15			21,124.15
13	GZA GEOENVIRONMENTAL INC	0782957		4,872.44				4,872.44			4,872.44
14	[redacted]										
15	ENVIRONMENTAL SOIL MANAGEMENT	1017910					11,355.68	11,355.68			11,355.68
16	ENVIRONMENTAL SOIL MANAGEMENT	1017958					12,906.88	12,906.88			12,906.88
17	[redacted]										
18											
19	GZA GEOENVIRONMENTAL INC	0785486		22,862.27				22,862.27			22,862.27
20	[redacted]										
21	GZA GEOENVIRONMENTAL INC	0787257		15,376.32				15,376.32			15,376.32
22	NH DEPT OF ENVIRONMENTAL SERVICES	200003011 012920					47.07	47.07			47.07
23	NH DEPT OF ENVIRONMENTAL SERVICES	NHD500012257 Q2-2019 corr					4,786.67	4,786.67			4,786.67
24	[redacted]										
25	GZA GEOENVIRONMENTAL INC	0790380		1,817.85				1,817.85			1,817.85
26	GZA GEOENVIRONMENTAL INC	0788821		3,015.34				3,015.34			3,015.34
27	[redacted]										
28								0.00			0.00
33								0.00			0.00
34								0.00			0.00
35	Environmental Staff Time						599.50	599.50			599.50
	[redacted]										

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LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
MANUFACTURED GAS PLANT ENVIRONMENTAL COSTS
GENERAL EXPENSES
PROJECT DEF064

LINE NO.	VENDOR	REF NO.	1101 LEGAL EXPENSES	1102 CONSULTING EXPENSES	1105 REMEDIATION EXPENSES	1106 SETTLEMENT EXPENSES	1107 OTHER EXPENSES	SUBTOTAL EXPENSES	1108 INSURANCE & THIRD PARTY EXPENSE	1109 INSURANCE & THIRD PARTY RECOVERIES	TOTAL SUBMITTED
1	ALLEGRA MARKETING PRINT MAIL	32928					205.00	205.00			205.00
2	CASEY MARY	EXP0902-121919					69.62	69.62			69.62
3								0.00			0.00
4								0.00			0.00
5	Environmental Staff Time						6,836.11	6,836.11			6,836.11
	Total Pool Activity		**0.00**	**0.00**	**0.00**	**0.00**	**7,110.73**	**7,110.73**	**0.00**	**0.00**	**7,110.73**

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LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
MANUFACTURED GAS PLANT ENVIRONMENTAL COSTS
CONCORD MGP - REMEDIATION
PROJECT DEF077

LINE NO.	VENDOR	REF NO.	1101 LEGAL EXPENSES	1102 CONSULTING EXPENSES	1105 REMEDIATION EXPENSES	1106 SETTLEMENT EXPENSES	1107 OTHER EXPENSES	SUBTOTAL EXPENSES	1108 INSURANCE & THIRD PARTY EXPENSE	1109 INSURANCE & THIRD PARTY RECOVERIES	TOTAL SUBMITTED
1	GZA GEOENVIRONMENTAL INC	0777097		1,538.50				1,538.50			1,538.50
3	GZA GEOENVIRONMENTAL INC	0777098		1,909.66				1,909.66			1,909.66
4	JOE GAUCI LANDSCAPING LLC	2019-6-3576					591.00	591.00			591.00
5	CLEAN HARBORS	1002892966					126.56	126.56			126.56
6	CLEAN HARBORS	1002924499					859.09	859.09			859.09
7	CITY OF CONCORD	410184-001 0719					9.93	9.93			9.93
8	CITY OF CONCORD GSD	410184-001 0719					9.93	9.93			9.93
9	CITY OF CONCORD	410184-001 0819					10.21	10.21			10.21
10	JOE GAUCI LANDSCAPING LLC	2019-8-3576					2,538.00	2,538.00			2,538.00
11	CITY OF CONCORD	410184-001 0919 Bal after O/P					0.28	0.28			0.28
12	CLEAN HARBORS	1003033863					192.10	192.10			192.10
13	JOE GAUCI LANDSCAPING LLC	2019-9-3576					470.00	470.00			470.00
14	GZA GEOENVIRONMENTAL INC	0783743		9,245.97				9,245.97			9,245.97
15	GZA GEOENVIRONMENTAL INC	0783744		1,813.50				1,813.50			1,813.50
16	JOE GAUCI LANDSCAPING LLC	2019-10-3576					150.00	150.00			150.00
17	CITY OF CONCORD GSD	410184-001 1119					10.21	10.21			10.21
18	CITY OF CONCORD GSD	410184-001 1019					10.64	10.64			10.64
19	CLEAN HARBORS	1003091848					524.32	524.32			524.32
20	GZA GEOENVIRONMENTAL INC	0785487		10,061.68				10,061.68			10,061.68
21	GZA GEOENVIRONMENTAL INC	0785541		2,273.10				2,273.10			2,273.10
22	CASEY MARY	EXP0902-121919					95.82	95.82			95.82
23	CITY OF CONCORD GSD	410184-001 113019					10.21	10.21			10.21
24	CITY OF CONCORD GSD	410184-001 123019					10.21	10.21			10.21
25	[redacted]										
26	[redacted]										
27	[redacted]										
28	[redacted]										
29	GZA GEOENVIRONMENTAL INC	0787258		18,103.71				18,103.71			18,103.71
30	GZA GEOENVIRONMENTAL INC	0787259		1,560.00				1,560.00			1,560.00
31	NH DEPT OF ENVIRONMENTAL SERVICES	198904063 012920					98.01	98.01			98.01
32	JOE GAUCI LANDSCAPING LLC	2019-7-3576					570.00	570.00			570.00
33	JOE GAUCI LANDSCAPING LLC	2019-11-3576					520.00	520.00			520.00
34	GZA GEOENVIRONMENTAL INC	0788822		10,113.33				10,113.33			10,113.33
35	GZA GEOENVIRONMENTAL INC	0788805		308.50				308.50			308.50
36	GZA GEOENVIRONMENTAL INC	0790381		9,526.95				9,526.95			9,526.95
37	GZA GEOENVIRONMENTAL INC	0790202		362.50				362.50			362.50
38	NH DEPT OF ENVIRONMENTAL SERVICES	198904063 042920					1,560.06	1,560.06			1,560.06
39	CITY OF CONCORD GSD	410184-001 043020					10.21	10.21			10.21
40	CITY OF CONCORD	20003858					1,020.00	1,020.00			1,020.00
41	CLEAN HARBORS	1003310444					1,735.13	1,735.13			1,735.13
42	CITY OF CONCORD GSD	410184-001 053020					10.21	10.21			10.21
43	JOE GAUCI LANDSCAPING LLC	2020-5-3576					504.00	504.00			504.00
44	CITY OF CONCORD GSD	410184-001 043020					31.11	31.11			31.11
45	[redacted]										
46								0.00			0.00
47	Environmental Staff Time						696.65	696.65			696.65
48	[redacted]										

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LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.
MANUFACTURED GAS PLANT ENVIRONMENTAL COSTS
LIBERTY HILL - REMEDIATION
PROJECT DEF086

LINE NO.	VENDOR	REF NO.	1101 LEGAL EXPENSES	1102 CONSULTING EXPENSES	1105 REMEDIATION EXPENSES	1106 SETTLEMENT EXPENSES	1107 OTHER EXPENSES	SUB-TOTAL EXPENSES	1108 INSURANCE & THIRD PARTY EXPENSES	1109 INSURANCE & THIRD PARTY RECOVERIES	TOTAL SUBMITTED
1	MULLER'S LAWN & LANDSCAPING, LLC	5129					800.00	800.00			800.00
2	GEI CONSULTANTS, INC.	3060103		1,255.61				1,255.61			1,255.61
3	CLEAN HARBORS	1003053357					515.28	515.28			515.28
4	MULLER'S LAWN & LANDSCAPING, LLC	5277					800.00	800.00			800.00
5	BLUE CHIP FILMS LLC	01619					900.00	900.00			900.00
6	GEI CONSULTANTS, INC.	3063404		540.44				540.44			540.44
7	GEI CONSULTANTS, INC.	3061635		22,151.77				22,151.77			22,151.77
8	BLUE CHIP FILMS LLC	01627					162.50	162.50			162.50
9	MULLER'S LAWN & LANDSCAPING, LLC	5448					800.00	800.00			800.00
10								0.00			0.00
11	Environmental Staff Time						0.00	0.00			0.00
	Total Pool Activity		**0.00**	**23,947.82**	**0.00**	**0.00**	**3,977.78**	**27,925.60**			**27,925.60**

Filed under the following protective orders:
Order No. 22,853 dated February 18, 1998 in Docket No. DR 97-130
Order No. 23,316 dated October 11, 1999 in Docket No. DG 99-132

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Environmental Remediation - MGPs
Tariff page 95

Concord Pond

DEF056

	(thru - 9/99) pool #1 - #3	(9/99 - 9/00) pool #4	(9/03 - 9/04) pool #5	(9/04 - 9/05) pool #6	(9/05 - 9/06) pool #7	(9/06 - 9/07) pool #8	(9/07 - 9/08) pool #9	(9/08 - 9/09) pool #10	(9/09 - 9/10) pool #11	(9/10 - 9/11) pool #12	(9/11 - 9/12) pool #13	(9/12 - 6/13) pool #14	(7/13 - 6/14) pool #15	(7/14 - 6/15) pool #16	(7/15 - 6/16) pool #17	(7/16 - 6/17) pool #18	(7/17 - 6/18) pool #19	(7/18 - 6/19 pool #20	(7/19 - 6/20 pool #21	subtotal
1 Remediation costs (i.o. 500061)	5,420,852	129,002	60,293	21,613	96,293	155,796	95,374	128,187	143,000	249,160	86,412	78,387	40,314	89,626	43,204	102,196	138,701	87,282	187,358	7,353,048
Remediation costs (i.o. 500005)	-	-																		-
A Subtotal - remediation costs	5,420,852	129,002	60,293	21,613	96,293	155,796	95,374	128,187	143,000	249,160	86,412	78,387	40,314	89,626	43,204	102,196	138,701	87,282	187,358	7,353,048
																				-
Cash recoveries (i.o. 500061)	(2,014,740)	(33,204)			(14,314)	(13,446)	-	(12,608)	(6,064)	(32,417)	(5,173)	(19,318)	(7,990)	(11,392)	(8,614)	(14,047)	(11,345)	(14,998)	(14,594)	(2,234,263)
Cash recoveries (i.o. 500004)	(445,985)	-																		(445,985)
Recovery costs (i.o. 500004)	623,784	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	623,784
Transfer Credit from Gas Restructuring																				-
B Subtotal - net recoveries	(1,836,941)	(33,204)	-	-	(14,314)	(13,446)	-	(12,608)	(6,064)	(32,417)	(5,173)	(19,318)	(7,990)	(11,392)	(8,614)	(14,047)	(11,345)	(14,998)	(14,594)	(2,056,464)
																				-
A-B Total net expenses to recover	3,583,912	95,798	60,293	21,613	81,979	142,350	95,374	115,579	136,936	216,743	81,238	59,069	32,324	78,235	34,590	88,148	127,356	72,283	172,764	5,296,584
																				-
																				-
Surcharge revenue:																				-
Act June 1998 - October 1998	(54,889)	-																		(54,889)
Act November 1998 - October 1999	(538,143)	-																		(538,143)
Act November 1999 - October 2000	(760,871)	-																		(760,871)
Act November 2000 - October 2001	(626,614)	(13,925)																		(640,539)
Act November 2001 - October 2002	(600,600)	(24,514)																		(625,114)
Act November 2002 - October 2003	(592,678)	(15,197)																		(607,874)
Act November 2003 - October 2004	(291,340)	(14,567)																		(305,907)
Act November 2004- October 2005	(56,719)	(14,180)	(14,180)																	(85,078)
Act November 2005- October 2006	-	(6,875)	(6,875)																	(13,750)
Act November 2006- October 2007	-	-	-	-	(14,091)															(14,091)
Act November 2007- October 2008																				-
Act November 2012- October 2013										(5,002)	(5,002)									(10,003)
Act November 2013- October 2014										(12,749)	(12,749)									(25,497)
Act Nov 2009-Oct 2010 Base Rate Rev										($4,423)										(4,423)
Act Nov 2010-Oct 2011 Base Rate Rev										($32,310)										(32,310)
Act Nov 2011-Oct 2012 Base Rate Rev										($28,448)										(28,448)
Act Nov 2012-Oct 2013 Base Rate Rev										($2,143)	($2,143)									(4,286)
Act Nov 2013-Oct 2014 Base Rate Rev																				-
Act Nov 2014-Oct 2015 Base Rate Rev																				
AES collections			(33,593)	(11,626)	(11,901)	(12,271)	(12,620)	(12,904)	(13,145)	(13,221)	(13,738)	(13,725)	(13,948)	(14,173)	(14,405)	(14,664)	(14,858)	(14,999)	(15,312)	(251,103)
Gas Street overcollection	(23,511)																			(23,511)
Prior Period Pool under/overcollection	21,038	38,548	45,088	50,734	60,721	116,708	246,787	-	-	-	-	-	-	-	-	-	-	-	-	
																				0
																				-
C Surcharge Subtotal	(3,524,326)	(50,710)	(9,559)	39,108	34,729	104,437	234,166	(12,904)	(13,145)	(98,295)	(33,631)	(13,725)	(13,948)	(14,173)	(14,405)	(14,664)	(14,858)	(14,999)	(15,312)	(4,025,837)
D Net balance to be recovered (A-B+C)	59,586	45,088	50,734	60,721	116,708	246,787	329,540	102,675	123,791	47,629	47,608	45,345	18,376	64,062	20,185	73,484	112,498	57,284	157,451	1,270,747
E Allocation of Litigated Recovery			-		-		(329,540)	(102,675)	(123,791)	(48,569)	-	-	-	-	-	-	-	-	-	(604,575)
Surcharge calculation																				
Unrecovered costs (D+E)	-	-	-	-	-	-	-	-	-	-	-	-	2,625	18,303	8,650.70	41,990.99	80,355.97	49,100.89	157,451	358,478
remaining life	-	-	24	36	48	60	72	84	84	84	12	12	12	24	36	48	60	72	84	
one year	-	-	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
F amortization	-	-	-	-	-		-	-	-	-	-	-	2,625	9,152	2,884	10,498	16,071	8,183	22,493	71,906
Required annual increase in rates:																				
smaller of D or F	-	-	-	-	-		-	-	-	-	-	-	2,625	9,152	2,884	10,498	16,071	8,183	22,493	71,906
forecasted therm sales	553,441,400	184,654,874	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679
surcharge per therm	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0001	$0.0000	$0.0001	$0.0001	$0.0000	$0.0001	$0.0004

1. While the recoveries are displayed on the Summary, Cash Recoveries by site, are not exclusive to a particular site.

Filed under the following protective orders:
Order No. 22,853 dated February 18, 1998 in Docket No. DR 97-130
Order No. 23,316 dated October 11, 1999 in Docket No. DG 99-132

REDACTED
Schedule 20.3

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Environmental Remediation - MGPs
Tariff page 95

Laconia & Liberty Hill

	i.o. no. 500005															DEF086	
	(thru - 9/05) pool #1 - #4	(9/05 - 9/06) pool #5	(9/06 - 9/07) pool #6	(9/07 - 9/08) pool #7	(9/08 - 9/09) pool #8	(9/09 - 9/10) pool #9	(9/10 - 9/11) pool #10	(9/11 - 9/12) pool #11	(9/12 - 6/13) pool #12	(7/13 - 6/14) pool #13	(7/14 - 6/15) pool #14	(7/15 - 6/16) pool #15	(7/16 - 6/17) pool #16	(7/17 - 6/18) pool #17	(7/18 - 6/19 pool #18	(7/19 - 6/20 pool #18	subtotal
				Incl. Audit Corr	Incl. Audit Corr												
1 Remediation costs (i.o. 500061)	-									[redacted]							
Remediation costs (i.o. 500005)	5,250,734	2,330,555	2,089,199	428,225	607,876	262,678	210,532	269,281	642,986								
A Subtotal - remediation costs	5,250,734	2,330,555	2,089,199	428,225	607,876	262,678	210,532	269,281	642,986								
Cash recoveries (i.o. 500061)	-	-	-	-	-												
Cash recoveries (i.o. 500004)	-	-	-	-	-												
Recovery costs (i.o. 500004)	-		11,643	21,729	-	-											
Transfer Credit from Gas Restructuring			-	-	-												
B Subtotal - net recoveries	-	-	11,643	21,729	-	-	-	-	-								
A-B Total net expenses to recover	5,250,734	2,330,555	2,100,842	449,954	607,876	262,678	210,532	269,281	642,986								
Surcharge revenue:																	
Act June 1998 - October 1998	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Act November 1998 - October 1999	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Act November 1999 - October 2000	(151,933)	-		-	-	-	-	-	-	-	-	-	-	-	-	-	(151,933)
Act November 2000 - October 2001	(696,237)	-		-	-	-	-	-	-	-	-	-	-	-	-	-	(696,237)
Act November 2001 - October 2002	(796,714)	-		-	-	-	-	-	-	-	-	-	-	-	-	-	(796,714)
Act November 2002 - October 2003	(805,434)	-		-	-	-	-	-	-	-	-	-	-	-	-	-	(805,434)
Act November 2003 - October 2004	(699,215)																(699,215)
Act November 2004- October 2005	(652,264)																(652,264)
Act November 2005- October 2006	(691,159)	-		-	-	-	-	-	-	-	-	-	-	-	-	-	(691,159)
Act November 2006- October 2007	(648,174)	(309,996)															(958,171)
Act November 2007- October 2008																	-
Act November 2012- October 2013								(20,006)									(20,006)
Act November 2013- October 2014								(25,497)	(76,491)								(101,988)
Act Nov 2009-Oct 2010 Base Rate Rev							($4,296)										(4,296)
Act Nov 2010-Oct 2011 Base Rate Rev							($31,384)										(31,384)
Act Nov 2011-Oct 2012 Base Rate Rev							($27,632)										(27,632)
Act Nov 2012-Oct 2013 Base Rate Rev							$0	($14,208)									(14,208)
Act Nov 2013-Oct 2014 Base Rate Rev								(28,433)	(28,433)	(28,433)							(85,298)
Act Nov 2014-Oct 2015 Base Rate Rev								(21,639)	(21,639)	(21,639)	(21,639)	-	-	-	-	-	(86,554)
AES collections																	-
Gas Street overcollection																	-
Prior Period Pool under/overcollection	132,727	121,038	2,141,596	4,242,438		-	-	(87,311)	-	-	-	-	-	-	-	-	
C Surcharge Subtotal	(5,008,403)	(188,958)	2,141,596	4,242,438	-	-	(63,313)	(197,093)	(126,563)	(50,071)	(21,639)	-	-	-	-	-	(5,822,494)
D Net balance to be recovered (A-B+C)	242,331	2,141,596	4,242,438	4,692,393	607,876	262,678	147,219	72,188	516,424	[redacted]							
E Allocation of Litigated Recovery				(4,692,393)	(607,876)	(262,678)	(234,530)	-	-								
Surcharge calculation																	
Unrecovered costs (D+E)	-			-	-	-	-	-	-								
remaining life	36	48	60	72	84	84	48	12	12								
one year	12	12	12	12	12	12	12	12	12								
F amortization	-	-	-	-	-	-	-	-	-								
Required annual increase in rates:																	
smaller of D or F	-	-		-	-	-	-	-	-	[redacted]							
forecasted therm sales	738,096,274	187,178,686	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679
surcharge per therm	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	[redacted]							

SUBJECT TO REDACTED TREATMENT

1\. While the recoveries are displayed on the Summary, Cash Recoveries by site, are not exclusive to a particular site.

Filed under the following protective orders:
Order No. 22,853 dated February 18, 1998 in Docket No. DR 97-130
Order No. 23,316 dated October 11, 1999 in Docket No. DG 99-132

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Environmental Remediation - MGPs
Tariff page 95

Manchester

DEF057

		(9/00 - 9/04) pool #1 - #4	(9/04 - 9/05) pool #5	(9/05 - 9/06) pool #6	(9/06 - 9/07) pool #7	(9/07 - 9/08) pool #8 Incl. Audit Corr	(9/08 - 9/09) pool #9	(9/09 - 9/10) pool #10	(9/10 - 9/11) pool #11	(9/11 - 9/12) pool #12	(9/12 - 6/13) pool #13	(7/13 - 6/14) pool #14	(7/14 - 6/15) pool #15	(7/15 - 6/16) pool #16	(7/16 - 6/17) pool #17	(7/17 - 6/18) pool #18	(7/18 - 6/19) pool #19	(7/19 - 6/20) pool #20	subtotal
1	Remediation costs (i.o. 500061)	335,338	1,989,848	875,702	561,210	4,387,645	312,185	369,037	372,237	507,622	82,113	92,900	116,496	71,011	54,333	470,725	182,093	312,433	11,092,928
	Remediation costs (i.o. 500005)	825,092																	825,092
A	Subtotal - remediation costs	1,160,430	1,989,848	875,702	561,210	4,387,645	312,185	369,037	372,237	507,622	82,113	92,900	116,496	71,011	54,333	470,725	182,093	312,433	11,918,020
	Cash recoveries (i.o. 500061)	-		(545,540)	(220,353)	(1,127,436)		(40,359)	(234,648)	(65,324)	(270,732)	(31,690)	(41,057)	(48,322)	(3,810)	(124,681)	(144,074)	(157,401)	(3,055,426)
	Cash recoveries (i.o. 500004)	-																	-
	Recovery costs (i.o. 500004)	1,242,326			2,546	-													1,244,872
	Transfer Credit from Gas Restructuring				-	-													-
B	Subtotal - net recoveries	1,242,326	-	(545,540)	(217,807)	(1,127,436)	-	(40,359)	(234,648)	(65,324)	(270,732)	(31,690)	(41,057)	(48,322)	(3,810)	(124,681)	(144,074)	(157,401)	(1,810,555)
A-B	Total net expenses to recover	2,402,756	1,989,848	330,162	343,402	3,260,209	312,185	328,678	137,589	442,298	(188,619)	61,210	75,440	22,690	50,523	346,043	38,019	155,032	10,107,465
																			-
																			-
	Surcharge revenue:																		-
Act	June 1998 - October 1998	-																	-
Act	November 1998 - October 1999	-																	-
Act	November 1999 - October 2000	-																	-
Act	November 2000 - October 2001	-																	-
Act	November 2001 - October 2002	(73,543)																	(73,543)
Act	November 2002 - October 2003	(75,984)																	(75,984)
Act	November 2003 - October 2004	(138,576)																	(138,576)
Act	November 2004- October 2005	(326,132)	-			-	-	-	-	-	-	-	-	-	-	-	-	-	(326,132)
Act	November 2005- October 2006	(302,490)	(261,242)			-	-	-	-	-	-	-	-	-	-	-	-	-	(563,732)
Act	November 2006- October 2007	(338,178)	(281,815)	(42,272)															(662,265)
Act	November 2007- October 2008																		-
Act	November 2012- October 2013									(40,012)									(40,012)
Act	November 2013- October 2014									(50,994)									(50,994)
Act	Nov 2009-Oct 2010 Base Rate Rev								-										-
Act	Nov 2010-Oct 2011 Base Rate Rev								-										-
Act	Nov 2011-Oct 2012 Base Rate Rev								-										-
Act	Nov 2012-Oct 2013 Base Rate Rev								-	(23,337)									(23,337)
Act	Nov 2013-Oct 2014 Base Rate Rev																		-
Act	Nov 2014-Oct 2015 Base Rate Rev																		
	AES collections																		-
	Gas Street overcollection																		-
	Prior Period Pool under/overcollection	671,481	1,224,246	2,671,037	2,958,927	3,302,330	-	-	-										
C	Surcharge Subtotal	(583,422)	681,189	2,628,765	2,958,927	3,302,330	-	-	-	(114,343)	-	-	-	-	-	-	-	-	(1,954,576)
D	Net balance to be recovered (A-B+C)	1,819,334	2,671,037	2,958,927	3,302,330	6,562,539	312,185	328,678	137,589	327,955	(188,619)	61,210	75,440	22,690	50,523	346,043	38,019	155,032	8,152,889
E	Allocation of Litigated Recovery		-			(6,562,539)	(312,185)	(328,678)	(94,340)	-	-	-	-	-	-	-	-	-	(7,297,741)
	Surcharge calculation																		
	Unrecovered costs (D+E)	-	-	-		-	-	-	-	-	-	8,744	21,554	9,724	28,870	247,174	32,588	155,032	503,687
	remaining life	24	36	48	60	70	84	84	12	12	12	12	24	36	48	60	72	84	
	one year	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
F	amortization	-	-	-	-	-	-	-	-	-	-	8,744	10,777	3,241	7,218	49,435	5,431	22,147	
	Required annual increase in rates:																		
	smaller of D or F	-	-	-		-	-	-	-	-	-	8,744	10,777	3,241	7,218	49,435	5,431	22,147	106,994
	forecasted therm sales	738,096,274	187,178,686	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679
	surcharge per therm	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0001	$0.0000	$0.0000	$0.0003	$0.0000	$0.0001	$0.0006

1. While the recoveries are displayed on the Summary, Cash Recoveries by site, are not exclusive to a particular site.

Filed under the following protective orders:
Order No. 22,853 dated February 18, 1998 in Docket No. DR 97-130
Order No. 23,316 dated October 11, 1999 in Docket No. DG 99-132

Liberty Utilities (EnergyNorth Natural Gas) Corp.
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	Nashua																	
				Corrected per 2/08 Audit													DEF054	
	(9/00 - 9/04) pool #1 - #4	(9/04 - 9/05) pool #5	(9/05 - 9/06) pool #6	(9/06 - 9/07) pool #7	(9/07 - 9/08) pool #8	(9/08 - 9/09) pool #9	(9/09 - 9/10) pool #10	(9/10 - 9/11) pool #11	(9/11 - 9/12) pool #12	(9/12 - 6/13) pool #13	(7/13 - 6/14) pool #14	(7/14 - 6/15) pool #15	(7/15 - 6/16) pool #16	(7/16 - 6/17) pool #17	(7/17 - 6/18) pool #18	(7/18 - 6/19 pool #19	(7/19 - 6/20 pool #20	subtotal
1 Remediation costs (i.o. 500061)	10,841	206,367	23,354	9,737	107,605	78,535	162,729	65,118	399,400	119,095	63,397	105,917	106,129	100,342	61,478	128,071	39,533	1,787,649
Remediation costs (i.o. 500005)	1,771,567																	1,771,567
A Subtotal - remediation costs	1,782,408	206,367	23,354	9,737	107,605	78,535	162,729	65,118	399,400	119,095	63,397	105,917	106,129	100,342	61,478	128,071	39,533	3,559,216
																		-
Cash recoveries (i.o. 500061)	-		(18,581)	(4,151)	(10,414)	(62,246)	(63,753)	(31,767)	(2,990)	(199,336)	(27,447)	(40,699)	(43,694)	(15,029)	(45,955)	(46,103)	(28,062)	(640,227)
Cash recoveries (i.o. 500004)	-																	-
Recovery costs (i.o. 500004)	-		5,449	12,938	-	-												18,388
Transfer Credit from Gas Restructuring				-	-	-												-
B Subtotal - net recoveries	-		(13,131)	8,787	(10,414)	(62,246)	(63,753)	(31,767)	(2,990)	(199,336)	(27,447)	(40,699)	(43,694)	(15,029)	(45,955)	(46,103)	(28,062)	(621,839)
																		-
A-B Total net expenses to recover	1,782,408	206,367	10,223	18,524	97,191	16,289	98,975	33,351	396,411	(80,241)	35,950	65,217	62,435	85,314	15,523	81,969	11,472	2,937,376
Surcharge revenue:																		
Act June 1998 - October 1998	-																	-
Act November 1998 - October 1999	-																	-
Act November 1999 - October 2000	-																	-
Act November 2000 - October 2001	-																	-
Act November 2001 - October 2002	(183,857)																	(183,857)
Act November 2002 - October 2003	(243,150)																	(243,150)
Act November 2003 - October 2004	(247,639)																	(247,639)
Act November 2004- October 2005	(241,054)																	(241,054)
Act November 2005- October 2006	(247,492)	(27,499)			-	-	-	-	-	-	-	-	-	-	-	-	-	(274,991)
Act November 2006- October 2007	(253,633)	(28,181)	-															(281,815)
Act November 2007- October 2008																		-
Act November 2012- October 2013									(40,012)									(40,012)
Act November 2013- October 2014									(38,246)									(38,246)
Act Nov 2009-Oct 2010 Base Rate Rev								-										-
Act Nov 2010-Oct 2011 Base Rate Rev								-										-
Act Nov 2011-Oct 2012 Base Rate Rev								-										-
Act Nov 2012-Oct 2013 Base Rate Rev								-	(20,916)									(20,916)
Act Nov 2013-Oct 2014 Base Rate Rev																		-
Act Nov 2014-Oct 2015 Base Rate Rev																		
AES collections																		-
Gas Street overcollection																		-
Prior Period Pool under/overcollection	1,212,869	554,046	704,732	714,955	733,479	-	-	-	5,616	-	-	-	-	-	-	-	-	
C Surcharge Subtotal	(203,957)	498,365	704,732	714,955	733,479	-	-	-	(93,558)	-	-	-	-	-	-	-	-	(1,571,680)
D Net balance to be recovered (A-B+C)	1,578,451	704,732	714,955	733,479	830,669	16,289	98,975	33,351	302,853	(80,241)	35,950	65,217	62,435	85,314	15,523	81,969	11,472	1,365,697
E Allocation of Litigated Recovery	-	-	-	-	(830,669)	(16,289)	(98,975)	(27,735)	-	-	-	-	-	-	-	-	-	(973,668)
Surcharge calculation																		
Unrecovered costs (D+E)	-	-	-		-	-	-		-	-	5,136	18,634	26,758	48,751	11,088	70,259	11,472	192,096
remaining life	36	36	48	60	72	84	84	72	12	12	12	24	36	48	60	72	84	
one year	36	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
F amortization	-	-	-	-	-	-	-	-	-	-	5,136	9,317	8,919	12,188	2,218	11,710	1,639	
Required annual increase in rates:																		
smaller of D or F	-	-	-		-	-	-	-	-	-	5,136	9,317	8,919	12,188	2,218	11,710	1,639	51,126
forecasted therm sales	738,096,274	187,178,686	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679
surcharge per therm	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0001	$0.0000	$0.0001	$0.0000	$0.0001	$0.0000	$0.0003

1. While the recoveries are displayed on the Summary, Cash Recoveries by site, are not exclusive to a particular site.

Filed under the following protective orders:
Order No. 22,853 dated February 18, 1998 in Docket No. DR 97-130
Order No. 23,316 dated October 11, 1999 in Docket No. DG 99-132

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Environmental Remediation - MGPs
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		Dover												
													DEF059	
		(9/02 - 9/03) pool #1	(9/04 - 9/05) pool #2	(9/05 - 9/06) pool #3	(9/06 - 9/07) pool #4	(9/07 - 9/08) pool #5	(9/08 - 9/09) pool #6	(9/09 - 9/10) pool #7	(9/10 - 9/11) pool #8	(9/11 - 9/12) pool #9	(9/12 - 6/13) pool #10	(7/13 - 6/14) pool #11	(7/14 - 6/15) pool #12	subtotal
1	Remediation costs (i.o. 500061)	-	18,854	2,288	-	-	-	-	-	-	-	-	-	21,142
	Remediation costs (i.o. 500005)	181,066												181,066
A	Subtotal - remediation costs	181,066	18,854	2,288	-	-	-	-	-	-	-	-	-	202,208
	Cash recoveries (i.o. 500061)	-					-	-	-	-	-	-	-	-
	Cash recoveries (i.o. 500004)	-												-
	Recovery costs (i.o. 500004)	-												-
	Transfer Credit from Gas Restructuring													-
B	Subtotal - net recoveries	-	-	-	-	-	-	-	-	-	-	-	-	-
A-B	Total net expenses to recover	181,066	18,854	2,288	-	-	-	-	-	-	-	-	-	202,208
	Surcharge revenue:													
Act	June 1998 - October 1998	-												-
Act	November 1998 - October 1999	-												-
Act	November 1999 - October 2000	-												-
Act	November 2000 - October 2001	-												-
Act	November 2001 - October 2002	-												-
Act	November 2002 - October 2003	-												-
Act	November 2003 - October 2004	(29,134)												(29,134)
Act	November 2004- October 2005	(28,359)												(28,359)
Act	November 2005- October 2006	(27,499)	-			-	-	-	-	-	-	-	-	(27,499)
Act	November 2006- October 2007	(28,181)	-	-										(28,181)
Act	November 2007- October 2008													-
Act	November 2012- October 2013													-
Act	November 2013- October 2014													-
Act	Nov 2009-Oct 2010 Base Rate Rev													-
Act	Nov 2010-Oct 2011 Base Rate Rev													-
Act	Nov 2011-Oct 2012 Base Rate Rev													-
Act	Nov 2012-Oct 2013 Base Rate Rev													-
Act	Nov 2013-Oct 2014 Base Rate Rev													-
Act	Nov 2014-Oct 2015 Base Rate Rev													
	AES collections													-
	Gas Street overcollection													-
	Prior Period Pool under/overcollection		67,892	86,746	89,034	89,034	-	-	-	-	-	-	-	
C	Surcharge Subtotal	(113,174)	67,892	86,746	89,034	89,034	-	-	-	-	-	-	-	(113,174)
D	Net balance to be recovered (A-B+C)	67,892	86,746	89,034	89,034	89,034	-	-	-	-	-	-	-	89,034
E	Allocation of Litigated Recovery		-		-	(89,034)	-	-	-	-	-	-	-	(89,034)
	Surcharge calculation													
	Unrecovered costs (D+E)	-	-	-		-	-	-	-	-	-	-	-	-
	remaining life	24	36	48	60	72	84	84	84	84	84	84	84	
	one year	12	12	12	12	12	12	12	12	12	12	12	12	
F	amortization	-	-	-	-	-	-	-	-	-	-	-	-	
	Required annual increase in rates:													
	smaller of D or F	-	-	-		-	-	-	-	-	-	-	-	-
	forecasted therm sales	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679
	surcharge per therm	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000

1. While the recoveries are displayed on the Summary, Cash Recoveries by site, are not exclusive to a particular site.

Filed under the following protective orders:
Order No. 22,853 dated February 18, 1998 in Docket No. DR 97-130
Order No. 23,316 dated October 11, 1999 in Docket No. DG 99-132

REDACTED
Schedule 20.3
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Liberty Utilities (EnergyNorth Natural Gas) Corp.
Environmental Remediation - MGPs
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		Keene												
													DEF055	
		(9/03 - 9/04) pool #1	(9/04 - 9/05) pool #2	(9/05 - 9/06) pool #3	(9/06 - 9/07) pool #4	(9/07 - 9/08) pool #5	(9/08 - 9/09) pool #6	(9/09 - 9/10) pool #7	(9/10 - 9/11) pool #8	(9/11 - 9/12) pool #9	(9/12 - 6/13) pool #10	(7/13 - 6/14) pool #11	(7/14 - 6/15) pool #12	subtotal
1	Remediation costs (i.o. 500061)	-										[redacted]		
	Remediation costs (i.o. 500005)	10,165	6,606	35,111	8,766	32	269	-	-	488	1,400	[redacted]		
A	Subtotal - remediation costs	10,165	6,606	35,111	8,766	32	269	-	-	488	1,400	[redacted]		
												[redacted]		
	Cash recoveries (i.o. 500061)	-										[redacted]		
	Cash recoveries (i.o. 500004)	-										[redacted]		
	Recovery costs (i.o. 500004)			18,831	823	-	-	-	-			[redacted]		
	Transfer Credit from Gas Restructuring				-	-	-					[redacted]		
B	Subtotal - net recoveries	-		18,831	823	-	-	-	-	-	-	[redacted]		
												[redacted]		
A-B	Total net expenses to recover	10,165	6,606	53,942	9,589	32	269	-	-	488	1,400	[redacted]		
														-
														-
	Surcharge revenue:													-
Act	June 1998 - October 1998	-												-
Act	November 1998 - October 1999	-												-
Act	November 1999 - October 2000	-												-
Act	November 2000 - October 2001	-												-
Act	November 2001 - October 2002	-												-
Act	November 2002 - October 2003	-												-
Act	November 2003 - October 2004	-												-
Act	November 2004- October 2005	-	-				-	-	-	-	-	-	-	-
Act	November 2005- October 2006	-	-				-	-	-	-	-	-	-	-
Act	November 2006- October 2007	-	-	(14,091)										(14,091)
Act	November 2007- October 2008													-
Act	November 2012- October 2013													-
Act	November 2013- October 2014													-
Act	Nov 2009-Oct 2010 Base Rate Rev													-
Act	Nov 2010-Oct 2011 Base Rate Rev													-
Act	Nov 2011-Oct 2012 Base Rate Rev													-
Act	Nov 2012-Oct 2013 Base Rate Rev													-
Act	Nov 2013-Oct 2014 Base Rate Rev													-
Act	Nov 2014-Oct 2015 Base Rate Rev													
	AES collections													-
	Gas Street overcollection													-
	Prior Period Pool under/overcollection		10,165	16,771	56,622	66,211	-	-	-	-	-	-	-	
C	Surcharge Subtotal	-	10,165	2,680	56,622	66,211	-	-	-	-	-	-	-	(14,091)
D	Net balance to be recovered (A-B+C)	10,165	16,771	56,622	66,211	66,244	269	-	-	488	1,400	[redacted]		
												[redacted]		
E	Allocation of Litigated Recovery	-	-	-	-	(66,244)	(269)	-	-	-	-	[redacted]		
												[redacted]		
	Surcharge calculation											[redacted]		
	Unrecovered costs (D+E)	-	-	-			-	-	-	-	-	[redacted]		
	remaining life	24	36	48	60	72	84	84	84	12	12	[redacted]		
	one year	12	12	12	12	12	12	12	12	12	12	[redacted]		
F	amortization	-	-	-	-	-	-	-	-	-	-	[redacted]		
	Required annual increase in rates:													
	smaller of D or F	-	-	-			-	-	-	-	-	[redacted]		
	forecasted therm sales	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679
	surcharge per therm	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	[redacted]		

SUBJECT TO REDACTED TREATMENT

1. While the recoveries are displayed on the Summary, Cash Recoveries by site, are not exclusive to a particular site.

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Environmental Remediation - MGPs
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		Concord															
			Corrected per 2/08 Audit													DEF077	
		(9/03 - 9/06) pool #1 - #3	(9/06 - 9/07) pool #4	(9/07 - 9/08) pool #5	(9/08 - 9/09) pool #6	(9/09 - 9/10) pool #7	(9/10 - 9/11) pool #8	(9/11 - 9/12) pool #9	(9/12 - 6/13) pool #10	(7/13 - 6/14) pool #11	(7/14 - 6/15) pool #12	(7/15 - 6/16) pool #13	(7/16 - 6/17) pool #14	(7/17 - 6/18) pool #15	(7/18 - 6/19) pool #16	(7/19 - 6/20) pool #17	subtotal
1	Remediation costs (i.o. 500061)	-											[redacted]				
	Remediation costs (i.o. 500005)	287,468	109,642	8,006	77,063	49,403	179,732	289,103	84,256	135,673	192,525	114,749					
A	Subtotal - remediation costs	287,468	109,642	8,006	77,063	49,403	179,732	289,103	84,256	135,673	192,525	114,749					
	Cash recoveries (i.o. 500061)	(22,239)	(47,977)	(12,601)	16,623	(3,213)	(11,394)	(31,575)	(38,871)	(12,319)	(28,742)	(19,197)					
	Cash recoveries (i.o. 500004)	-															
	Recovery costs (i.o. 500004)			1,432	(1,007)												
	Transfer Credit from Gas Restructuring	-															
B	Subtotal - net recoveries	(22,239)	(47,977)	(11,169)	15,616	(3,213)	(11,394)	(31,575)	(38,871)	(12,319)	(28,742)	(19,197)					
A-B	Total net expenses to recover	265,229	61,665	(3,163)	92,679	46,190	168,338	257,528	45,384	123,355	163,783	95,553					
																	-
																	-
	Surcharge revenue:																-
Act	June 1998 - October 1998	-															-
Act	November 1998 - October 1999	-															-
Act	November 1999 - October 2000	-															-
Act	November 2000 - October 2001	-															-
Act	November 2001 - October 2002	-															-
Act	November 2002 - October 2003	-															-
Act	November 2003 - October 2004	-															-
Act	November 2004- October 2005																-
Act	November 2005- October 2006	(27,499)		-	-	-	-	-	-	-	-	-	-	-	-	-	(27,499)
Act	November 2006- October 2007	(28,181)															(28,181)
Act	November 2007- October 2008																-
Act	November 2012- October 2013						(20,006)	(20,006)									(40,012)
Act	November 2013- October 2014						(12,749)	(25,497)									(38,246)
Act	Nov 2009-Oct 2010 Base Rate Rev						($1,891)										(1,891)
Act	Nov 2010-Oct 2011 Base Rate Rev						($13,816)										(13,816)
Act	Nov 2011-Oct 2012 Base Rate Rev						($12,164)										(12,164)
Act	Nov 2012-Oct 2013 Base Rate Rev						($6,794)	($6,794)									(13,588)
Act	Nov 2013-Oct 2014 Base Rate Rev																-
Act	Nov 2014-Oct 2015 Base Rate Rev																
	AES collections																-
	Gas Street overcollection																-
	Prior Period Pool under/overcollection	209,633	209,549	271,214	-	-	-	-	-	-	-	-	-	-	-	-	
C	Surcharge Subtotal	153,953	209,549	271,214	-	-	(67,420)	(52,297)	-	-	-	-	-	-	-	-	(175,398)
D	Net balance to be recovered (A-B+C)	419,182	271,214	268,051	92,679	46,190	100,919	205,231	45,384	123,355	163,783	95,553	[redacted]				
E	Allocation of Litigated Recovery	-	-	(268,051)	(92,679)	(46,190)	(14,702)	-	-	-	-	-					
	Surcharge calculation																
	Unrecovered costs (D+E)	-		-	-	-	-	-	-	17,622	46,795	40,951					
	remaining life	144		72	84	84	12	12	12	12	24	36					
	one year	36		12	12	12	12	12	12	12	12	12					
F	amortization	-		-	-	-	-	-	-	17,622	23,398	13,650					
	Required annual increase in rates:																
	smaller of D or F	-		-	-	-	-	-	-	17,622	23,398	13,650	[redacted]				
	forecasted therm sales	553,964,622	187,178,686	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679
	surcharge per therm	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0001	$0.0001	$0.0001	[redacted]				

SUBJECT TO REDACTED TREATMENT

1. While the recoveries are displayed on the Summary, Cash Recoveries by site, are not exclusive to a particular site.

Filed under the following protective orders:
Order No. 22,853 dated February 18, 1998 in Docket No. DR 97-130
Order No. 23,316 dated October 11, 1999 in Docket No. DG 99-132

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Environmental Remediation - MGPs
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	General															2020 MGP Remediation
														DEF064		
	(9/02 - 9/07) pool #1 - #5	(9/07 - 9/08) pool #6	(9/08 - 9/09) pool #7	(9/09 - 9/10) pool #8	(9/10 - 9/11) pool #9	(9/11 - 9/12) pool #10	(9/12 - 6/13) pool #11	(7/13 - 6/14) pool #12	(7/14 - 6/15) pool #13	(7/15 - 6/16) pool #14	(7/16 - 6/17) pool #15	(7/17 - 6/18) pool #16	(7/18 - 6/19) pool #17	(7/19 - 6/20) pool #18	subtotal	subtotal
1 Remediation costs (i.o. 500061)															-	[redacted]
Remediation costs (i.o. 500005)	806,611	(181,000)	(26,884)	4,199	69,286	93,034	75,204	13,139	16,612	11,879	6,547	10,799	6,868	7,111	913,406	
A Subtotal - remediation costs	806,611	(181,000)	(26,884)	4,199	69,286	93,034	75,204	13,139	16,612	11,879	6,547	10,799	6,868	7,111	913,406	
Cash recoveries (i.o. 500061)	-	-	-												-	
Cash recoveries (i.o. 500004)															-	
Recovery costs (i.o. 500004)		16,012	23,953	-	-	(14,068)	(1,358)	-	(24,250)	-	-	-	-	-	288	
Transfer Credit from Gas Restructuring		(3,331)													(3,331)	
B Subtotal - net recoveries		12,681	23,953	-	-	(14,068)	(1,358)	-	(24,250)	-	-	-	-	-	(3,043)	
A-B Total net expenses to recover	806,611	(168,319)	(2,931)	4,199	69,286	78,967	73,846	13,139	(7,638)	11,879	6,547	10,799	6,868	7,111	910,363	
																-
Surcharge revenue:																
Act June 1998 - October 1998															-	(54,889)
Act November 1998 - October 1999															-	(538,143)
Act November 1999 - October 2000															-	(912,804)
Act November 2000 - October 2001															-	(1,336,776)
Act November 2001 - October 2002															-	(1,679,228)
Act November 2002 - October 2003															-	(1,732,442)
Act November 2003 - October 2004	(8,265)														(8,265)	(1,428,735)
Act November 2004- October 2005	(70,898)														(70,898)	(1,403,787)
Act November 2005- October 2006	(96,247)	-	-	-	-	-	-	-	-	-	-	-	-	-	(96,247)	(1,694,877)
Act November 2006- October 2007	(49,318)														(49,318)	(2,036,113)
Act November 2007- October 2008															-	-
Act November 2012- October 2013					(5,002)	(5,002)									(10,003)	(160,048)
Act November 2013- October 2014					(12,749)	(12,749)	(12,749)								(38,246)	(293,217)
Act Nov 2009-Oct 2010 Base Rate Rev															-	(10,611)
Act Nov 2010-Oct 2011 Base Rate Rev															-	(77,509)
Act Nov 2011-Oct 2012 Base Rate Rev															-	(68,244)
Act Nov 2012-Oct 2013 Base Rate Rev															-	(76,335)
Act Nov 2013-Oct 2014 Base Rate Rev																(85,298)
Act Nov 2014-Oct 2015 Base Rate Rev																(86,554)
AES collections															-	(251,103)
Gas Street overcollection															-	(23,511)
Prior Period Pool under/overcollection	1,486,644	2,068,527	-	-	-	-	-	-	-	-	-	-	-	-		
C Surcharge Subtotal	1,261,916	2,068,527	-	-	(17,750)	(17,750)	(12,749)	-	-	-	-	-	-	-	(272,977)	(13,950,225)
D Net balance to be recovered (A-B+C)	2,068,527	1,900,208	(2,931)	4,199	51,536	61,217	61,098	13,139	(7,638)	11,879	6,547	10,799	6,868	7,111	637,386	[redacted]
E Allocation of Litigated Recovery	-	(1,900,208)	2,931	(4,199)	(8,562)	-	-	-	-	-	-	-	-	-	(1,910,037)	
Surcharge calculation																
Unrecovered costs (D+E)		-	-	-	-	-	-	1,877	(2,182)	5,091	3,741	7,714	5,887	7,111	29,238	
remaining life	72	84	84	84	12	12	12	12	24	36	48	60	72	84		
one year	12	12	12	12	12	12	12	12	12	12	12	12	12	12		
F amortization	-	-	-	-	-	-	-	1,877	(1,091)	1,697	935	1,543	981	1,016		
Required annual increase in rates:																
smaller of D or F		-	-	-	-	-	-	1,877	(1,091)	1,697	935	1,543	981	1,016	6,958	
forecasted therm sales	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	179,574,679	**179,574,679**
surcharge per therm	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000	**$0.0159**

SUBJECT TO REDACTED TREATMENT

1. While the recoveries are displayed on the Summary, Cash Recoveries by site, are not exclusive to a particular site.

Filed under the following protective orders:
Order No. 22,853 dated February 18, 1998 in Docket No. DR 97-130
Order No. 23,316 dated October 11, 1999 in Docket No. DG 99-132

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Environmental Remediation - MGPs
Tariff page 95

Expense and Collection Summary per Year

		(thru - 9/07)	(9/07 - 9/08)	(9/08 - 9/09)	(9/09 - 9/10)	(9/10 - 9/11)	(9/11 - 9/12)	(7/13 - 6/14)	(7/14 - 6/15)	(7/15 - 6/16)	(7/16 - 6/17)	(7/17 - 6/18)	(7/17 - 6/18)	(7/18 - 6/19)	Total
1	Remediation costs (i.o. 500061)	9,917,388	4,590,624	518,907	674,766	686,515	993,434	196,611	312,039	220,344	256,871	256,871	670,904	539,324	[redacted]
	Remediation costs (i.o. 500005)	13,712,581	255,263	658,324	316,280	459,550	651,906	1,801,404	7,975,914	3,307,910	260,380	260,380	115,841	114,228	[redacted]
A	Subtotal - remediation costs	23,629,969	4,845,887	1,177,231	991,045	1,146,065	1,645,340	1,998,015	8,287,953	3,528,254	517,250	517,250	786,745	653,552	[redacted]
	Cash recoveries (i.o. 500061)	(2,934,544)	(1,150,452)	(58,231)	(113,390)	(310,226)	(105,062)	(79,446)	(121,889)	(119,826)	(53,116)	(53,116)	(195,423)	(212,660)	[redacted]
	Cash recoveries (i.o. 500004)	(445,985)	568	-	-	-	-	-	-	-	-	-	-	-	[redacted]
	Recovery costs (i.o. 500004)	1,918,340	39,173	22,946	-	-	(14,068)	2,500,000	2,475,750	-	-	-	-	-	[redacted]
	Transfer Credit from Gas Restructuring	-	(3,331)	-	-	-	-	-	-	-	-	-	-	-	[redacted]
B	Subtotal - net recoveries	(1,462,188)	(1,114,041)	(35,285)	(113,390)	(310,226)	(119,129)	2,420,554	2,353,861	(119,826)	(53,116)	(53,116)	(195,423)	(212,660)	[redacted]
A-B	Total net expenses to recover	22,167,780	3,731,845	1,141,946	877,655	835,839	1,526,211	4,418,569.29	10,641,813.86	3,408,427.63	464,499.00	464,499.00	591,686.20	440,891.85	[redacted]
	Surcharge revenue:														
Act	June 1998 - October 1998	(54,889)	-	-	-	-	-	-	-	-	-	-	-	-	(54,889)
Act	November 1998 - October 1999	(538,143)	-	-	-	-	-	-	-	-	-	-	-	-	(538,143)
Act	November 1999 - October 2000	(912,804)	-	-	-	-	-	-	-	-	-	-	-	-	(912,804)
Act	November 2000 - October 2001	(1,336,776)	-	-	-	-	-	-	-	-	-	-	-	-	(1,336,776)
Act	November 2001 - October 2002	(1,679,228)	-	-	-	-	-	-	-	-	-	-	-	-	(1,679,228)
Act	November 2002 - October 2003	(1,732,442)	-	-	-	-	-	-	-	-	-	-	-	-	(1,732,442)
Act	November 2003 - October 2004	(1,428,735)	-	-	-	-	-	-	-	-	-	-	-	-	(1,428,735)
Act	November 2004- October 2005	(1,403,787)	-	-	-	-	-	-	-	-	-	-	-	-	(1,403,787)
Act	November 2005- October 2006	(1,694,877)	-	-	-	-	-	-	-	-	-	-	-	-	(1,694,877)
Act	November 2006- October 2007	(2,036,113)	-	-	-	-	-	-	-	-	-	-	-	-	(2,036,113)
Act	November 2007- October 2008	-				-	-	-	-	-	-	-	-	-	-
Act	November 2012- October 2013	-	-	-	-	(30,009)	(130,039)	-	-	-	-	-	-	-	(160,048)
Act	November 2013- October 2014	-				(38,246)	(165,731)	-	-	-	-	-	-	-	(203,977)
Act	Nov 2009-Oct 2010 Base Rate Rev	-				(10,611)	-	-	-	-	-	-	-	-	(10,611)
Act	Nov 2010-Oct 2011 Base Rate Rev	-				(77,509)	-	-	-	-	-	-	-	-	(77,509)
Act	Nov 2011-Oct 2012 Base Rate Rev	-				(68,244)	-	-	-	-	-	-	-	-	(68,244)
Act	Nov 2012-Oct 2013 Base Rate Rev	-				(8,937)	(67,398)	-	-	-	-	-	-	-	(76,335)
Act	Nov 2013-Oct 2014 Base Rate Rev	-				-	(28,433)	(28,433)	-	-	-	-	-	-	(56,865)
Act	Nov 2014-Oct 2015 Base Rate Rev	-				-	(21,639)	(21,639)	(21,639)	-	-	-	-	-	(64,916)
	AES collections	-	(12,620)	(12,904)	(13,145)	(13,221)	(13,738)	(13,948)	(14,173)	(14,405)	(14,664)	(14,858)	(14,858)	(15,312)	(167,847)
	Gas Street overcollection	(23,511)	-	-	-	-	-	-	-	-	-	-	-	-	(23,511)
	Prior Period Pool under/overcollection	[redacted]													
C	Surcharge Subtotal	2,832,243	(12,620)	(12,904)	(13,145)	(246,777)	(426,978)	(64,019)	(35,811)	(14,405)	(14,664)	(14,858)	(14,858)	(15,312)	(13,727,657)
D	Net balance to be recovered (A-B+C)	25,000,023	3,719,225	1,129,042	864,510	589,062	1,099,233	4,354,550	10,606,003	3,394,023	449,835	449,641	576,828	425,579	[redacted]
E	Allocation of Litigated Recovery														
	Surcharge calculation														
	Unrecovered costs (D+E)														
	remaining life														
	one year														
F	amortization														
	Required annual increase in rates:														
	smaller of D or F														
	forecasted therm sales														
	surcharge per therm														

SUBJECT TO REDACTED TREATMENT

1. While the recoveries are displayed on the Summary, Cash Recoveries by site, are not exclusive to a particular site.

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Calculation of Supplier Balancing Charge
2020-2021

Rate: $ 0.1207 /MMBtu

		Rate	Volume		Total
Injection Cost		$ 0.0087	**533,242**	$	4,639
Fuel	1.75%	$ 0.0306	**533,242**	$	16,331
Withdrawal Cost		$ 0.0087	**146,104**	$	1,271
Delivery Rate		$ 0.0440	146,104	$	6,433
FTA Demand Charge		$ 0.2401	146,104	$	35,087
FTA Commodity Charge		$ 0.1011	146,104	$	14,771
Fuel	1.35%	$ 0.0236	146,104	$	3,452
			Total Cost	$	81,984
		Absolute Value of the	Sendout Error		**679,346** MMBtu
			Rate	$	0.1207 /MMBTU

NOTES: See Tennessee Gas Pipeline Tariff Pages in PK Schedule 6

TGP FSMA Injection Charge	$	0.0087	/ MMBtu
TGP FSMA Withdrawal Charge	$	0.0087	/ MMBtu
TGP FSMA Deliverability Charge	$	1.3386	/ MMBtu per month
	$	0.0440	/ MMBtu per day
TGP Z4-6 Demand Charge	$	7.3005	/ MMBtu per month
	$	0.2401	/ MMBtu per day
TGP Z4-6 Commodity Charge	$	0.1011	/ MMBtu

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Calculation of Supplier Balancing Charge
2020-2021

Estimated Monthly Imbalances

Date	Forecasted DD	Actual DD	Forecaster Error DD	Forecasted Sendout (MMBtu)	Actual Sendout (MMBtu)	Sendout Error (MMBtu)	Abs.Value Sendout Error (MMBtu)	Injections (MMBtu)	Withdrawals (MMBtu)
Nov	864	846	18	1,595,375	1,569,559	25,817	68,844	47,331	21,514
Dec	1,068	1,054	14	2,534,640	2,508,748	25,892	114,665	70,279	44,387
Jan	1,066	1,025	41	2,530,941	2,455,114	75,827	123,913	99,870	24,043
Feb	1,013	963	50	2,396,828	2,304,356	92,472	103,569	98,020	5,548
Mar	734	697	37	1,897,371	1,835,691	61,680	91,686	76,683	15,003
Apr	515	491	24	1,201,753	1,164,984	36,768	82,729	59,749	22,980
May	298	257	41	673,100	637,803	35,297	47,349	41,323	6,026
Jun	34	31	3	272,948	271,441	1,507	3,516	2,511	1,005
Jul	3	-	3	482,117	482,117	-	-	-	-
Aug	12	4	8	345,193	344,993	199	199	199	-
Sep	92	79	13	396,293	390,241	6,052	10,070	8,061	2,009
Oct	385	349	36	897,248	871,622	25,626	32,804	29,215	3,589
Total	**6,084**	**5,796**	**288**	**15,223,807**	**14,836,669**	**387,137**	**679,346**	**533,242**	**146,104**

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Calculation of Supplier Balancing Charge
2020-2021

Estimated Daily Imbalances

Date	Predicted MAN HDD	Actual MAN HDD	Forecaster Error MAN HDD	Calculated on Predicted MAN HDD	Calculated on Actual MAN HDD	Sendout Error (MMBtu)	Abs.Value Sendout Error (MMBtu)	Injections (MMBtu)	Withdrawals (MMBtu)
Apr 1, 2019	31	31	0	61,251	61,251	0	0	0	0
Apr 2, 2019	23	21	2	48,995	45,931	3,064	3,064	3,064	0
Apr 3, 2019	22	19	3	47,463	42,867	4,596	4,596	4,596	0
Apr 4, 2019	29	26	3	58,187	53,591	4,596	4,596	4,596	0
Apr 5, 2019	24	24	0	50,527	50,527	0	0	0	0
Apr 6, 2019	15	16	-1	36,739	38,271	-1,532	1,532	0	1,532
Apr 7, 2019	12	11	1	32,143	30,611	1,532	1,532	1,532	0
Apr 8, 2019	27	30	-3	55,123	59,719	-4,596	4,596	0	4,596
Apr 9, 2019	27	29	-2	55,123	58,187	-3,064	3,064	0	3,064
Apr 10, 2019	28	28	0	56,655	56,655	0	0	0	0
Apr 11, 2019	23	22	1	48,995	47,463	1,532	1,532	1,532	0
Apr 12, 2019	15	12	3	36,739	32,143	4,596	4,596	4,596	0
Apr 13, 2019	6	3	3	22,951	18,355	4,596	4,596	4,596	0
Apr 14, 2019	9	10	-1	27,547	29,079	-1,532	1,532	0	1,532
Apr 15, 2019	16	17	-1	38,271	39,803	-1,532	1,532	0	1,532
Apr 16, 2019	19	18	1	42,867	41,335	1,532	1,532	1,532	0
Apr 17, 2019	17	14	3	39,803	35,207	4,596	4,596	4,596	0
Apr 18, 2019	14	16	-2	35,207	38,271	-3,064	3,064	0	3,064
Apr 19, 2019	0	0	0	13,759	13,759	0	0	0	0
Apr 20, 2019	3	1	2	18,355	15,291	3,064	3,064	3,064	0
Apr 21, 2019	8	5	3	26,015	21,419	4,596	4,596	4,596	0
Apr 22, 2019	10	8	2	29,079	26,015	3,064	3,064	3,064	0
Apr 23, 2019	14	14	0	35,207	35,207	0	0	0	0
Apr 24, 2019	15	12	3	36,739	32,143	4,596	4,596	4,596	0
Apr 25, 2019	12	13	-1	32,143	33,675	-1,532	1,532	0	1,532
Apr 26, 2019	17	21	-4	39,803	45,931	-6,128	6,128	0	6,128
Apr 27, 2019	21	19	2	45,931	42,867	3,064	3,064	3,064	0
Apr 28, 2019	19	17	2	42,867	39,803	3,064	3,064	3,064	0
Apr 29, 2019	18	15	3	41,335	36,739	4,596	4,596	4,596	0
Apr 30, 2019	21	19	2	45,931	42,867	3,064	3,064	3,064	0
May 1, 2019	18	14	4	28,933	25,490	3,444	3,444	3,444	0
May 2, 2019	21	20	1	31,516	30,655	861	861	861	0
May 3, 2019	15	16	-1	26,351	27,212	-861	861	0	861
May 4, 2019	10	9	1	22,046	21,185	861	861	861	0
May 5, 2019	16	12	4	27,212	23,768	3,444	3,444	3,444	0
May 6, 2019	12	9	3	23,768	21,185	2,583	2,583	2,583	0
May 7, 2019	8	7	1	20,324	19,463	861	861	861	0
May 8, 2019	14	11	3	25,490	22,907	2,583	2,583	2,583	0
May 9, 2019	14	10	4	25,490	22,046	3,444	3,444	3,444	0
May 10, 2019	10	9	1	22,046	21,185	861	861	861	0
May 11, 2019	12	9	3	23,768	21,185	2,583	2,583	2,583	0
May 12, 2019	19	16	3	29,794	27,212	2,583	2,583	2,583	0
May 13, 2019	20	20	0	30,655	30,655	0	0	0	0
May 14, 2019	22	20	2	32,377	30,655	1,722	1,722	1,722	0
May 15, 2019	13	11	2	24,629	22,907	1,722	1,722	1,722	0
May 16, 2019	7	8	-1	19,463	20,324	-861	861	0	861
May 17, 2019	8	5	3	20,324	17,742	2,583	2,583	2,583	0
May 18, 2019	6	4	2	18,603	16,881	1,722	1,722	1,722	0
May 19, 2019	0	0	0	13,437	13,437	0	0	0	0
May 20, 2019	0	0	0	13,437	13,437	0	0	0	0
May 21, 2019	9	6	3	21,185	18,603	2,583	2,583	2,583	0
May 22, 2019	5	4	1	17,742	16,881	861	861	861	0
May 23, 2019	0	1	-1	13,437	14,298	-861	861	0	861
May 24, 2019	7	5	2	19,463	17,742	1,722	1,722	1,722	0
May 25, 2019	0	0	0	13,437	13,437	0	0	0	0
May 26, 2019	0	0	0	13,437	13,437	0	0	0	0
May 27, 2019	3	0	3	16,020	13,437	2,583	2,583	2,583	0
May 28, 2019	15	17	-2	26,351	28,072	-1,722	1,722	0	1,722
May 29, 2019	10	12	-2	22,046	23,768	-1,722	1,722	0	1,722
May 30, 2019	2	1	1	15,159	14,298	861	861	861	0
May 31, 2019	2	1	1	15,159	14,298	861	861	861	0
Jun 1, 2019	2	4	-2	15,220	16,224	-1,005	1,005	0	1,005
Jun 2, 2019	4	4	0	16,224	16,224	0	0	0	0
Jun 3, 2019	8	7	1	18,233	17,731	502	502	502	0
Jun 4, 2019	5	3	2	16,726	15,722	1,005	1,005	1,005	0
Jun 5, 2019	0	0	0	14,215	14,215	0	0	0	0

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Calculation of Supplier Balancing Charge
2019-2020

Estimated Daily Imbalances

Date	Predicted MAN HDD	Actual MAN HDD	Forecaster Error MAN HDD	Calculated on Predicted MAN HDD	Calculated on Actual MAN HDD	Sendout Error (MMBtu)	Abs.Value Sendout Error (MMBtu)	Injections (MMBtu)	Withdrawals (MMBtu)
Jun 6, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 7, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 8, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 9, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 10, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 11, 2019	1	0	1	14,717	14,215	502	502	502	0
Jun 12, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 13, 2019	11	11	0	19,740	19,740	0	0	0	0
Jun 14, 2019	2	2	0	15,220	15,220	0	0	0	0
Jun 15, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 16, 2019	1	0	1	14,717	14,215	502	502	502	0
Jun 17, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 18, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 19, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 20, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 21, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 22, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 23, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 24, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 25, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 26, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 27, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 28, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 29, 2019	0	0	0	14,215	14,215	0	0	0	0
Jun 30, 2019	0	0	0	14,215	14,215	0	0	0	0
Jul 1, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 2, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 3, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 4, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 5, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 6, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 7, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 8, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 9, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 10, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 11, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 12, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 13, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 14, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 15, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 16, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 17, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 18, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 19, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 20, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 21, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 22, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 23, 2019	3	0	3	10,385	10,385	0	0	0	0
Jul 24, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 25, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 26, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 27, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 28, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 29, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 30, 2019	0	0	0	10,385	10,385	0	0	0	0
Jul 31, 2019	0	0	0	10,385	10,385	0	0	0	0
Aug 1, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 2, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 3, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 4, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 5, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 6, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 7, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 8, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 9, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 10, 2019	1	0	1	11,175	11,150	25	25	25	0
Aug 11, 2019	0	0	0	11,150	11,150	0	0	0	0

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Aug 12, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 13, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 14, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 15, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 16, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 17, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 18, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 19, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 20, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 21, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 22, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 23, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 24, 2019	1	0	1	11,175	11,150	25	25	25	0
Aug 25, 2019	5	3	2	11,275	11,225	50	50	50	0
Aug 26, 2019	5	1	4	11,275	11,175	100	100	100	0
Aug 27, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 28, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 29, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 30, 2019	0	0	0	11,150	11,150	0	0	0	0
Aug 31, 2019	1	0	1	11,175	11,150	25	25	25	0
Sep 1, 2019	1	0	1	12,206	11,704	502	502	502	0
Sep 2, 2019	0	0	0	11,704	11,704	0	0	0	0
Sep 3, 2019	0	0	0	11,704	11,704	0	0	0	0
Sep 4, 2019	0	0	0	11,704	11,704	0	0	0	0
Sep 5, 2019	1	2	-1	12,206	12,708	-502	502	0	502
Sep 6, 2019	5	4	1	14,215	13,713	502	502	502	0
Sep 7, 2019	5	1	4	14,215	12,206	2,009	2,009	2,009	0
Sep 8, 2019	3	2	1	13,211	12,708	502	502	502	0
Sep 9, 2019	3	2	1	13,211	12,708	502	502	502	0
Sep 10, 2019	0	0	0	11,704	11,704	0	0	0	0
Sep 11, 2019	0	0	0	11,704	11,704	0	0	0	0
Sep 12, 2019	10	9	1	16,727	16,224	502	502	502	0
Sep 13, 2019	10	9	1	16,727	16,224	502	502	502	0
Sep 14, 2019	2	2	0	12,708	12,708	0	0	0	0
Sep 15, 2019	1	0	1	12,206	11,704	502	502	502	0
Sep 16, 2019	6	5	1	14,717	14,215	502	502	502	0
Sep 17, 2019	5	4	1	14,215	13,713	502	502	502	0
Sep 18, 2019	12	12	0	17,731	17,731	0	0	0	0
Sep 19, 2019	8	8	0	15,722	15,722	0	0	0	0
Sep 20, 2019	0	0	0	11,704	11,704	0	0	0	0
Sep 21, 2019	0	0	0	11,704	11,704	0	0	0	0
Sep 22, 2019	0	0	0	11,704	11,704	0	0	0	0
Sep 23, 2019	0	0	0	11,704	11,704	0	0	0	0
Sep 24, 2019	1	3	-2	12,206	13,211	-1,005	1,005	0	1,005
Sep 25, 2019	3	4	-1	13,211	13,713	-502	502	0	502
Sep 26, 2019	3	3	0	13,211	13,211	0	0	0	0
Sep 27, 2019	4	2	2	13,713	12,708	1,005	1,005	1,005	0
Sep 28, 2019	0	0	0	11,704	11,704	0	0	0	0
Sep 29, 2019	8	7	1	15,722	15,220	502	502	502	0
Sep 30, 2019	9	8	1	16,224	15,722	502	502	502	0
Oct 1, 2019	0	0	0	19,714	19,714	0	0	0	0
Oct 2, 2019	11	9	2	27,610	26,174	1,436	1,436	1,436	0
Oct 3, 2019	16	15	1	31,199	30,481	718	718	718	0
Oct 4, 2019	16	17	-1	31,199	31,917	-718	718	0	718
Oct 5, 2019	17	18	-1	31,917	32,634	-718	718	0	718
Oct 6, 2019	4	0	4	22,585	19,714	2,871	2,871	2,871	0
Oct 7, 2019	5	2	3	23,303	21,149	2,153	2,153	2,153	0
Oct 8, 2019	10	9	1	26,892	26,174	718	718	718	0
Oct 9, 2019	12	11	1	28,328	27,610	718	718	718	0
Oct 10, 2019	14	10	4	29,763	26,892	2,871	2,871	2,871	0
Oct 11, 2019	14	9	5	29,763	26,174	3,589	3,589	3,589	0
Oct 12, 2019	12	12	0	28,328	28,328	0	0	0	0
Oct 13, 2019	11	11	0	27,610	27,610	0	0	0	0
Oct 14, 2019	10	8	2	26,892	25,456	1,436	1,436	1,436	0
Oct 15, 2019	16	17	-1	31,199	31,917	-718	718	0	718
Oct 16, 2019	10	9	1	26,892	26,174	718	718	718	0
Oct 17, 2019	17	16	1	31,917	31,199	718	718	718	0

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Oct 18, 2019	17	16	1	31,917	31,199	718	718	718	0
Oct 19, 2019	19	19	0	33,352	33,352	0	0	0	0
Oct 20, 2019	14	12	2	29,763	28,328	1,436	1,436	1,436	0
Oct 21, 2019	15	13	2	30,481	29,045	1,436	1,436	1,436	0
Oct 22, 2019	10	10	0	26,892	26,892	0	0	0	0
Oct 23, 2019	13	12	1	29,045	28,328	718	718	718	0
Oct 24, 2019	12	8	4	28,328	25,456	2,871	2,871	2,871	0
Oct 25, 2019	12	12	0	28,328	28,328	0	0	0	0
Oct 26, 2019	18	16	2	32,634	31,199	1,436	1,436	1,436	0
Oct 27, 2019	16	17	-1	31,199	31,917	-718	718	0	718
Oct 28, 2019	16	15	1	31,199	30,481	718	718	718	0
Oct 29, 2019	13	12	1	29,045	28,328	718	718	718	0
Oct 30, 2019	5	6	-1	23,303	24,021	-718	718	0	718
Oct 31, 2019	1	0	1	20,431	19,714	718	718	718	0
Nov 1, 2019	22	22	0	43,426	43,426	0	0	0	0
Nov 2, 2019	24	26	-2	46,295	49,163	-2,869	2,869	0	2,869
Nov 3, 2019	23	22	1	44,860	43,426	1,434	1,434	1,434	0
Nov 4, 2019	19	18	1	39,123	37,689	1,434	1,434	1,434	0
Nov 5, 2019	19	17	2	39,123	36,255	2,869	2,869	2,869	0
Nov 6, 2019	24	24	0	46,295	46,295	0	0	0	0
Nov 7, 2019	25	26	-1	47,729	49,163	-1,434	1,434	0	1,434
Nov 8, 2019	34	37	-3	60,637	64,940	-4,303	4,303	0	4,303
Nov 9, 2019	31	31	0	56,335	56,335	0	0	0	0
Nov 10, 2019	24	21	3	46,295	41,992	4,303	4,303	4,303	0
Nov 11, 2019	25	27	-2	47,729	50,598	-2,869	2,869	0	2,869
Nov 12, 2019	39	41	-2	67,809	70,677	-2,869	2,869	0	2,869
Nov 13, 2019	42	44	-2	72,111	74,980	-2,869	2,869	0	2,869
Nov 14, 2019	33	35	-2	59,203	62,072	-2,869	2,869	0	2,869
Nov 15, 2019	31	28	3	56,335	52,032	4,303	4,303	4,303	0
Nov 16, 2019	39	40	-1	67,809	69,243	-1,434	1,434	0	1,434
Nov 17, 2019	31	30	1	56,335	54,900	1,434	1,434	1,434	0
Nov 18, 2019	29	26	3	53,466	49,163	4,303	4,303	4,303	0
Nov 19, 2019	28	25	3	52,032	47,729	4,303	4,303	4,303	0
Nov 20, 2019	30	28	2	54,900	52,032	2,869	2,869	2,869	0
Nov 21, 2019	25	25	0	47,729	47,729	0	0	0	0
Nov 22, 2019	30	26	4	54,900	49,163	5,737	5,737	5,737	0
Nov 23, 2019	30	28	2	54,900	52,032	2,869	2,869	2,869	0
Nov 24, 2019	28	26	2	52,032	49,163	2,869	2,869	2,869	0
Nov 25, 2019	27	26	1	50,598	49,163	1,434	1,434	1,434	0
Nov 26, 2019	23	21	2	44,860	41,992	2,869	2,869	2,869	0
Nov 27, 2019	21	19	2	41,992	39,123	2,869	2,869	2,869	0
Nov 28, 2019	30	30	0	54,900	54,900	0	0	0	0
Nov 29, 2019	37	36	1	64,940	63,506	1,434	1,434	1,434	0
Nov 30, 2019	41	41	0	70,677	70,677	0	0	0	0
Dec 1, 2019	35	36	-1	82,777	84,626	-1,849	1,849	0	1,849
Dec 2, 2019	36	36	0	84,626	84,626	0	0	0	0
Dec 3, 2019	38	35	3	88,325	82,777	5,548	5,548	5,548	0
Dec 4, 2019	35	36	-1	82,777	84,626	-1,849	1,849	0	1,849
Dec 5, 2019	36	34	2	84,626	80,927	3,699	3,699	3,699	0
Dec 6, 2019	38	39	-1	88,325	90,175	-1,849	1,849	0	1,849
Dec 7, 2019	45	50	-5	101,271	110,518	-9,247	9,247	0	9,247
Dec 8, 2019	32	32	0	77,228	77,228	0	0	0	0
Dec 9, 2019	17	17	0	49,487	49,487	0	0	0	0
Dec 10, 2019	26	23	3	66,132	60,583	5,548	5,548	5,548	0
Dec 11, 2019	39	37	2	90,175	86,476	3,699	3,699	3,699	0
Dec 12, 2019	39	38	1	90,175	88,325	1,849	1,849	1,849	0
Dec 13, 2019	26	28	-2	66,132	69,831	-3,699	3,699	0	3,699
Dec 14, 2019	19	20	-1	53,186	55,035	-1,849	1,849	0	1,849
Dec 15, 2019	34	31	3	80,927	75,379	5,548	5,548	5,548	0
Dec 16, 2019	38	37	1	88,325	86,476	1,849	1,849	1,849	0
Dec 17, 2019	38	37	1	88,325	86,476	1,849	1,849	1,849	0
Dec 18, 2019	44	43	1	99,422	97,572	1,849	1,849	1,849	0
Dec 19, 2019	49	50	-1	108,669	110,518	-1,849	1,849	0	1,849
Dec 20, 2019	47	46	1	104,970	103,121	1,849	1,849	1,849	0
Dec 21, 2019	40	41	-1	92,024	93,873	-1,849	1,849	0	1,849
Dec 22, 2019	32	39	-7	77,228	90,175	-12,946	12,946	0	12,946
Dec 23, 2019	28	21	7	69,831	56,885	12,946	12,946	12,946	0

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Dec 24, 2019	36	32	4	84,626	77,228	7,398	7,398	7,398	0
Dec 25, 2019	35	34	1	82,777	80,927	1,849	1,849	1,849	0
Dec 26, 2019	34	33	1	80,927	79,078	1,849	1,849	1,849	0
Dec 27, 2019	26	25	1	66,132	64,282	1,849	1,849	1,849	0
Dec 28, 2019	30	28	2	73,530	69,831	3,699	3,699	3,699	0
Dec 29, 2019	31	30	1	75,379	73,530	1,849	1,849	1,849	0
Dec 30, 2019	32	36	-4	77,228	84,626	-7,398	7,398	0	7,398
Dec 31, 2019	33	30	3	79,078	73,530	5,548	5,548	5,548	0
Jan 1, 2020	35	32	3	82,777	77,228	5,548	5,548	5,548	0
Jan 2, 2020	29	28	1	71,680	69,831	1,849	1,849	1,849	0
Jan 3, 2020	26	26	0	66,132	66,132	0	0	0	0
Jan 4, 2020	31	29	2	75,379	71,680	3,699	3,699	3,699	0
Jan 5, 2020	40	37	3	92,024	86,476	5,548	5,548	5,548	0
Jan 6, 2020	35	34	1	82,777	80,927	1,849	1,849	1,849	0
Jan 7, 2020	34	32	2	80,927	77,228	3,699	3,699	3,699	0
Jan 8, 2020	40	37	3	92,024	86,476	5,548	5,548	5,548	0
Jan 9, 2020	40	40	0	92,024	92,024	0	0	0	0
Jan 10, 2020	22	21	1	58,734	56,885	1,849	1,849	1,849	0
Jan 11, 2020	7	2	5	30,992	21,745	9,247	9,247	9,247	0
Jan 12, 2020	29	23	6	71,680	60,583	11,097	11,097	11,097	0
Jan 13, 2020	33	33	0	79,078	79,078	0	0	0	0
Jan 14, 2020	29	28	1	71,680	69,831	1,849	1,849	1,849	0
Jan 15, 2020	29	27	2	71,680	67,981	3,699	3,699	3,699	0
Jan 16, 2020	39	40	-1	90,175	92,024	-1,849	1,849	0	1,849
Jan 17, 2020	53	53	0	116,067	116,067	0	0	0	0
Jan 18, 2020	40	48	-8	92,024	106,820	-14,796	14,796	0	14,796
Jan 19, 2020	44	41	3	99,422	93,873	5,548	5,548	5,548	0
Jan 20, 2020	49	47	2	108,669	104,970	3,699	3,699	3,699	0
Jan 21, 2020	48	49	-1	106,820	108,669	-1,849	1,849	0	1,849
Jan 22, 2020	40	42	-2	92,024	95,723	-3,699	3,699	0	3,699
Jan 23, 2020	34	35	-1	80,927	82,777	-1,849	1,849	0	1,849
Jan 24, 2020	30	26	4	73,530	66,132	7,398	7,398	7,398	0
Jan 25, 2020	25	25	0	64,282	64,282	0	0	0	0
Jan 26, 2020	28	25	3	69,831	64,282	5,548	5,548	5,548	0
Jan 27, 2020	30	26	4	73,530	66,132	7,398	7,398	7,398	0
Jan 28, 2020	35	32	3	82,777	77,228	5,548	5,548	5,548	0
Jan 29, 2020	41	39	2	93,873	90,175	3,699	3,699	3,699	0
Jan 30, 2020	39	39	0	90,175	90,175	0	0	0	0
Jan 31, 2020	32	29	3	77,228	71,680	5,548	5,548	5,548	0
Feb 1, 2020	31	31	0	75,379	75,379	0	0	0	0
Feb 2, 2020	32	32	0	77,228	77,228	0	0	0	0
Feb 3, 2020	30	27	3	73,530	67,981	5,548	5,548	5,548	0
Feb 4, 2020	28	25	3	69,831	64,282	5,548	5,548	5,548	0
Feb 5, 2020	35	33	2	82,777	79,078	3,699	3,699	3,699	0
Feb 6, 2020	31	33	-2	75,379	79,078	-3,699	3,699	0	3,699
Feb 7, 2020	37	38	-1	86,476	88,325	-1,849	1,849	0	1,849
Feb 8, 2020	48	47	1	106,820	104,970	1,849	1,849	1,849	0
Feb 9, 2020	35	35	0	82,777	82,777	0	0	0	0
Feb 10, 2020	31	30	1	75,379	73,530	1,849	1,849	1,849	0
Feb 11, 2020	32	30	2	77,228	73,530	3,699	3,699	3,699	0
Feb 12, 2020	30	28	2	73,530	69,831	3,699	3,699	3,699	0
Feb 13, 2020	37	34	3	86,476	80,927	5,548	5,548	5,548	0
Feb 14, 2020	56	54	2	121,615	117,916	3,699	3,699	3,699	0
Feb 15, 2020	41	40	1	93,873	92,024	1,849	1,849	1,849	0
Feb 16, 2020	33	31	2	79,078	75,379	3,699	3,699	3,699	0
Feb 17, 2020	39	34	5	90,175	80,927	9,247	9,247	9,247	0
Feb 18, 2020	31	31	0	75,379	75,379	0	0	0	0
Feb 19, 2020	40	37	3	92,024	86,476	5,548	5,548	5,548	0
Feb 20, 2020	47	44	3	104,970	99,422	5,548	5,548	5,548	0
Feb 21, 2020	41	39	2	93,873	90,175	3,699	3,699	3,699	0
Feb 22, 2020	34	31	3	80,927	75,379	5,548	5,548	5,548	0
Feb 23, 2020	29	28	1	71,680	69,831	1,849	1,849	1,849	0
Feb 24, 2020	24	21	3	62,433	56,885	5,548	5,548	5,548	0
Feb 25, 2020	26	21	5	66,132	56,885	9,247	9,247	9,247	0
Feb 26, 2020	25	21	4	64,282	56,885	7,398	7,398	7,398	0
Feb 27, 2020	33	32	1	79,078	77,228	1,849	1,849	1,849	0
Feb 28, 2020	37	36	1	86,476	84,626	1,849	1,849	1,849	0

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Calculation of Supplier Balancing Charge
2019-2020

Estimated Daily Imbalances

Date	Predicted MAN HDD	Actual MAN HDD	Forecaster Error MAN HDD	Calculated on Predicted MAN HDD	Calculated on Actual MAN HDD	Sendout Error (MMBtu)	Abs.Value Sendout Error (MMBtu)	Injections (MMBtu)	Withdrawals (MMBtu)
Feb 29, 2020	40	40	0	92,024	92,024	0	0	0	0
Mar 1, 2020	38	38	0	85,806	85,806	0	0	0	0
Mar 2, 2020	22	17	5	59,134	50,799	8,335	8,335	8,335	0
Mar 3, 2020	17	13	4	50,799	44,130	6,668	6,668	6,668	0
Mar 4, 2020	26	22	4	65,802	59,134	6,668	6,668	6,668	0
Mar 5, 2020	28	27	1	69,136	67,469	1,667	1,667	1,667	0
Mar 6, 2020	30	28	2	72,470	69,136	3,334	3,334	3,334	0
Mar 7, 2020	33	29	4	77,471	70,803	6,668	6,668	6,668	0
Mar 8, 2020	21	20	1	57,467	55,800	1,667	1,667	1,667	0
Mar 9, 2020	11	7	4	40,796	34,128	6,668	6,668	6,668	0
Mar 10, 2020	13	11	2	44,130	40,796	3,334	3,334	3,334	0
Mar 11, 2020	26	25	1	65,802	64,135	1,667	1,667	1,667	0
Mar 12, 2020	23	23	0	60,801	60,801	0	0	0	0
Mar 13, 2020	19	19	0	54,133	54,133	0	0	0	0
Mar 14, 2020	25	21	4	64,135	57,467	6,668	6,668	6,668	0
Mar 15, 2020	33	32	1	77,471	75,804	1,667	1,667	1,667	0
Mar 16, 2020	31	32	-1	74,137	75,804	-1,667	1,667	0	1,667
Mar 17, 2020	25	26	-1	64,135	65,802	-1,667	1,667	0	1,667
Mar 18, 2020	22	20	2	59,134	55,800	3,334	3,334	3,334	0
Mar 19, 2020	22	24	-2	59,134	62,468	-3,334	3,334	0	3,334
Mar 20, 2020	11	12	-1	40,796	42,463	-1,667	1,667	0	1,667
Mar 21, 2020	33	31	2	77,471	74,137	3,334	3,334	3,334	0
Mar 22, 2020	33	33	0	77,471	77,471	0	0	0	0
Mar 23, 2020	28	30	-2	69,136	72,470	-3,334	3,334	0	3,334
Mar 24, 2020	26	26	0	65,802	65,802	0	0	0	0
Mar 25, 2020	29	26	3	70,803	65,802	5,001	5,001	5,001	0
Mar 26, 2020	21	17	4	57,467	50,799	6,668	6,668	6,668	0
Mar 27, 2020	19	18	1	54,133	52,466	1,667	1,667	1,667	0
Mar 28, 2020	16	17	-1	49,132	50,799	-1,667	1,667	0	1,667
Mar 29, 2020	25	26	-1	64,135	65,802	-1,667	1,667	0	1,667
Mar 30, 2020	28	27	1	69,136	67,469	1,667	1,667	1,667	0
Apr	515	491	24	1,201,753	1,164,984	36,768	82,729	59,749	22,980
May	298	257	41	673,100	637,803	35,297	47,349	41,323	6,026
Jun	34	31	3	443,528	442,021	1,507	3,516	2,511	1,005
Jul	3	0	3	321,922	321,922	0	0	0	0
Aug	13	4	9	345,983	345,759	224	224	224	0
Sep	100	87	13	401,342	394,813	6,530	10,548	8,539	2,009
Oct	376	341	35	881,024	855,900	25,124	32,302	28,713	3,589
Nov	864	846	18	1,595,375	1,569,559	25,817	68,844	47,331	21,514
Dec	1,068	1,054	14	2,534,640	2,508,748	25,892	114,665	70,279	44,387
Jan	1,066	1,025	41	2,530,941	2,455,114	75,827	123,913	99,870	24,043
Feb	1,013	963	50	2,396,828	2,304,356	92,472	103,569	98,020	5,548
Mar	734	697	37	1,897,371	1,835,691	61,680	91,686	76,683	15,003
Total	6,084	5,796	288	15,223,807	14,836,669	387,137	679,346	533,242	146,104

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Docket DE 98-124 Gas Restructuring
Peaking Demand Rate

					Source:
1	Peak Day		168,574	Dekatherm	
2					
3	Pipeline MDQ				Attachment B Page 2 of 3: EnergyNorth Capacity Resources
4		PNGTS	1,000	Dekatherm	
5		TGP NET-NE 95346	4,000		
6		TGP FT-A (Z5-Z6) 2302	3,122		
7		TGP FT-A (Z0-Z6) 8587	7,035		
8		TGP FT-A (Z1-Z6) 8587	14,561		
9		TGP FT-A (Z6-Z6) 42076	20,000		
		TGP FT-A (Z6-Z6) 72694	30,000		
10			79,718	Dekatherm	
11					
12	Underground Storage MDQ				Attachment B Page 3 of 3: EnergyNorth Capacity Resources
13		TGP FT-A (Z4-Z6) 632	15,265	Dekatherm	
14		TGP FT-A (Z4-Z6) 8587	3,811		
15		TGP FT-A (Z4-Z6) 11234	7,082		
16		TGP FT-A (Z5-Z6) 11234	1,957		
17			28,115		
18					
19					
20	Peaking MDQ		60,741	Dekatherm	Line 1 - Line 10 - Line 18
21					
22					
23	Peaking Costs				
23					
23	Gas Supply		$ 4,330,500		Attachment B Page 3 Line 11
25	Indirect Production & Storage Capacity		$ 1,980,428		Summary Page Line 68
26	Granite Ridge		$ -		Attachment B Page 3 Line 1
27	Total		$ 6,310,928		Sum Line 24 - 26
28					
29	Annual Peaking Rate per MDQ		$ 103.90		Line 27 divided by Line 20
30					
31	**Monthly Peaking MDQ**		**$ 17.32**	**/Dekatherm**	Line 29 divided by 6 month

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Tennessee Allocations:

Resource Type	High Load Factor	Low Load Factor
Pipeline	59.3%	46.1%
Storage	12.9%	17.1%
Peaking	27.9%	36.8%
TOTAL:	100.00%	100.00%

Capacity Resources effective November 1, 2020*:

*proposed

Resource	Pipeline Company	Rate Schedule	Contract #	Peak MDQ/ MDWQ	Storage MSQ	Rate $/Dth/Month Demand	Storage Capacity	Termination Date	LDC Managed
Pipeline									
	TCPL + Union	FT to Parkway & IGTS	M12200 & 41232	4,000		$10.7451		10/31/2022	
	Iroquois	RTS to Wright	470-01	4,047		$5.2357		11/1/2022	
	TGP	NET-NE (Z5-Z6)	95346	4,000		$6.4123		11/30/2021	
	TGP	FT-A (Z5-Z6)	2302	3,122		$6.4123		10/31/2025	
	TGP	FT-A (Z0-Z6)	8587	7,035		$20.8047		10/31/2025	
	TGP	FT-A (Z1-Z6)	8587	14,561		$18.4675		10/31/2025	
	TCPL + Union	FT to Parkway & PNGTS	M12284 & TC	5,000		$15.8195		10/31/2040	
	PNGTS	FT	225800	5,000		$22.8125		10/31/2040	
	TGP	FT-A (Z6-Z6)	42076	20,000		$4.2512		10/31/2025	
	TGP	FT-A (Z6-Z6)	72694	30,000		$12.1881		10/31/2029	
Storage									
	TGP	FS-MA (Storage)	523*	21,844	1,560,391	$1.3386	$0.0183	10/31/2025	
	TGP	FT-A (Z4-Z6)	632	15,265		$7.3005		10/31/2025	
	TGP	FT-A (Z4-Z6)	8587	3,811		$7.3005		10/31/2025	
	National Fuel	FSS-1 (Storage)	O02357*	6,098	670,800	$2.5326	$0.0462	3/31/2022	
	National Fuel	FST (Transport)	N02358	6,098		$4.5019		3/31/2022	
	TGP	FT-A (Z4-Z6)	11234	6,150		$7.3005		10/31/2025	
	Honeoye	SS-NY (Storage)	SS-NY**	1,957	245,380	$4.2672	$0.0000	3/31/2022	X
	TGP	FT-A (Z5-Z6)	11234	1,957		$6.4123		10/31/2025	
	Dominion	GSS (Storage)	300076*	934	102,700	$1.8698	$0.0145	3/31/2023	
	TGP	FT-A (Z4-Z6)	11234	932		$7.3005		10/31/2025	
Peaking									
	Energy North	LNG/Propane****		60,741	-	$17.3200	$0.0000		X

* All gas transferred for storage contracts will be based on LDC's monthly WACOG
**All commodity volumes nominated will be invoiced at LDC's WACOG + fuel retention. Demand charge applicable for 6 months

Note: **All capacity will be released at maximum tariff rates. Above rates are maximum tariff rates effective 11/01/20. Because rates can change, please refer to the applicable pipeline tariff for current rates.**

Above capacity is for all customers in the EnergyNorth Service territory with the exception of Berlin, NH. Any customers behind the Berlin citygate will be allocated 100% PNGTS capacity at a demand rate of $18.2633 /dth.

ENERGYNORTH NATURAL GAS, INC.

Docket 98-124 Gas Restructuring
Peaking Demand Rate
Peaking Costs

		Volume	Rate	Monthly Cost	Months/Year	Annual Cost	
1		[redacted]					
2							
3							
4	Subtotal					**$ 4,330,500.00**	*
5							
6	**Total**					**$ 4,330,500.00**	

* Contract currently being negotiated for an effective date of November 1, 2020

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Liberty Utilities (EnergyNorth Natural Gas) Corp

Calculation of Capacity Allocators
Docket No DE 98-124

Capacity Assignment Table

			% of Peak Day Requirement			
			Pipeline	**Storage**	**Peaking**	**Total**
G-41	**LAHW**	Low Annual C&I - High Winter Use	46.1%	17.1%	36.8%	100.0%
G-51	**LALW**	Low Annual C&I - Low Winter Use	59.3%	12.9%	27.9%	100.0%
G-42	**MAHW**	Medium C&I - High Winter Use	46.1%	17.1%	36.8%	100.0%
G-52	**MALW**	Medium C&I - Low Winter Use	59.3%	12.9%	27.9%	100.0%
G-43	**HAHW**	High Annual C&I - High Winter Use	46.1%	17.1%	36.8%	100.0%
G-53	**HALW90**	High Annual C&I - LF < 90%	59.3%	12.9%	27.9%	100.0%
G-54	**HALWG90**	High Annual C&I - LF > 90%	59.3%	12.9%	27.9%	100.0%

HLF	High Load Factor	59.25%	12.89%	27.85%	100%
LLF	Low Load Factor	46.09%	17.06%	36.85%	100%
	Total	47.29%	16.68%	36.03%	100%

Liberty Utilities (EnergyNorth Natural Gas) Corp

Calculation of Capacity Allocators
Docket No DE 98-124

Allocation of Peak Day

Design Day Throughput Allocated to Rate Classes

Design DD		Base load	Heat load (71.544)	Total
HLF	R-1 RNSH	102	457	558
LLF	R-3 RSH	3,545	69,811	73,356
LLF	G-41 SL	770	30,823	31,593
HLF	G-51 SH	739	1,812	2,551
LLF	G-42 ML	1,473	37,931	39,404
HLF	G-52 MH	1,781	3,820	5,601
LLF	G-43 LL	663	8,239	8,901
HLF	G-53 LLL90	1,146	2,222	3,368
HLF	G-54 LLG90	461	2,780	3,241
	TOTAL	10,678	157,896	168,574
	HLF	4,227	11,092	15,319
	LLF	6,450	146,804	153,255
	Total	10,678	157,896	168,574

Allocate Class Design Day Throughput to Supply Sources

	Base Pipeline	Remaining Pipeline	Sub-total Pipeline	Storage	Peaking	Total
R-1 RNSH	102	200	301	81	175.73	558
R-3 RSH	3,545	30,525	34,070	12,431	26,856	73,356
G-41 SL	770	13,477	14,247	5,488	11,857	31,593
G-51 SH	739	792	1,531	323	697	2,551
G-42 ML	1,473	16,585	18,058	6,754	14,592	39,404
G-52 MH	1,781	1,670	3,451	680	1,470	5,601
G-43 LL	663	3,602	4,265	1,467	3,169	8,901
G-53 LLL90	1,146	972	2,117	396	855	3,368
G-54 LLG90	461	1,216	1,676	495	1,070	3,241
TOTAL	10,678	69,040	79,718	28,115	60,741	168,574
HLF	4,227	4,850	9,077	1,975	4,267	15,319
LLF	6,450	64,190	70,641	26,140	56,474	153,255
Total	10,678	69,040	79,718	28,115	60,741	168,574

% of Peak Day Requirement

	Pipeline	Storage	Peaking	Total
R-1 RNSH	54.0%	14.6%	31.5%	100.0%
R-3 RSH	46.4%	16.9%	36.6%	100.0%
G-41 SL	45.1%	17.4%	37.5%	100.0%
G-51 SH	60.0%	12.6%	27.3%	100.0%
G-42 ML	45.8%	17.1%	37.0%	100.0%
G-52 MH	61.6%	12.1%	26.2%	100.0%
G-43 LL	47.9%	16.5%	35.6%	100.0%
G-53 LLL90	62.9%	11.7%	25.4%	100.0%
G-54 LLG90	51.7%	15.3%	33.0%	100.0%
TOTAL	47.3%	16.7%	36.0%	100.0%
High Load Factor	59.25%	12.89%	27.85%	100%
Low Load Factor	46.09%	17.06%	36.85%	100%
Total	47.29%	16.68%	36.03%	100%

Liberty Utilities (EnergyNorth Natural Gas) Corp

Calculation of Capacity Allocators
Docket No DE 98-124

Allocate Design Day Sendout

Calculate Design Day Throughput (BBTU)

Design DD 71.544

	Daily Baseload * 1000	Heating Factor * 1000	Heat load (Heating Factor * Design DD)	Total
R-1 RNSH	102	6.01	430	532
R-3 RSH	3,545	918.47	65,711	69,256
G-41 SL	770	405.52	29,013	29,783
G-51 SH	739	23.84	1,706	2,445
G-42 ML	1,473	499.04	35,703	37,176
G-52 MH	1,781	50.26	3,596	5,376
G-43 LL	663	108.39	7,755	8,418
G-53 LLL90	1,146	29.24	2,092	3,238
G-54 LLG90	461	36.58	2,617	3,078
TOTAL	10,678	1,939.15	148,622	159,300

HLF	4,227	146	10,440	14,668
LLF	6,450	1,793	138,182	144,632
Total	10,678	1,939	148,622	159,300

Design Day from 2020-2021 COG	**168,574**
Design Day from Gas Load Calculation	159,300
Variance	9,274

Baseload as % of Total Class Load	Heat Load as % of Total
19%	0.289%
5%	44.214%
3%	19.521%
30%	1.148%
4%	24.023%
33%	2.419%
8%	5.218%
35%	1.408%
15%	1.761%
	100.000%

Allocate Design Day Sendout to Rate Classes

Base Load	Heat Load	Total
102	457	558
3,545	69,811	73,356
770	30,823	31,593
739	1,812	2,551
1,473	37,931	39,404
1,781	3,820	5,601
663	8,239	8,901
1,146	2,222	3,368
461	2,780	3,241
10,678	157,896	168,574

Liberty Utilities (EnergyNorth Natural Gas) Corp

Calculation of Capacity Allocators
Docket No DE 98-124

CALCULATION OF NORMAL SALES VOLUMES

Actual Volumes

Total Core Sales Volumes(000's) MMBTU

		Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Total	Monthly Baseload (Jul+Aug)/2	Daily Baseload
HLF	R-1 RNSH	7	9	9	8	8	6	5	4	3	3	4	5	70	3.149	0.102
LLF	R-3 RSH	731	957	994	889	717	509	274	143	111	110	142	327	5,904	109.892	3.545
LLF	G-41 SL	285	394	409	364	274	188	88	36	24	24	36	106	2,228	23.872	0.770
HLF	G-51 SH	36	43	43	40	34	30	30	25	23	25	25	29	383	22.908	0.739
LLF	G-42 ML	394	516	531	474	375	262	142	64	46	48	71	175	3,100	45.648	1.473
HLF	G-52 MH	91	103	106	98	79	71	67	56	55	58	60	73	917	55.198	1.781
LLF	G-43 LL	98	127	130	121	102	70	45	25	21	22	27	49	836	20.550	0.663
HLF	G-53 LLL90	50	56	61	59	53	44	46	39	38	40	36	48	571	35.515	1.146
HLF	G-54 LLL110	20	26	27	25	20	18	18	14	16	16	15	18	233	14.280	0.461
HLF	G-99 LLG110															
	TOTAL	1,713	2,229	2,311	2,080	1,662	1,198	714	406	337	346	416	829	14,242	341.449	11.014
	HLF	204	235	246	231	194	168	166	138	136	142	140	173	2,174	131.050	4.480
	LLF	1,509	1,994	2,064	1,849	1,468	1,030	549	268	201	204	276	656	12,067	199.962	6.534

Baseload (= the lesser of actual volumes or the average of July and August volumes)

		Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Total
		30	31	31	29	31	30	31	30	31	31	30	31	366
HLF	R-1 RNSH	3	3	3	3	3	3	3	3	3	3	3	3	37
LLF	R-3 RSH	106	110	110	103	110	106	110	106	111	110	106	110	1,297
LLF	G-41 SL	23	24	24	22	24	23	24	23	24	24	23	24	282
HLF	G-51 SH	22	23	23	21	23	22	23	22	23	25	22	23	270
LLF	G-42 ML	44	46	46	43	46	44	46	44	46	48	44	46	539
HLF	G-52 MH	53	55	55	52	55	53	55	53	55	58	53	55	652
LLF	G-43 LL	20	21	21	19	21	20	21	20	21	22	20	21	243
HLF	G-53 LLL90	34	36	36	33	36	34	36	34	38	40	34	36	419
HLF	G-54 LLL110	14	14	14	13	14	14	14	14	16	16	14	14	169
HLF	G-63 LLG110	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	320	331	331	310	331	320	331	320	337	346	320	331	3,908
	HLF	127	131	131	123	131	127	131	127	136	142	127	131	1,547
	LLF	194	200	200	187	200	194	200	194	201	204	194	200	2,361

Liberty Utilities (EnergyNorth Natural Gas) Corp

Calculation of Capacity Allocators
Docket No DE 98-124

Heating Volumes (= Actual Volumes - Baseload)

		Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Total
HLF	R-1 RNSH	4	5	6	5	5	3	2	1	0	0	0	2	32
LLF	R-3 RSH	625	848	884	786	607	403	164	37	0	0	35	217	4,607
LLF	G-41 SL	262	370	386	342	250	165	64	13	0	0	13	82	1,946
HLF	G-51 SH	14	20	20	19	11	8	7	2	0	0	3	6	112
LLF	G-42 ML	350	470	485	432	329	218	97	20	0	0	27	129	2,561
HLF	G-52 MH	38	48	50	46	24	17	12	3	0	0	7	18	265
LLF	G-43 LL	78	106	110	102	81	50	24	5	0	0	7	29	593
HLF	G-53 LLL90	15	20	26	26	18	10	11	5	0	0	1	13	152
HLF	G-54 LLL110	6	11	13	12	6	4	4	0	0	0	2	3	65
HLF	G-63 LLG110	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	1,393	1,898	1,980	1,771	1,331	878	383	86	0	0	95	498	10,333

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Total
HLF	78	104	115	109	63	42	35	11	0	0	13	42	627
LLF	1,315	1,794	1,864	1,662	1,268	836	349	74	0	0	82	456	9,707

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Total
Actual BDD	846.0	1054.0	1025.0	963.0	724.0	491.0	257.0	31.0	0.0	4.0	87.0	341.0	5823.0

Heat Factors

		Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Total	AVG	AVG Peak
HLF	R-1 RNSH	0.0046	0.0051	0.0056	0.0054	0.0063	0.0061	0.0072	0.0237	0.0000	0.0000	0.0052	0.0047	0.0063	0.0062	0.0055
LLF	R-3 RSH	0.7389	0.8042	0.8621	0.8165	0.8388	0.8206	0.6374	1.1853	0.0000	0.0000	0.4063	0.6357	0.8621	0.6455	0.8135
LLF	G-41 SL	0.3101	0.3511	0.3762	0.3553	0.3448	0.3361	0.2481	0.4058	0.0000	0.0000	0.1467	0.2396	0.3762	0.2595	0.3456
HLF	G-51 SH	0.0168	0.0186	0.0200	0.0197	0.0154	0.0154	0.0258	0.0799	0.0000	0.0000	0.0350	0.0178	0.0200	0.0220	0.0177
LLF	G-42 ML	0.4137	0.4462	0.4733	0.4481	0.4550	0.4445	0.3764	0.6498	0.0000	0.0000	0.3128	0.3797	0.4733	0.3666	0.4468
HLF	G-52 MH	0.0448	0.0453	0.0492	0.0481	0.0335	0.0353	0.0449	0.0868	0.0000	0.0000	0.0776	0.0526	0.0492	0.0432	0.0427
LLF	G-43 LL	0.0921	0.1006	0.1073	0.1059	0.1123	0.1019	0.0951	0.1524	0.0000	0.0000	0.0805	0.0837	0.1123	0.0860	0.1034
HLF	G-53 LLL90	0.0180	0.0191	0.0253	0.0271	0.0242	0.0201	0.0427	0.1650	0.0000	0.0000	0.0132	0.0372	0.0271	0.0326	0.0223
HLF	G-54 LLL110	0.0074	0.0107	0.0122	0.0126	0.0082	0.0079	0.0139	0.0149	0.0000	0.0000	0.0183	0.0098	0.0126	0.0097	0.0098
HLF	G-63 LLG110	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	TOTAL	1.6465	1.8008	1.9312	1.8387	1.8386	1.7879	1.4914	2.7635	0.0000	0.0000	1.0957	1.4609	1.9391	1.4713	1.8073

Liberty Utilities (EnergyNorth Natural Gas) Corp

Calculation of Capacity Allocators
Docket No DE 98-124

Actual HDD	**846.0**	**1,054.0**	**1,025.0**	**963.0**	**724.0**	**491.0**	**257.0**	**31.0**	**0.0**	**4.0**	**87.0**	**341.0**	**5823.0**
Norm HDD	**715.2**	**1,044.9**	**1,216.8**	**1,071.2**	**893.6**	**508.8**	**226.5**	**49.9**	**5.0**	**8.2**	**108.0**	**407.2**	**6255.0**

Normal Volumes (= Heating Volumes * Normal HDD/Actual HDD + Baseload)

		Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Total
HLF	**R-1 RNSH**	6	8	10	9	9	6	5	4	3	3	4	5	72
LLF	**R-3 RSH**	635	950	1,159	977	859	524	254	165	111	110	150	369	6,264
LLF	**G-41 SL**	245	391	482	403	332	194	80	43	24	24	39	121	2,378
HLF	**G-51 SH**	34	42	47	43	37	30	29	26	23	25	26	30	392
LLF	**G-42 ML**	340	512	622	523	452	270	131	77	46	48	78	200	3,298
HLF	**G-52 MH**	85	103	115	103	85	71	65	58	55	58	62	77	937
LLF	**G-43 LL**	86	126	151	133	121	72	42	27	21	22	29	55	883
HLF	**G-53 LLL90**	47	55	66	62	57	45	45	43	38	40	36	51	585
HLF	**G-54 LLL110**	19	25	29	27	22	18	17	15	16	16	16	18	238
HLF	**G-63 LLG110**	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL	1,498	2,213	2,681	2,279	1,974	1,230	669	458	337	346	439	926	15,049

HLF	192	234	268	244	209	170	161	145	136	142	143	181	2,225
LLF	1,306	1,978	2,413	2,036	1,765	1,060	507	313	201	204	296	745	12,823

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Peak 2020 - 2021 Winter Cost of Gas Filing
Fixed Price Option

		Participation	Premium	FPO Volumes	Premium Revenue	FPO Rate	Residential Average COG Rate	Residential Total Bill FPO Rate	Residential Total Bill COG Rate	Difference	% Difference	FPO Rate	C&I Average COG Rate	C&I Total Bill FPO Rate	C&I Total Bill COG Rate	Difference	% Difference
1	Nov 98 - Mar 99	6.0%				0.3927	0.3722	943.3700	926.9333	$ 16.44	1.77%	0.3927	0.3736	$ 1,570.86	$ 1,546.08	$ 24.79	1.60%
2	Nov 99 - Mar 00	9.0%				0.4724	0.4628	679.8500	672.2235	$ 7.63	1.13%	0.4724	0.4636	$ 1,161.81	$ 1,149.15	$ 12.67	1.10%
3	Nov 00 - Mar 01	20.0%				0.6408	0.7656	816.2500	916.0900	$ (99.84)	-10.90%	0.6408	0.7189	$ 1,376.64	$ 1,533.43	$ (156.79)	-10.22%
4	Nov 01 - Apr 02	24.0%				0.5141	0.4818	790.6522	760.5504	$ 30.10	3.96%	0.5238	0.4928	$ 1,301.07	$ 1,256.88	$ 44.19	3.52%
5	Nov 02 - Apr 03	24.0%	0.0051	25,107,016	$ 128,045.78	0.5553	0.5758	821.3224	840.4371	$ (19.11)	-2.27%	0.5658	0.5860	$ 1,344.02	$ 1,372.86	$ (28.84)	-2.10%
6	Nov 03 - Apr 04	23.0%	0.0219	25,220,575	$ 552,330.59	0.8597	0.8220	1,115.5548	1,080.4628	$ 35.09	3.25%	0.8759	0.8352	$ 1,798.38	$ 1,740.30	$ 58.08	3.34%
7	Nov 04 - Apr 05	29.6%	0.0100	27,378,128	$ 273,781.28	0.8925	0.9425	1,142.9556	1,189.5541	$ (46.60)	-3.92%	0.9092	0.9562	$ 1,844.75	$ 1,911.86	$ (67.10)	-3.51%
8	Nov 05 - Apr 06	29.8%	0.0200	25,944,091	$ 518,881.82	1.2951	1.1342	1,526.0076	1,376.0122	$ 150.00	10.90%	1.3192	1.1686	$ 2,450.66	$ 2,235.77	$ 214.89	9.61%
9	Nov 06 - Apr 07	15.1%	0.0200	13,135,684	$ 262,713.68	1.2664	1.1656	1,509.7908	1,415.8032	$ 93.99	6.64%	1.2666	1.1647	$ 2,321.15	$ 2,175.70	$ 145.45	6.68%
10	Nov 07 - Apr 08	15.8%	0.0200	14,078,553	$ 281,571.06	1.2043	1.1746	1,433.0900	1,405.4000	$ 27.69	1.97%	1.2044	1.1725	$ 2,232.39	$ 2,186.92	$ 45.47	2.08%
11	Nov 08 - Apr 09	15.2%	0.0200	13,041,335	$ 260,826.70	1.2835	1.0888	1,555.3140	1,373.8536	$ 181.46	13.21%	1.2836	1.0958	$ 2,467.49	$ 2,199.54	$ 267.95	12.18%
12	Nov 09 - Apr 10	11.4%	0.0200	8,405,413	$ 168,108.26	0.9863	0.9416	1,250.8032	1,209.1161	$ 41.69	3.45%	0.9865	0.9408	$ 1,984.29	$ 1,919.03	$ 65.26	3.40%
13	Nov 10 - Apr 11	12.6%	0.0200	10,379,804	$ 207,596.08	0.8420	0.8029	1,175.0264	1,138.5767	$ 36.45	3.20%	0.8434	0.8030	$ 1,880.96	$ 1,823.34	$ 57.63	3.16%
14	Nov 11 - Apr 12	11.9%	0.0200	7,835,197	$ 156,703.94	0.8126	0.7309	1,165.6100	1,089.4400	$ 76.17	6.99%	0.8129	0.7327	$ 1,845.28	$ 1,730.88	$ 114.40	6.61%
15	Nov 12 - Apr 13	10.9%	0.0200	8,179,524	$ 163,590.48	0.6919	0.7680	743.0298	792.4756	$ (49.45)	-6.24%	0.6936	0.7724	$ 1,989.86	$ 2,132.90	$ (143.03)	-6.71%
16	Nov 13 - Apr 14	10.5%	0.0200	8,930,779	$ 178,615.58	0.9095	1.0980	857.7200	981.2100	$ (123.49)	-12.59%	0.9108	1.1058	$ 2,904.98	$ 3,286.12	$ (381.14)	-11.60%
17	Nov 14 - Apr 15	15.1%	0.0795	8,779,742	$ 697,989.49	1.2425	0.4632	1,127.6600	948.0700	$ 179.59	18.94%	0.5143	0.5552	$ 2,135.42	$ 2,340.00	$ (204.58)	-8.74%
18	Nov 15 - Apr 16	15.3%	0.0200	4,941,157	$ 98,823.14	0.7716	0.7516	869.1500	712.7315	$ 156.42	21.95%						
19	Nov 16 - Apr 17	11.5%	0.0106	5,419,967	$ 57,451.65	0.7268	0.7162	827.1400	812.3754	$ 14.76	1.82%						
20	Nov 17 - Apr 18	10.6%	0.0200	5,298,900	$ 105,978.00	0.6645	0.6445	878.7000	865.9400	$ 12.76	1.47%						
21	Nov 18 - Apr 19	10.8%	0.0200	5,708,925	$ 114,178.50	0.7611	0.7411	984.8300	972.1200	$ 12.71	1.31%						
22	Nov 19 - Apr 20	7.2%	0.0200	3,447,167	$ 68,943.34	0.6403	0.6203	930.4600	917.7400	$ 12.72	1.39%						
23	Nov 20 - Apr 21					0.5771	0.5571	896.8569	883.5169	$ -	0.00%						
24	Total									$ 734.45						$ 273.86	

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Peak 2020 - 2021 Winter Cost of Gas Filing
Short-Term Debt Limitations

		For Purposes of Fuel Financing
Total Direct Gas Costs	$	46,922,854
Total Indirect Gas Costs		2,220,114
Total Gas Costs	$	49,142,968
% of Debt to Total Gas Costs		30%
Short Term Debt	$	14,742,890

		For Purposes Other Than Fuel Financing
12/31/2021 Projected Net Plant	**$**	**527,836,019**
% of Debt to Net Plant		20%
Short Term Debt	$	105,567,204

Liberty Utilities (EnergyNorth Natural Gas) Corp.
d/b/a Liberty Utilities
2020 - 2021 Winter Cost of Gas Filing

Company Allowance Calculation

	Jul-2019	Aug-2019	Sep-2019	Oct-2019	Nov-2019	Dec-2019	Jan-2020	Feb-2020	Mar-2020	Apr-2020	May-2020	Jun-2020	Total
Total Sendout- Therms	5,403,368	5,577,535	6,066,690	10,131,029	20,386,985	25,704,126	25,691,669	23,813,297	18,213,106	14,394,826	8,393,520	5,254,716	169,030,868
Total Throughput- Therms	5,812,036	5,538,687	5,418,133	6,753,397	11,333,251	21,604,197	26,367,378	23,989,312	22,261,307	17,025,287	13,009,585	7,199,010	166,311,578
Variance	(408,668)	38,848	648,557	3,377,633	9,053,734	4,099,929	(675,709)	(176,015)	(4,048,201)	(2,630,461)	(4,616,064)	(1,944,293)	2,719,290
Company Allowance													**1.61%**

Lost and Unaccounted For Gas ("LAUF") Calculation

	Jul-2019	Aug-2019	Sep-2019	Oct-2019	Nov-2019	Dec-2019	Jan-2020	Feb-2020	Mar-2020	Apr-2020	May-2020	Jun-2020	Total
Total Sendout- Therms	5,403,368	5,577,535	6,066,690	10,131,029	20,386,985	25,704,126	25,691,669	23,813,297	18,213,106	14,394,826	8,393,520	5,254,716	169,030,868
Total Throughput- Therms	5,812,036	5,538,687	5,418,133	6,753,397	11,333,251	21,604,197	26,367,378	23,989,312	22,261,307	17,025,287	13,009,585	7,199,010	166,311,578
Company Use	4,240	4,056	4,375	7,900	21,049	39,295	39,623	39,614	28,825	21,347	15,005	5,616	230,945
Variance	(412,908)	34,792	644,182	3,369,732	9,032,685	4,060,634	(715,332)	(215,629)	(4,077,026)	(2,651,807)	(4,631,069)	(1,949,909)	2,488,345
LAUF													**1.47%**

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities
d/b/a Liberty Utilities
Fuel Inventory Revenue Requirement

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1		**5 Quarter Avg**	**Q2 2019**	**Q3 2019**	**Q4 2019**	**Q1 2020**	**Q2 2020**
2	Gas Stored Underground	$ 2,767,234	$ 2,340,667	$ 4,438,120	$ 4,000,251	$ 667,033	$ 2,390,098
3	Fuel Stock - Propane	$ 1,247,332	$ 1,295,942	$ 1,293,416	$ 1,327,800	$ 1,138,459	$ 1,181,045
4	UG Storage - LNG	$ 68,332	$ 65,051	$ 72,528	$ 67,506	$ 66,132	$ 70,444
5		$ 4,082,898					
6	ROR	8.5%	Pre-Tax Rate of 6.28% and Statuatory Tax Rate of 27.08%				
		$ 347,046					
7	Income Tax Gross-up	1.2708					
8	Revenue Requirement	$ 441,037					