1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2 **d/b/a Liberty**
3 **Peak 2022 - 2023 Winter Cost of Gas Filing**
4 **Summary of Supply and Demand Forecast**

Schedule 1
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5												
6				Peak Costs								Peak Period
7	For Month of:			May 21 - Oct 21	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Nov - Apr
8		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
9	**I. Gas Volumes (Therms)**											
10											2,292,267	2.5%
11	**A.**	**Firm Demand Volumes**										
12		Firm Gas Sales	Sch. 10B, In 23	-	3,196,308	17,917,229	21,029,207	17,732,977	15,124,179	9,139,216	4,380,770	88,519,885
13		Lost Gas (Unaccounted for)		-	285,912	384,395	488,262	419,171	353,351	241,485		2,172,577
14		Company Use		-	15,751	21,177	26,899	23,093	19,466	13,304		119,689
15		Unbilled Therms		-	8,661,334	(1,975,210)	(779,531)	(348,687)	(469,669)	875,901	(4,380,770)	1,583,367
16												
17	**Total Firm Volumes**		Sch. 6, In 97	-	12,159,305	16,347,591	20,764,836	17,826,554	15,027,327	10,269,906		92,395,519
18												
19	**B.**	**Supply Volumes (Therms)**										
20	Pipeline Gas:											
21		Dawn Supply	Sch. 6, In 66	-	874,251	924,161	926,671	839,868	910,477	771,345		5,246,775
22		Niagara Supply	Sch. 6, In 67	-	689,540	728,492	730,471	661,898	717,705	678,639		4,206,745
23		TGP Supply (Direct)	Sch. 6, In 68	-	4,621,463	3,096,843	3,105,255	2,814,958	3,050,989	641,701		17,331,210
24		Dracut Supply 1 - Baseload	Sch. 6, In 69	-	-	-	3,100,000	1,400,000	-	-		4,500,000
25		Dracut Supply 2 - Swing	Sch. 6, In 70	-	2,068,620	1,628,571	574,992	2,290,420	4,186,862	1,559,349		12,308,813
26		Dracut Supply 3 - Swing	Sch. 6, In 71		1,267,959	112,886	75,462	292,325	1,410,944	36,213		3,195,790
27		Constellation COMBO	Sch. 6, In 72	-	-	-	-	-	-	-		-
28		LNG Truck	Sch. 6, In 73	-	117,744	1,270,345	1,451,131	1,484,347	110,473	-		4,434,041
29		Propane Truck	Sch. 6, In 74	-	-	-	691,985	-	-	55,769		747,754
30		PNGTS	Sch. 6, In 75	-	218,563	231,040	231,668	209,778	227,619	196,277		1,314,945
31		Portland Natural Gas	Sch. 6, In 76		1,067,793	1,128,109	1,131,173	1,025,411	1,111,405	840,151		6,304,043
32		TGP Supply (Z4)	Sch. 6, In 77	-	1,816,941	1,919,817	1,925,032	1,744,865	1,891,391	5,458,808		14,756,854
33		Subtotal Pipeline Volumes		-	12,742,875	11,040,265	13,943,840	12,763,870	13,617,866	10,238,252		74,346,969
34												
35	Storage Gas:											
36		TGP Storage	Sch. 6, In 82	-	1,157,573	5,220,027	6,244,468	5,052,839	1,498,432	1,000,000		20,173,339
37												
38	Produced Gas:											
39		LNG Vapor	Sch. 6, In 85	-	119,952	1,357,644	1,456,414	1,485,862	21,502	21,004		4,462,377
40		Propane	Sch. 6, In 86	-	-	-	1,263,231	8,331	-	-		1,271,562
41		Subtotal Produced Gas		-	119,952	1,357,644	2,719,645	1,494,192	21,502	21,004		5,733,939
42												
43	Less - Gas Refill:											
44		LNG Truck	Sch. 6, In 91	-	(117,744)	(1,270,345)	(1,451,131)	(1,484,347)	(110,473)	-		(4,434,041)
45		Propane	Sch. 6, In 92	-	-	-	(691,985)	-	-	(55,769)		(747,754)
46		TGP Storage Refill	Sch. 6, In 93	-	(1,743,351)	-	-	-	-	(933,581)		(2,676,933)
47		Subtotal Refills		-	(1,861,095)	(1,270,345)	(2,143,116)	(1,484,347)	(110,473)	(989,350)		(7,858,728)
48												
49	Total Firm Sendout Volumes		Ins 33 + 36 + 41 + 47	-	12,159,305	16,347,591	20,764,836	17,826,554	15,027,327	10,269,906		92,395,519

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3 **Peak 2022 - 2023 Winter Cost of Gas Filing**
4 **Summary of Supply and Demand Forecast**

50												
51	**II. Gas Costs**											**REDACTED**
52	**A.**	**Demand Costs**										Schedule 1
53												Page 2 of 4
54												
55				Peak Costs								Peak Period
56	For Month of:			May 21 - Oct 21	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Nov - Apr
57		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
58	Supply											
59		Niagara Supply	Sch.5A, ln 12	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
60		Subtotal Supply Demand		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
61		Less Capacity Credit		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
62		Net Pipeline Demand Costs		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
63												
64	Pipeline:											
65		Iroquois Gas Trans Service RTS 470-0	Sch.5A, ln 16	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
66		Tenn Gas Pipeline 95346 Z5-Z6	Sch.5A, ln 17	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
67		Tenn Gas Pipeline 2302 Z5-Z6	Sch.5A, ln 18	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
68		Tenn Gas Pipeline 8587 Z0-Z6	Sch.5A, ln 19	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
69		Tenn Gas Pipeline 8587 Z1-Z6	Sch.5A, ln 20	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
70		Tenn Gas Pipeline 8587 Z4-Z6	Sch.5A, ln 21	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
71		Tenn Gas Pipeline (Dracut) 42076 Z6-Z6	Sch.5A, ln 22	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
72		Tenn Gas Pipeline (Dracut) 358905 Z6-Z7	Sch.5A, ln 23	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
73		Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Sch.5A, ln 24	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
74		Portland Natural Gas Trans Service	Sch.5A, ln 25	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
75		Portland Natural Gas	Sch.5A, ln 26	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
76		ANE (TransCanada via Union to Iroquois)	Sch.5A, ln 27	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
77		TransCanada via Union to Portland	Sch.5A, ln 28	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
78		Tenn Gas Pipeline Z4-Z6 stg 632	Sch.5A, ln 29	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
79		Tenn Gas Pipeline Z4-Z6 stg 11234	Sch.5A, ln 30	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
80		Tenn Gas Pipeline Z5-Z6 stg 11234	Sch.5A, ln 31	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
81		National Fuel FST 2358	Sch.5A, ln 32	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
82		Subtotal Pipeline Demand		$ 3,907,220	$ 1,596,276	$ 1,596,276	$ 1,596,276	$ 1,596,276	$ 1,596,276	$ 1,596,276		$ 13,484,875
83		Less Capacity Credit		(1,323,375)	(403,698)	(403,698)	(403,698)	(403,698)	(403,698)	(403,698)		(3,745,564)
84		Net Pipeline Demand Costs		$ 2,583,844	$ 1,192,578	$ 1,192,578	$ 1,192,578	$ 1,192,578	$ 1,192,578	$ 1,192,578		$ 9,739,311
85												
86	Peaking Supply:											
87		Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Sch.5A, ln 37	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
88		Demand FLS	Sch.5A, ln 38	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
89		Peaking Demand	Sch.5A, ln 39	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
90		Subtotal Peaking Demand		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
91		Less Capacity Credit		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
92		Net Peaking Supply Demand Costs		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
93												
94	Storage:											
95		Dominion - Demand	Sch.5A, ln 49	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
96		Dominion - Storage	Sch.5A, ln 50	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
97		Honeoye - Demand	Sch.5A, ln 51	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
98		National Fuel - Demand	Sch.5A, ln 52	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
99		National Fuel - Capacity	Sch.5A, ln 53	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
100		Tenn Gas Pipeline - Demand	Sch.5A, ln 54	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
101		Tenn Gas Pipeline - Capacity	Sch.5A, ln 55	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
102		Subtotal Storage Demand		$ 709,954	$ 118,326	$ 118,326	$ 118,326	$ 118,326	$ 118,326	$ 118,326		$ 1,419,908
103		Less Capacity Credit		(240,461)	(29,925)	(29,925)	(29,925)	(29,925)	(29,925)	(29,925)		(420,009)
104		Net Storage Demand Costs		$ 469,493	$ 88,401	$ 88,401	$ 88,401	$ 88,401	$ 88,401	$ 88,401		$ 999,899
105												
106		Total Demand Charges	lns 60 + 82 + 90 + 102	$ 4,617,174	$ 2,188,704	$ 2,188,704	$ 2,188,704	$ 2,188,704	$ 2,188,704	$ 1,714,602		$ 17,275,294
107	v	Total Capacity Credit	lns 61 + 83 + 91 + 103	(1,563,837)	(553,523)	(553,523)	(553,523)	(553,523)	(553,523)	(433,623)		(4,765,075)
108		Net Demand Charges		$ 3,053,337	$ 1,635,181	$ 1,635,181	$ 1,635,181	$ 1,635,181	$ 1,635,181	$ 1,280,979		$ 12,510,219
109												
110							**THIS PAGE HAS BEEN REDACTED**					

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2 **d/b/a Liberty**
3 **Peak 2022 - 2023 Winter Cost of Gas Filing**
4 **Summary of Supply and Demand Forecast**

111	**B.** **Commodity Costs**										**REDACTED**
112											Schedule 1
113											Page 3 of 4
114											
115			Peak Costs								Peak Period
116			May 21 - Oct 21	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Nov - Apr
117	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
118	Pipeline:										
119	Dawn Supply	Sch. 6, ln 12	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
120	Niagara Supply	Sch. 6, ln 13	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
121	TGP Supply (Direct)	Sch. 6, ln 14	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
122	Dracut Supply 1 - Baseload	Sch. 6, ln 15	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
123	Dracut Supply 2 - Swing	Sch. 6, ln 16	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	Dracut Supply 3 - Swing	Sch. 6, ln 17	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
124	Constellation COMBO	Sch. 6, ln 18	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
125	LNG Truck	Sch. 6, ln 19	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
126	Propane Truck	Sch. 6, ln 20	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
127	PNGTS	Sch. 6, ln 21	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
128	Portland Natural Gas	Sch. 6, ln 22	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
129	TGP Supply (Z4)	Sch. 6, ln 23	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
130	Subtotal Pipeline Commodity Costs		$ -	$ 14,236,355	$ 21,290,694	$ 31,572,749	$ 36,538,761	$ 24,107,873	$ 5,643,470		$ 133,389,902
131											
132	Storage:										
133	TGP Storage - Withdrawals	Sch. 6, ln 50	$ -	$ 717,844	$ 3,237,085	$ 3,872,370	$ 3,133,407	$ 929,220	$ 580,022		$ 12,469,948
134											
135	Produced Gas Costs:										
136	LNG Vapor	Sch. 6, ln 53	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
137	Propane	Sch. 6, ln 54	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
138	Subtotal Produced Gas Costs		$ -	$ 165,051	$ 3,099,142	$ 5,778,047	$ 3,535,110	$ 34,374	$ 33,579		$ 12,645,303
139											
140	Less Storage Refills:										
141	LNG Truck	Sch. 6, ln 40	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
142	Propane	Sch. 6, ln 41	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
143	TGP Storage Refill	Sch. 6, ln 42	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
144	Storage Refill (Trans.)	Sch. 6, ln 43	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
145	Subtotal Storage Refill		$ -	$ (1,877,207)	$ (3,046,288)	$ (4,799,129)	$ (3,514,340)	$ (124,702)	$ (579,483)		$ (13,941,150)
146											
147	Total Supply Commodity Costs		$ -	$ 13,242,043	$ 24,580,633	$ 36,424,037	$ 39,692,938	$ 24,946,765	$ 5,677,587		$ 144,564,002
148											
149	**C. Supply Volumetric Transportation Costs:**										
150	Dawn Supply	Sch. 6, ln 28	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
151	Niagara Supply	Sch. 6, ln 29	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
152	TGP Supply (Direct)	Sch. 6, ln 30	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
153	Dracut Supply 1 - Baseload	Sch. 6, ln 31	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
154	Dracut Supply 2 - Swing	Sch. 6, ln 32	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	Dracut Supply 3 - Swing	Sch. 6, ln 33	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
155	Subtotal Pipeline Volumetric Trans. Costs		$ -	$ 369,128	$ 262,693	$ 290,901	$ 260,510	$ 242,323	$ 61,554		$ 1,487,110
156											
157	TGP Storage - Withdrawals	Sch. 6, ln 35	$ -	$ 22,422	$ 101,111	$ 120,955	$ 97,873	$ 29,024	$ 18,772		$ 390,158
158											
159	Total Supply Volumetric Trans. Costs	lns 155 + 157	$ -	$ 391,550	$ 363,805	$ 411,856	$ 358,383	$ 271,347	$ 80,327		$ 1,877,268
160											
161	Total Commodity Gas & Trans. Costs	lns 147 + 159	$ -	$ 13,633,593	$ 24,944,437	$ 36,835,893	$ 40,051,320	$ 25,218,112	$ 5,757,914		$ 146,441,270
162											
163						**THIS PAGE HAS BEEN REDACTED**					

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3 **Peak 2022 - 2023 Winter Cost of Gas Filing**
4 **Summary of Supply and Demand Forecast**
164 **D. Supply and Demand Costs by Source**

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Schedule 1
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165											
166											
167											
168			Peak Costs								Peak Period
169				Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Nov - Apr
170	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
171	Purchased Gas Demand Costs										
172	Pipeline Gas Demand Costs	Ins 60 + 82	$ 3,907,220	$ 1,596,276	$ 1,596,276	$ 1,596,276	$ 1,596,276	$ 1,596,276	$ 1,596,276		$ 13,484,875
173	Peaking Gas Demand Costs	In 90	-	474,102	474,102	474,102	474,102	474,102	-		2,370,511
174	Subtotal Purchased Gas Demand Costs		$ 3,907,220	$ 2,070,378	$ 2,070,378	$ 2,070,378	$ 2,070,378	$ 2,070,378	$ 1,596,276		$ 15,855,386
175	Less Capacity Credit	Ins 61 + 83 + 91	(1,323,375)	(523,599)	(523,599)	(523,599)	(523,599)	(523,599)	(403,698)		(4,345,067)
176	Net Purchased Gas Demand Costs		$ 2,583,844	$ 1,546,780	$ 1,546,780	$ 1,546,780	$ 1,546,780	$ 1,546,780	$ 1,192,578		$ 11,510,320
177											
178	Storage Gas Demand Costs										
179	Storage Demand	In 102	$ 709,954	$ 118,326	$ 118,326	$ 118,326	$ 118,326	$ 118,326	$ 118,326		$ 1,419,908
180	Less Capacity Credit	In 103	(240,461)	(29,925)	(29,925)	(29,925)	(29,925)	(29,925)	(29,925)		(420,009)
181	Net Storage Demand Costs		$ 469,493	$ 88,401	$ 88,401	$ 88,401	$ 88,401	$ 88,401	$ 88,401		$ 999,899
182											
183	**Total Demand Costs**	Ins 176 + 181	$ 3,053,337	$ 1,635,181	$ 1,635,181	$ 1,635,181	$ 1,635,181	$ 1,635,181	$ 1,280,979		$ 12,510,219
184											
185	Purchased Gas Supply										
186	Commodity Costs	In 130	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
187	Less Storage Inj.(TGP Storage)	In 143	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
188	Less Storage Transportation	In 144	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
189	Less LNG Truck	In 141	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
190	Less Propane Truck	In 142	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
191	Plus Transportation Costs	In 155	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
192	Subtotal Purchased Gas Supply		$ -	$ 12,728,276	$ 18,507,098	$ 27,064,521	$ 33,284,931	$ 24,225,494	$ 5,125,541		$ 120,935,861
193											
194	Storage Commodity Costs										
195	Commodity Costs	In 133	$ -	$ 717,844	$ 3,237,085	$ 3,872,370	$ 3,133,407	$ 929,220	$ 580,022		$ 12,469,948
196	Transportation Costs	In 157	-	22,422	101,111	120,955	97,873	29,024	18,772		390,158
197	Subtotal Storage Commodity Costs		$ -	$ 740,266	$ 3,338,197	$ 3,993,324	$ 3,231,280	$ 958,244	$ 598,794		$ 12,860,106
198											
199	Produced Gas Commodity Costs	In 138	$ -	$ 165,051	$ 3,099,142	$ 5,778,047	$ 3,535,110	$ 34,374	$ 33,579		$ 12,645,303
200											
201	**Subtotal Commodity Costs**	Ins 192 + 197 + 199	$ -	$ 13,633,593	$ 24,944,437	$ 36,835,893	$ 40,051,320	$ 25,218,112	$ 5,757,914		$ 146,441,270
202											
203	Hedge Contract (Savings)/Loss		$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ -
204											
205	**Total Commodity Costs**	Ins 201 + 203	$ -	$ 13,633,593	$ 24,944,437	$ 36,835,893	$ 40,051,320	$ 25,218,112	$ 5,757,914		$ 146,441,270
206											
207	**Total Demand Costs**	In 108	$ 3,053,337	$ 1,635,181	$ 1,635,181	$ 1,635,181	$ 1,635,181	$ 1,635,181	$ 1,280,979		$ 12,510,219
208	**Total Supply Costs**	In 205	-	13,633,593	24,944,437	36,835,893	40,051,320	25,218,112	5,757,914		146,441,270
209											
210	**Total Direct Gas Costs**	Ins 207 + 208	$ 3,053,337	$ 15,268,774	$ 26,579,618	$ 38,471,073	$ 41,686,501	$ 26,853,293	$ 7,038,893		$ 158,951,489
211											
212											

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

Schedule 2
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Peak 2022 - 2023 Winter Cost of Gas Filing
Contracts Ranked on a per Unit Cost Basis

	Supplier (a)	Contract (b)	Contract Type (c)	Contract Unit (d)	Unit Dth (MDQ/ACQ) (e)	Peak Period Cost per Unit Dth (f)
10	**Demand Costs**					
11						[redacted]
12	Dominion - Capacity Reservation	GSS 300076	Storage	ACQ	102,700	[redacted]
13	Tenn Gas Pipeline - Cap. Reservations	FS-MA 523	Storage	ACQ	1,560,391	[redacted]
14	National Fuel - Capacity Reservation	FSS-O02357	Storage	ACQ	670,800	[redacted]
15	Tenn Gas Pipeline - Demand	FS-MA 523	Storage	MDQ	21,844	[redacted]
16	Dominion - Demand	GSS 300076	Storage	MDQ	934	[redacted]
17	National Fuel - Demand	FSS-O02357	Storage	MDQ	6,098	[redacted]
18	National Fuel	FST N02358	Transportation	MDQ	6,098	[redacted]
19	Tenn Gas Pipeline	42076 FTA Z6-Z6	Transportation	MDQ	20,000	[redacted]
20	Tenn Gas Pipeline	358905 FTA Z6-Z6	Transportation	MDQ	40,000	[redacted]
21	Iroquois Gas Trans Service	RTS 470-01	Transportation	MDQ	4,047	[redacted]
22	Honeoye - Demand	SS-NY	Storage	MDQ	1,362	[redacted]
23	Tenn Gas Pipeline	2302 Z5-Z6	Transportation	MDQ	3,122	[redacted]
24	Tenn Gas Pipeline	95346 Z5-Z6	Transportation	MDQ	4,000	[redacted]
25	Tenn Gas Pipeline (short haul)	11234 Z5-Z6(stg)	Transportation	MDQ	1,957	[redacted]
26	Tenn Gas Pipeline (short haul)	11234 Z4-Z6(stg)	Transportation	MDQ	7,082	[redacted]
27	Tenn Gas Pipeline (short haul)	8587 Z4-Z6	Transportation	MDQ	3,811	[redacted]
28	Tenn Gas Pipeline (short haul)	632 Z4-Z6 (stg)	Transportation	MDQ	15,265	[redacted]
29	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Firm Transportation	Transportation	MDQ	30,000	[redacted]
30	ANE (TransCanada via Union to Iroquois)	Dawn - Parkway to Iroquois	Transportation	MDQ	4,047	[redacted]
31	TransCanada via Union to Portland	Dawn -Parkway to Portland	Transportation	MDQ	5,077	[redacted]
32	Tenn Gas Pipeline (long haul)	8587 Z1-Z6	Transportation	MDQ	14,561	[redacted]
33	Tenn Gas Pipeline (long haul)	8587 Z0-Z6	Transportation	MDQ	7,035	[redacted]
34	Portland Natural Gas Trans Service	FT-208544	Transportation	MDQ	1,000	[redacted]
35	Portland Natural Gas	FT 233320	Transportation	MDQ	5,000	[redacted]
36	Peaking Demand	NSB041	Peaking	MDQ	4,000	[redacted]
37						
38	**Supply Costs - Commodity**					
39	TGP Supply (Z4)		Pipeline	Dkt	1,475,685	[redacted]
40	Niagara Supply		Pipeline	Dkt	420,674	[redacted]
41	Constellation COMBO		Pipeline	Dkt	-	[redacted]
42	TGP Supply (Direct)		Pipeline	Dkt	1,733,121	[redacted]
43	Dawn Supply		Pipeline	Dkt	524,677	[redacted]
44	Dracut Supply 1 - Baseload		Pipeline	Dkt	450,000	[redacted]
45	TGP Storage		Storage	Dkt	2,017,334	[redacted]
46	PNGTS		Pipeline	Dkt	131,494	[redacted]
47	Propane Truck		Pipeline	Dkt	74,775	[redacted]
48	LNG Truck		Pipeline	Dkt	443,404	[redacted]
49	Dracut Supply 2 - Swing		Pipeline	Dkt	1,230,881	[redacted]
50	Dracut Supply 3 - Swing		Pipeline	Dkt	319,579	[redacted]
51	Portland Natural Gas		Pipeline	Dkt	630,404	[redacted]
52	Propane		Produced	Dkt	127,156	[redacted]
53	LNG Vapor (Storage)		Produced	Dkt	446,238	[redacted]
54						
55	**Supply Costs - Volumetric Transportation**					
56	Dracut Supply 1 - Baseload		Pipeline	Dkt	450,000	[redacted]
57	Dracut Supply 2 - Swing		Pipeline	Dkt	1,230,881	[redacted]
58	Niagara Supply		Pipeline	Dkt	420,674	[redacted]
59	Dawn Supply		Pipeline	Dkt	524,677	[redacted]
60	TGP Storage - Withdrawals		Pipeline	Dkt	2,017,334	[redacted]
61	TGP Supply (Direct)		Pipeline	Dkt	1,733,121	[redacted]

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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2 **d/b/a Liberty**
3 **Peak 2022   2023 Winter Cost of Gas Filing**
4 **COG (Over)/Under Cumulative Recovery Balances and Interest Calculation**

5			Prior Period Bal														
6			Apr-22														
7			Ending Bal	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Peak Period
8		Days in Month	Plus May Billings	31	30	31	31	30	31	30	31	31	28	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/	**$ 5,378,797**	$ 4,089,654	$ 3,227,763	$ 2,133,737	$ 2,652,261	$ 3,174,728	$ 3,699,119	$ 4,226,477	$ (1,462,386)	$ (2,924,726)	$ 126,507	$ 11,342,988	$ 12,435,789	$ 1,648,154	$ 5,378,797
13	Fcst Direct Gas Costs(Inc U/G Hedges)	Schedule 5A		-	-	508,889	508,889	508,889	508,889	14,265,072	25,575,916	37,467,372	40,682,799	25,849,591	6,035,191	-	151,911,499
14	Production & Storage & Misc Overhead			-	-	-	-	-	-	614,243	614,243	614,243	614,243	614,243	614,243		3,685,458
15	Projected Revenues w/o Int.	ln 52 * 59		(6,301,686)	(382,999)	-	-	-	-	(20,259,277)	(30,662,672)	(35,988,359)	(30,347,352)	(25,882,782)	(15,640,409)	-	(165,465,536)
16	Projected Unbilled Revenue									(33,312)	3,346,966	4,681,018	5,277,745	6,081,514	4,582,540		23,936,472
17	Reverse Prior Month Unbilled			5,574,361							33,312	(3,346,966)	(4,681,018)	(5,277,745)	(6,081,514)	(4,582,540)	(18,362,111)
18	Adjustment			(147,338)	(5,348)					-							(152,686)
19	Add Net Adjustments	Schedule 4		-	-	-	-	-	-	(281,823)	(359,882)	(369,554)	(354,081)	(347,428)	(329,449)	-	(2,042,217)
20	Gas Cost Billed	Account 1920-1740 2/	-1289143	-	(714,479)	-	-	-	-	-	-	-	-	-	-	-	(714,479)
21	Monthly (Over)/Under Recovery		$ 4,089,654	$ 3,214,990	$ 2,124,938	$ 2,642,626	$ 3,161,150	$ 3,683,617	$ 4,208,009	$ (1,468,620)	$ (2,914,503)	$ 133,027	$ 11,318,843	$ 12,380,380	$ 1,616,392	$ (2,934,386)	$ (1,824,803)
22	Average Monthly Balance	(ln 12 + 21)/2		$ 4,296,894	$ 2,676,350	$ 2,388,181	$ 2,906,705	$ 3,429,173	$ 3,953,564	$ 1,378,928	$ (2,188,445)	$ (1,395,849)	$ 5,722,675	$ 11,861,684	$ 7,026,090	$ (643,116)	
23																	
24	Interest Rate	Prime Rate		3.50%	4.00%	4.75%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%		
25																	
26	Interest Applied	ln 22 * ln 24 / 365 * Days of Month		$ 12,773	$ 8,799	$ 9,635	$ 13,578	$ 15,502	$ 18,468	$ 6,234	$ (10,223)	$ (6,520)	$ 24,145	$ 55,409	$ 31,762	$ -	$ 179,560
27																	
28	**(Over)/Under Balance**	ln 21 + ln 26	$ 4 089 654	$ 3 227 763	$ 2 133 737	$ 2 652 261	$ 3 174 728	$ 3 699 119	$ 4 226 477	$ (1 462 386)	$ (2 924 726)	$ 126 507	$ 11 342 988	$ 12 435 789	$ 1 648 154	$ (2 934 386)	(1 645 243)
29																	
30																	
31	**Calculation of COG with Interest**																
32																	
33	**Beginning Balance**	ln 12	$ 5,378,797	$ 5,378,797	$ (1,063,824)	$ (2,171,960)	$ (1,670,806)	$ (1,168,533)	$ (663,775)	$ (156,798)	$ (5,865,472)	$ (7,347,327)	$ (4,316,343)	$ 6,881,634	$ 7,953,980	$ (2,854,321)	$ 5,378,797
34	Fcst Direct Gas Costs(Inc U/G Hedges)	ln 13		-	-	508,889	508,889	508,889	508,889	14,265,072	25,575,916	37,467,372	40,682,799	25,849,591	6,035,191	-	151,911,499
35	Prod Storage & Misc Overhead	ln 14		-	-	-	-	-	-	614,243	614,243	614,243	614,243	614,243	614,243	-	3,685,458
36	Projected Revenues with int.	ln 52 * ln 61		(6,301,686)	(382,999)	-	-	-	-	(20,259,277)	(30,662,672)	(35,988,359)	(30,347,352)	(25,882,782)	(15,640,409)	-	(165,465,536)
37	Projected Unbilled Revenue									(33,322)	3,348,030	4,682,506	5,279,422	6,083,447	4,583,996		23,944,080
38	Reverse Prior Month Unbilled										33,322	(3,348,030)	(4,682,506)	(5,279,422)	(6,083,447)	(4,583,996)	(23,944,080)
39	Add Net Adjustments	ln 19		(147,338)	(5,348)	-	-	-	-	(281,823)	(359,882)	(369,554)	(354,081)	(347,428)	(329,449)	-	(2,194,903)
40	Gas Cost Billed	ln 20	-		(714,479)	-	-	-	-	-	-	-	-	-	-	-	(714,479)
41	Add Interest	ln 26		-	-	-	-	-	-	6,234	(10,223)	(6,520)	24,145	55,409	31,762	-	100,806
42	**(Over)/Under Balance**		$ 5,378,797	$ (1,070,227)	$ (2,166,649)	$ (1,663,070)	$ (1,161,916)	$ (659,643)	$ (154,886)	$ (5,845,672)	$ (7,326,737)	$ (4,295,670)	$ 6,900,328	$ 7,974,691	$ (2,834,131)	$ (7,438,317)	$ (7,298,358)
43																	
44	Average Monthly Balance			$ 2,154,285	$ (1,615,236)	$ (1,917,515)	$ (1,416,361)	$ (914,088)	$ (409,330)	$ (3,001,235)	$ (6,596,105)	$ (5,821,498)	$ 1,291,992	$ 7,428,162	$ 2,559,925	$ (5,146,319)	
45																	
46	Interest Applied	ln 24 * ln 44 / 365 * Days of Month		6,404	(5,310)	(7,736)	(6,616)	(4,132)	(1,912)	(13,567)	(30,812)	(27,194)	5,451	34,699	11,572	-	(39,153)
47																	
48	**(Over)/Under Balance**	-ln 41 +ln 42 + ln 46	$ 5,378,797	$ (1,063,824)	$ (2,171,960)	$ (1,670,806)	$ (1,168,533)	$ (663,775)	$ (156,798)	$ (5,865,472)	$ (7,347,327)	$ (4,316,343)	$ 6,881,634	$ 7,953,980	$ (2,854,321)	$ (7,438,317)	(7,438,317)
49																	
50																	
51	Forecast Sendout Therms	Sch 1								12,159,305	16,347,591	20,764,836	17,826,554	15,027,327	10,269,906		92,395,519
52	Less Forecast Billing Therm Sales	Sch. 10B, ln 23 Nov - May								11,838,176	17,917,229	21,029,207	17,732,977	15,124,179	9,139,216		92,780,984
53	Less Forecast Unaccounted For	Sch 1								285,912	384,395	488,262	419,171	353,351	241,485		2,172,577
54	Less Forecast Company Use	Sch 1								15,751	21,177	26,899	23,093	19,466	13,304		119,689
55	Unbilled Volumes									19,465	-1,975,210	-779,531	-348,687	-469,669	875,901	0	(2,677,732)
56	Gross Unbilled									19,465	-1,955,745	-2,735,276	-3,083,964	-3,553,633	-2,677,732	-2,677,732	
57																	
58																	
59	COB w/o Interest	Sch. 3, pg. 4, ln 207 col. (c)								$1.7114	$1.7114	$1.7114	$1.7114	$1.7114	$1.7114	$1.7114	
60																	
61	COG With Interest	Sch. 3 pg. 4 ln 207 col. (d)								$1.7119	$1.7119	$1.7119	$1.7119	$1.7119	$1.7119	$1.7119	
62																	

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2 **d/b/a Liberty**
3 **Peak 2022   2023 Winter Cost of Gas Filing**
4 **COG (Over)/Under Cumulative Recovery Balances and Interest Calculation**

Schedule 3
Page 2 of 3

63																	
64																	
65			Prior Period Bal														
66			Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Peak Period
67		Days in Month	Ending Bal	31	30	31	31	30	31	30	31	31	28	31	30	31	Total
68	(a)	(b)	+ May Collections	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	( )	(m)	(n)	(o)	(p)
69																	
70	**Account 1163 1422 Working Capital (Over)/Under Balance Interest Calculation**																
71																	
72	**Beginning Balance**	Account 1163-1422 1/	**$ (30,998)**	$ (43,864)	$ (46,934)	$ (49,705)	$ (48,198)	$ (46,447)	$ (44,680)	$ (42,912)	$ (58,515)	$ (54,657)	$ (30,316)	$ 23,746	$ 36,742	$ 535	$ (30,998)
73																	
74	Days Lag			0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705		
75	Prime Rate			3.50%	4.00%	4.75%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%		
76	Forecast Working Capital	ln 34 * 0.091%		-	-	1,703	1,972	1,972	1,972	55,286	99,122	145,209	157,671	100,183	23,390	-	588,482
77																	
78	Projected Revenues w/o Int.	ln 116 * ln 120		-	-	-	-	-	-	(70,545)	(106,771)	(125,315)	(105,673)	(90,127)	(54,462)	-	(552,893)
79	Projected Unbilled Revenue									(116)	11,655	16,300	18,378	21,177	15,957		83,349
80	Reverse Prior Month Unbilled										116	(11,655)	(16,300)	(18,378)	(21,177)	(15,957)	(83,349)
81																	
82	Add Net Adjustments			(2,954)	(1,637)	-	-	-	-	-	-	-	-	-	-	-	(4,591)
83																	
84	Working Capital Billed	Account 1163-1422 2/	(12,866)		(975)												(13,841)
85																	
86	Monthly (Over)/Under Recovery		$ (43 864)	$ (46 818)	$ (49 546)	$ (48 001)	$ (46 226)	$ (44 474)	$ (42 708)	$ (58 287)	$ (54 393)	$ (30 118)	$ 23 760	$ 36 601	$ 451	$ (15 422)	$ (13 841)
87																	
88	Average Monthly Balance	(ln 72 + ln 86)/2		$ (38,908)	$ (48,240)	$ (48,853)	$ (47,212)	$ (45,460)	$ (43,694)	$ (50,599)	$ (56,454)	$ (42,388)	$ (3,278)	$ 30,174	$ 18,597	$ (7,443)	
89																	
90	Interest Rate	Prime Rate		3.50%	4.00%	4.75%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%		
91																	
92	Interest Applied	ln 88 * ln 90 / 365 * Days of Month		$ (116)	$ (159)	$ (197)	$ (221)	$ (206)	$ (204)	$ (229)	$ (264)	$ (198)	$ (14)	$ 141	$ 84	$ -	$ (1,581)
93																	
94	**(Over)/Under Balance**	ln 86 + ln 92	$ (43 864)	$ (46 934)	$ (49 705)	$ (48 198)	$ (46 447)	$ (44 680)	$ (42 912)	$ (58 515)	$ (54 657)	$ (30 316)	$ 23 746	$ 36 742	$ 535	$ (15 422)	(15 422)
95																	
96																	
97	**Calculation of Working Capital with Interest**																
98																	
99																	
100	**Beginning Balance**	ln 72	$ (30,998)	$ (43,864)	$ (46,934)	$ (49,705)	$ (48,198)	$ (46,447)	$ (44,680)	$ (42,912)	$ (58,482)	$ (54,578)	$ (30,179)	$ 23,933	$ 36,972	$ 795	$ (30,998)
101	Forecast Working Capital	ln 76		-	-	1,703	1,972	1,972	1,972	55,286	99,122	145,209	157,671	100,183	23,390	-	588,482
102	Projected Rev. with interest	ln 116 * ln 122		-	-	-	-	-	-	(70,511)	(106,720)	(125,255)	(105,622)	(90,083)	(54,436)	-	(552,627)
103	Projected Unbilled Revenue									(116)	11,649	16,292	18,369	21,166	15,949		83,309
104	Reverse Prior Month Unbilled										116	(11,649)	(16,292)	(18,369)	(21,166)	(15,949)	(83,309)
105	Add Net Adjustments	ln 82	-	(2,954)	(1,637)	-	-	-	-	-	-	-	-	-	-	-	(4,591)
106	Working Capital Billed	ln 84	(12,866)	-	(975)	-	-	-	-								(13,841)
107	Add Interest	ln 92		-	-	-	-	-	-	(229)	(264)	(198)	(14)	141	84	-	(479)
108	Monthly (Over)/Under Recovery		$ (43 864)	$ (46 818)	$ (49 546)	$ (48 001)	$ (46 226)	$ (44 474)	$ (42 708)	$ (58 482)	$ (54 578)	$ (30 179)	$ 23 932	$ 36 971	$ 794	$ (15 154)	$ (14 055)
109																	
110	Average Monthly Balance			$ (38,908)	$ (48,240)	$ (48,853)	$ (47,212)	$ (45,460)	$ (43,694)	$ (50,697)	$ (56,530)	$ (42,379)	$ (3,124)	$ 30,452	$ 18,883	$ (7,179)	
111																	
112	Interest Applied	ln 90 * ln 110 / 365 * Days of Month		(116)	(159)	(197)	(221)	(206)	(204)	(229)	(264)	(198)	(13)	142	85	-	$ (1,578)
113																	
114	**(Over)/Under Balance**	-ln 107 +ln 108 + ln 112	$ (43,864)	$ (46,934)	$ (49,705)	$ (48,198)	$ (46,447)	$ (44,680)	$ (42,912)	$ (58,482)	$ (54,578)	$ (30,179)	$ 23,933	$ 36,972	$ 795	$ (15,154)	$ (15,154)
115																	
116	Forecast Therm Sales	ln 52								11,838,176	17,917,229	21,029,207	17,732,977	15,124,179	9,139,216	0	92,780,984
117	Unbilled Therm	ln 55								19,465	(1,975,210)	(779,531)	(348,687)	(469,669)	875,901		
118	Gross Unbilled									19,465	(1,955,745)	(2,735,276)	(3,083,964)	(3,553,633)	(2,677,732)		
119																	
120	Working Cap. Rate w/out Int.	Sch. 3, pg. 4, ln 224 col. (c)								$0.0060	$0.0060	$0.0060	$0.0060	$0.0060	$0.0060	$0.0060	
121																	
122	Working Capital Rate w/ Int.	Sch. 3, pg. 4, ln 224 col. (d)								$0.0060	$0.0060	$0.0060	$0.0060	$0.0060	$0.0060	$0.0060	

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2 **d/b/a Liberty**
3 **Peak 2022   2023 Winter Cost of Gas Filing**
4 **COG (Over)/Under Cumulative Recovery Balances and Interest Calculation**

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123																	
124																	
125			Prior Period Bal														
126			Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	DemandPeriod
127		Days in Month	Ending Bal	31	30	31	31	30	31	30	31	31	28	31	30	31	Total
128	(a)	(b)	+ May Collections	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	( )	(m)	(n)	(o)	(p)
129																	
130	**Account 1920 1743 Bad Debt (Over)/Under Balance Interest Calculation**																
131																	
132	Forecast Direct Gas Costs	ln 34		$ -	$ -	$ 508,889	$ 508,889	$ 508,889	$ 508,889	$ 14,265,072	$ 25,575,916	$ 37,467,372	$ 40,682,799	$ 25,849,591	$ 6,035,191	$ -	151,911,499
133	Forecast Working Capital	ln 101		-	-	1,703	1,972	1,972	1,972	11,421	99,122	145,209	157,671	100,183	23,390		544,617
134	Prior Period Balance	ln 42								681,609	681,609	681,609	681,609	681,609	681,609		4,089,654
135	Total Forecast Direct Gas Costs & Working Capital			-	-	510,593	510,862	510,862	510,862	14,958,102	26,356,648	38,294,190	41,522,079	26,631,383	6,740,190	-	152,456,117
136																	
137	**Beginning Balance**	Account 1920-1743 1/	**$ (170,566)**	$ (199,297)	$ (208,905)	$ (216,811)	$ (213,280)	$ (209,867)	$ (206,407)	$ (202,961)	$ (223,806)	$ (197,731)	$ (122,637)	$ 16,709	$ 62,462	$ (4,954)	$ (170,566)
138																	
139	Forecast Bad Debt	ln 135 * 0.00861151933369296		-	-	4,397	4,399	4,399	4,399	128,812	226,971	329,771	357,568	229,337	58,043		1,348,097
140																	
141	Projected Revenues w/o int	ln 178 * ln 182		-	-	-	-	-	-	(148,451)	(224,682)	(263,706)	(222,372)	(189,657)	(114,606)	-	(1,163,474)
142	Projected Unbilled Revenue									(244)	24,525	34,300	38,673	44,563	33,579		175,396
143	Reverse Prior Month Unbilled										244	(24,525)	(34,300)	(38,673)	(44,563)	(33,579)	(175,396)
144																	
145	Bad Debt Billed	Account 1920-1743 2/	(28,732)	-	(2,195)	-	-	-	-		-	-	-	-	-	-	(30,927)
146																	
147	Add Net Adjustments		-	(9,045)	(5,013)	-	-	-	-		-	-	-	-	-	-	(14,057)
148																	
149	Monthly (Over)/Under Recovery		$ (199 297)	$ (208 342)	$ (216 113)	$ (212 415)	$ (208 881)	$ (205 468)	$ (202 007)	$ (222 844)	$ (196 749)	$ (121 891)	$ 16 932	$ 62 278	$ (5 084)	$ (38 533)	$ (30 927)
150																	
151	Average Monthly Balance	(ln 137 + ln 149)/2		$ (189,454)	$ (212,509)	$ (214,613)	$ (211,081)	$ (207,667)	$ (204,207)	$ (212,903)	$ (210,278)	$ (159,811)	$ (52,853)	$ 39,493	$ 28,689	$ (21,744)	
152																	
153	Interest Rate	Prime Rate		3.50%	4.00%	4.75%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%		
154																	
155	Interest Applied	ln 151 * ln 153 / 365 * Days of Month		$ (563)	$ (699)	$ (866)	$ (986)	$ (939)	$ (954)	$ (962)	$ (982)	$ (747)	$ (223)	$ 184	$ 130		$ (7,606)
156																	
157	**(Over)/Under Balance**	ln 149 + ln 155	$ (199 297)	$ (208 905)	$ (216 811)	$ (213 280)	$ (209 867)	$ (206 407)	$ (202 961)	$ (223 806)	$ (197 731)	$ (122 637)	$ 16 709	$ 62 462	$ (4 954)	$ (38 533)	(38 533)
158																	
159																	
160	**Calculation of Bad Debt with Interest**																
161																	
162	**Beginning Balance**	ln 137	$ (170,566)	$ (199,297)	$ (208,905)	$ (216,811)	$ (213,280)	$ (209,867)	$ (206,407)	$ (202,961)	$ (223,080)	$ (196,023)	$ (119,688)	$ 20,724	$ 67,377	$ 574	$ (170,566)
163	Forecast Bad Debt	ln 139		-	-	4,397	4,399	4,399	4,399	128,812	226,971	329,771	357,568	229,337	58,043	-	1,348,097
164	Projected Revenues with int.	ln 178 * ln 184		-	-	-	-	-	-	(147,725)	(223,583)	(262,417)	(221,284)	(188,730)	(114,045)	-	(1,157,784)
165	Projected Unbilled Revenue									(243)	24,405	34,133	38,484	44,345	33,415		174,538
166	Reverse Prior Month Unbilled										243	(24,405)	(34,133)	(38,484)	(44,345)	(33,415)	(174,538)
167	Bad Debt Billed	ln 145	(28,732)		(2,195)	-	-	-	-	-	-	-	-	-	-	-	(30,927)
168	Add Interest	ln 155		-	-	-	-	-	-	(962)	(982)	(747)	(223)	184	130	-	(2,600)
169	Add Net Adjustments	ln 147	-	(9,045)	(5,013)					-	-	-	-	-	-	-	(14,057)
170	Monthly (Over)/Under Recovery		$ (199 297)	$ (208 342)	$ (216 113)	$ (212 415)	$ (208 881)	$ (205 468)	$ (202 007)	$ (223 079)	$ (196 027)	$ (119 688)	$ 20 724	$ 67 377	$ 574	$ (32 840)	$ (27 837)
171																	
172	Average Monthly Balance			$ (189,454)	$ (212,509)	$ (214,613)	$ (211,081)	$ (207,667)	$ (204,207)	$ (213,020)	$ (209,553)	$ (157,856)	$ (49,482)	$ 44,051	$ 33,975	$ (16,133)	
173																	
174	Interest Applied	ln 153 * ln 172 / 365 * Days of Month		(563)	(699)	(866)	(986)	(939)	(954)	(963)	(979)	(747)	(223)	184	130	-	(7,603)
175																	
176	**(Over)/Under Balance**	-ln 168 +ln 170 + ln 174	$ (199,297)	$ (208,905)	$ (216,811)	$ (213,280)	$ (209,867)	$ (206,407)	$ (202,961)	$ (223,080)	$ (196,023)	$ (119,688)	$ 20,724	$ 67,377	$ 574	$ (32,840)	$ (32,840)
177																	
178	Forecast Term Sales	ln 52								11,838,176	17,917,229	21,029,207	17,732,977	15,124,179	9,139,216	0	92,780,984
179	Unbilled Therm	ln 55								19,465	(1,975,210)	(779,531)	(348,687)	(469,669)	875,901		
180	Gross Unbilled									19,465	(1,955,745)	(2,735,276)	(3,083,964)	(3,553,633)	(2,677,732)		
181																	
182	COG Rate Without Interest	Sch. 3, pg. 4, ln 241 col. (c)								$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
183																	
184	COG With Interest	Sch. 3, pg. 4, ln 241 col. (d)								$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	$0.0125	
187																	
188																	
189	**Total Interest**	lns 46 + 112 + 174	$ -	$ 5,725	$ (6,168)	$ (8,799)	$ (7,823)	$ (5,276)	$ (3,070)	$ (14,759)	$ (32,055)	$ (28,138)	$ 5,215	$ 35,025	$ 11,787	$ -	$ (48,335)

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2 **d/b/a Liberty**
3 **Peak 2022 - 2023 Winter Cost of Gas Filing**
4 **Adjustments to Gas Costs**
5

REDACTED
Schedule 4
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			Prior Period Adjustments	Refunds from Suppliers	Broker Revenue	Inventory Finance Charges	Transportation CGA Revenues (Schedule 17)	Interruptible Sales Margin	Off System Sales Margin	Capacity Release	Net Option Premiums	Fixed Price Option Administrative Costs	Total Adjustments
6	**Adjustments**												
7	(a)		(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(m)
8													
9	May-20		$ -	$ -	$ -	$ -	$ -	$ -	[redacted]	[redacted]	$ -	$ -	$ -
10	Jun-20		-	-	-	-	-	-	[redacted]	[redacted]	-	-	-
11	Jul-20	1/	-	-	-	-	-	-	[redacted]	[redacted]	-	-	-
12	Aug-20	1/	-	-	-	-	-	-	[redacted]	[redacted]	-	-	-
13	Sep-20	1/	-	-	-	-	-	-	[redacted]	[redacted]	-	-	-
14	Oct-20	1/	-	-	-	-	-	-	[redacted]	[redacted]	-	-	-
15	Nov-20	1/	-	-	(47)	-	(62,864)	-	[redacted]	[redacted]	-	59,917	(281,823)
16	Dec-20	1/	-	-	(624)	-	(77,703)	-	[redacted]	[redacted]	-	-	(359,882)
17	Jan-21	1/	-	-	(751)	-	(87,373)	-	[redacted]	[redacted]	-	-	(369,554)
18	Feb-21	1/	-	-	(816)	-	(72,905)	-	[redacted]	[redacted]	-	-	(354,081)
19	Mar-21	1/	-	-	(757)	-	(69,548)	-	[redacted]	[redacted]	-	-	(347,428)
20	Apr-21	1/	-	-	(605)	-	(51,628)	-	[redacted]	[redacted]	-	-	(329,449)
21													
22	Subtotal May 21 - Oct 21		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23													
24	Subtotal Nov 21 - Apr 22		$ -	$ -	$ (3,600)	$ -	$ (422,021)	$ -	$ -	$ (1,676,512)	$ -	$ 59,917	$ (2,042,217)
25													
26	Total Peak Period		$ -	$ -	$ (3,600)	$ -	$ (422,021)	$ -	$ -	$ (1,676,512)	$ -	$ 59,917	$ (2,042,217)
27													

1/ Estimates are based on prior years actual, except transportation revenue is calculated on Schedule 17. and Inventory Finance Charges for Nov 22 - Apr 23 calculated on Schedule 16

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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty** **REDACTED**
2 **d/b/a Liberty** **Schedule 5A**
3 **Peak 2022 - 2023 Winter Cost of Gas Filing** **Page 1 of 1**
4 **Demand Costs**

5											
6				Deferred							Peak
7				to Peak							Nov-Apr
8		Peak	Reference	May 22 -Oct 22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Total
9	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
10											
11	**Supply**										
12	Niagara Supply		Sch 5B, ln 9 * Sch 5C ln 9 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
13	Subtotal Supply Demand & Reservation Charges			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
14											
15	**Pipeline**										
16	Iroquois Gas Trans Service RTS 470-0		Sch 5B, ln 12 * Sch 5C ln 12 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
17	Tenn Gas Pipeline 95346 Z5-Z6		Sch 5B, ln 13 * Sch 5C ln 14 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
18	Tenn Gas Pipeline 2302 Z5-Z6		Sch 5B, ln 14 * Sch 5C ln 16 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
19	Tenn Gas Pipeline 8587 Z0-Z6		Sch 5B, ln 15 * Sch 5C ln 18 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
20	Tenn Gas Pipeline 8587 Z1-Z6		Sch 5B, ln 16 * Sch 5C ln 20 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
21	Tenn Gas Pipeline 8587 Z4-Z6		Sch 5B, ln 17 * Sch 5C ln 22 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
22	Tenn Gas Pipeline (Dracut) 42076 Z6-Z6	peak	Sch 5B, ln 18 * Sch 5C ln 24 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
23	Tenn Gas Pipeline (Dracut) 358905 Z6-Z7	peak	Sch 5B, ln 19 * Sch 5C ln 25 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
24	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	peak	Sch 5B, ln 20 * Sch 5C ln 28 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
25	Portland Natural Gas Trans Service		Sch 5B, ln 21 * Sch 5C ln 30 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
26	Portland Natural Gas		Sch 5B, ln 22 * Sch 5C ln 31 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
27	ANE (TransCanada via Union to Iroquois)		Sch 5B, ln 23 * Sch 5C ln 32 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
28	TransCanada via Union to Portland		Sch 5B, ln 24 * Sch 5C ln 33 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
29	Tenn Gas Pipeline Z4-Z6 stg 632	peak	Sch 5B, ln 25 * Sch 5C ln 34 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
30	Tenn Gas Pipeline Z4-Z6 stg 11234	peak	Sch 5B, ln 26 * Sch 5C ln 36 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
31	Tenn Gas Pipeline Z5-Z6 stg 11234	peak	Sch 5B, ln 27 * Sch 5C ln 38 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
32	National Fuel FST 2358	peak	Sch 5B, ln 28 * Sch 5C ln 40 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
33											
34	Subtotal Pipeline Demand Charges			$ 3,907,220	$ 1,596,276	$ 1,596,276	$ 1,596,276	$ 1,596,276	$ 1,596,276	$ 1,596,276	$ 13,484,875
35											
36	**Peaking Supply**										
37	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	peak	Sch 5B, ln 31 * Sch 5C ln 28 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
38	Demand FLS	peak	Per Contract	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
39	Peaking Demand	peak	Per Contract	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
40	Subtotal Peaking Demand Charges			$ -	$ 474,102	$ 474,102	$ 474,102	$ 474,102	$ 474,102	$ -	$ 2,370,511
41											
42	**Subtotal Supply, Pipeline & Peaking**		ln 13 + ln 34 + ln 40	$ 3,907,220	$ 2,070,378	$ 2,070,378	$ 2,070,378	$ 2,070,378	$ 2,070,378	$ 1,596,276	$ 15,855,386
43											
44	Less Transportation Capacity Credit			$ (1,323,375)	$ (523,599)	$ (523,599)	$ (523,599)	$ (523,599)	$ (523,599)	$ (403,698)	$ (4,345,067)
45											
46	**Total Supply, Pipeline & Peaking Demand**			$ 2,583,844	$ 1,546,780	$ 1,546,780	$ 1,546,780	$ 1,546,780	$ 1,546,780	$ 1,192,578	$ 11,510,320
47											
48											
49	Dominion - Demand	peak	Sch 5B, ln 36 * Sch 5C ln 64 x days	$ 18,240	$ 3,040	$ 3,040	$ 3,040	$ 3,040	$ 3,040	$ 3,040	$ 36,480
50	Dominion - Storage	peak	Sch 5B, ln 37 * Sch 5C ln 65 x days	19,595	3,266	3,266	3,266	3,266	3,266	3,266	39,190
51	Honeoye - Demand	peak	Sch 5B, ln 38 * Sch 5C ln 68 x days	50,105	8,351	8,351	8,351	8,351	8,351	8,351	100,211
52	National Fuel - Demand	peak	Sch 5B, ln 40 * Sch 5C ln 70 x days	97,207	16,201	16,201	16,201	16,201	16,201	16,201	194,414
53	National Fuel - Capacity	peak	Sch 5B, ln 41 * Sch 5C ln 71 x days	193,190	32,198	32,198	32,198	32,198	32,198	32,198	386,381
54	Tenn Gas Pipeline - Demand	peak	Sch 5B, ln 42 * Sch 5C ln 74 x days	167,775	27,963	27,963	27,963	27,963	27,963	27,963	335,550
55	Tenn Gas Pipeline - Capacity	peak	Sch 5B, ln 43 * Sch 5C ln 75 x days	163,841	27,307	27,307	27,307	27,307	27,307	27,307	327,682
56											
57	**Subtotal Storage Demand Costs**			$ 709,954	$ 118,326	$ 118,326	$ 118,326	$ 118,326	$ 118,326	$ 118,326	$ 1,419,908
58											
59	Less Transportation Capacity Credit			$ (240,461)	$ (29,925)	$ (29,925)	$ (29,925)	$ (29,925)	$ (29,925)	$ (29,925)	$ (420,009)
60											
61	**Total Storage Demand Costs**		ln 57 + ln 59	$ 469,493	$ 88,401	$ 88,401	$ 88,401	$ 88,401	$ 88,401	$ 88,401	$ 999,899
62											
63	**Total Demand Charges**		ln 42 + ln 57	$ 4,617,174	$ 2,188,704	$ 2,188,704	$ 2,188,704	$ 2,188,704	$ 2,188,704	$ 1,714,602	$ 17,275,294
64											
65	Total Transportation Capacity Credit		ln 44 + ln 59	$ (1,563,837)	$ (553,523)	$ (553,523)	$ (553,523)	$ (553,523)	$ (553,523)	$ (433,623)	$ (4,765,075)
66											
67	**Total Demand Charges less Cap. Cr.**		ln 63 + ln 65	$ 3,053,337	$ 1,635,181	$ 1,635,181	$ 1,635,181	$ 1,635,181	$ 1,635,181	$ 1,280,979	$ 12,510,219
68											
69				**THIS PAGE HAS BEEN REDACTED**							

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing
Demand Volumes

Schedule 5B
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		Peak	Reference	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(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	peak	358905 FTA Z6-Z6	40,000	40,000	40,000	40,000	40,000	40,000
	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 233320	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		-	-	-	-	-	-
	Peaking Demand	peak	NSB041	4,000	4,000	4,000	4,000	4,000	-
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

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

2 **d/b/a Liberty**

3 **Peak 2022 - 2023 Winter Cost of Gas Filing**

4 **Demand Rates**

REDACTED
Schedule 5C
Page 1 of 2

5					**Nov-22**	**Dec-22**	**Jan-23**	**Feb-23**	**Mar-23**	**Apr-23**	**Nov - Apr**
6	**Tariff Rates**				30	31	31	28	31	30	181
7					Unit Rate	Unit Rate	Unit Rate	Unit Rate	Unit Rate	Unit Rate	Avg Rate
8	**Supply**										
9	Niagara Supply		[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
10											
11	**Pipeline**										
12	Iroquois Gas Trans Service	RTS 470-01	$ 5.2357	Forth Revised Sheet No. 4	$ 0.1745	$ 0.1689	$ 0.1689	$ 0.1870	$ 0.1689	$ 0.1745	$ 0.1738
13											
14	Tenn Gas Pipeline	95346 Z5-Z6	$ 6.1635	19th Rev Sheet No. 14	$ 0.2055	$ 0.1988	$ 0.1988	$ 0.2201	$ 0.1988	$ 0.2055	$ 0.2046
15											
16	Tenn Gas Pipeline	2302 Z5-Z6	$ 6.1635	19th Rev Sheet No. 14	$ 0.2055	$ 0.1988	$ 0.1988	$ 0.2201	$ 0.1988	$ 0.2055	$ 0.2046
17											
18	Tenn Gas Pipeline	8587 Z0-Z6	$ 19.9267	FT-A (Z0 - Z6)	$ 0.6642	$ 0.6428	$ 0.6428	$ 0.7117	$ 0.6428	$ 0.6642	$ 0.6614
19											
20	Tenn Gas Pipeline	8587 Z1-Z6	$ 17.6917	FT-A (Z1 - Z6)	$ 0.5897	$ 0.5707	$ 0.5707	$ 0.6318	$ 0.5707	$ 0.5897	$ 0.5872
21											
22	Tenn Gas Pipeline	8587 Z4-Z6	$ 7.1720	FT-A (Z4 - Z6)	$ 0.2391	$ 0.2314	$ 0.2314	$ 0.2561	$ 0.2314	$ 0.2391	$ 0.2381
23											
24	TGP Dracut	42076 FTA Z6-Z6	$ 4.0968	19th Rev Sheet No. 14	$ 0.1366	$ 0.1322	$ 0.1322	$ 0.1463	$ 0.1322	$ 0.1366	$ 0.1360
25											
26	TGP Dracut	358905 FTA Z6-Z6	$ 4.0968	19th Rev Sheet No. 14	$ 0.1366	$ 0.1322	$ 0.1322	$ 0.1463	$ 0.1322	$ 0.1366	$ 0.1360
27											
28	TGP Concord Lateral	Firm Transportatio	$ 12.2188	Per contract	$ 0.4073	$ 0.3942	$ 0.3942	$ 0.4364	$ 0.3942	$ 0.4073	$ 0.4056
29											
30	Portland Natural Gas	FT-208544	$ 18.2633	Negot Dmd /CMDY=Part 4.1 V	$ 0.6088	$ 0.5891	$ 0.5891	$ 0.6523	$ 0.5891	$ 0.6088	$ 0.6062
31											
32	Portland Natural Gas	FT 233320	$ 22.7943	Negot Dmd /CMDY=Part 4.1 V	$ 0.7598	$ 0.7353	$ 0.7353	$ 0.8141	$ 0.7353	$ 0.7598	$ 0.7566
33											
34	Tenn Gas Pipeline	632 Z4-Z6 (stg)	$ 7.1720	19th Rev Sheet No. 14	$ 0.2391	$ 0.2314	$ 0.2314	$ 0.2561	$ 0.2314	$ 0.2391	$ 0.2381
35											
36	Tenn Gas Pipeline	11234 Z4-Z6(stg)	$ 7.1720	19th Rev Sheet No. 14	$ 0.2391	$ 0.2314	$ 0.2314	$ 0.2561	$ 0.2314	$ 0.2391	$ 0.2381
37											
38	Tenn Gas Pipeline	11234 Z5-Z6(stg)	$ 6.1635	19th Rev Sheet No. 14	$ 0.2055	$ 0.1988	$ 0.1988	$ 0.2201	$ 0.1988	$ 0.2055	$ 0.2046
39											
40	National Fuel	FST N02358	$ 4.9801	4.020 Version 28.0.0 Pg 1	$ 0.1660	$ 0.1606	$ 0.1606	$ 0.1779	$ 0.1606	$ 0.1660	$ 0.1653
41											

42 **THIS PAGE HAS BEEN REDACTED**

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

2 **d/b/a Liberty**

3 **Peak 2022 - 2023 Winter Cost of Gas Filing**

REDACTED
Schedule 5C
Page 2 of 2

43	ANE Union Gas		$ 3.6890								
44	TransCanada Pipelines Limited		$ 11.9690	Dawn - Parkway to Iroquois							
45	Delivery Pressure Demand Charge		$ 0.6083	Dawn - Parkway to Iroquois							
46	Sub Total Demand Charges		$ 16.2663								
47	Conversion rate GJ to MMBTU		$ 1.0551								
48	Conversion rate to US$		$ 1.2706	1/0/1900							
49	Demand Rate/US$		$ 13.5069		$ 0.4502	$ 0.4357	$ 0.4357	$ 0.4824	$ 0.4357	$ 0.4502	$ 0.4483
50											
51	Union Gas		$ 3.6890								
52	TransCanada Pipelines Limited		$ 20.3913	Dawn -Parkway to Portland							
53	Delivery Pressure Demand Charge		$ 0.6083	Dawn -Parkway to Portland							
54	Sub Total Demand Charges		$ 24.6887								
55	Conversion rate GJ to MMBTU		$ 1.0551								
56	Conversion rate to US$		$ 1.2706	1/0/1900							
57	Demand Rate/US$		$ 20.5005		$ 0.6833	$ 0.6613	$ 0.6613	$ 0.7322	$ 0.6613	$ 0.6833	$ 0.6805
58											
59	**Peaking**										
60	Demand FLS		[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
61	Subtotal Peaking Demand Charges		[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
62											
63	**Storage**										
64	Dominion - Demand	GSS 300076	$ 3.2548	GSS Settled,Tariff Rec #10.30	$ 0.1085	$ 0.1050	$ 0.1050	$ 0.1162	$ 0.1050	$ 0.1085	$ 0.1079
65	Dominion - Capacity	GSS 300076	$ 0.0318	GSS Settled,Tariff Rec #10.30	$ 0.0011	$ 0.0010	$ 0.0010	$ 0.0011	$ 0.0010	$ 0.0011	$ 0.0011
66			$ 3.2866		$ 0.1096	$ 0.1060	$ 0.1060	$ 0.1174	$ 0.1060	$ 0.1096	$ 0.1090
67											
68	Honeoye - Demand	SS-NY	$ 6.1299	Sub 1st Rev Sheet No. 5	$ 0.2043	$ 0.1977	$ 0.1977	$ 0.2189	$ 0.1977	$ 0.2043	$ 0.2033
69											
70	National Fuel - Demand	FSS-O02357	$ 2.6568	4.020 Version 28.0.0 Pg 1	$ 0.0886	$ 0.0857	$ 0.0857	$ 0.0949	$ 0.0857	$ 0.0886	$ 0.0881
71	National Fuel - Capacity	FSS-O02357	$ 0.0480	4.020 Version 28.0.0 Pg 1	$ 0.0016	$ 0.0015	$ 0.0015	$ 0.0017	$ 0.0015	$ 0.0016	$ 0.0016
72			$ 2.7048		$ 0.0902	$ 0.0873	$ 0.0873	$ 0.0966	$ 0.0873	$ 0.0902	$ 0.0897
73											
74	Tenn Gas Pipeline	FS-MA 523	$ 1.2801	22nd Rev Sheet No.61	$ 0.0427	$ 0.0413	$ 0.0413	$ 0.0457	$ 0.0413	$ 0.0427	$ 0.0425
75	Tenn Gas Pipeline - Space	FS-MA 523	$ 0.0175	22nd Rev Sheet No.61	$ 0.0006	$ 0.0006	$ 0.0006	$ 0.0006	$ 0.0006	$ 0.0006	$ 0.0006
76			$1.2976		$ 0 0433	$ 0.0419	$ 0.0419	$ 0.0463	$ 0.0419	$ 0.0433	$ 0.0430
77											

78 **THIS PAGE HAS BEEN REDACTED**

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

Nineteenth Revised Sheet No. 14
Superseding
Eighteenth Revised Sheet No. 14

RATES PER DEKATHERM

FIRM TRANSPORTATION RATES
RATE SCHEDULE FOR FT-A

Base
Reservation Rates

RECEIPT	DELIVERY ZONE							
ZONE	0	L	1	2	3	4	5	6
0	$4.7485		$9.92300	$13.3478	$13.5840	$14.9261	$15.8434	$19.8779
L		$4.2156						
1	$7.1485		$6.8524	$9.1192	$12.9182	$12.7224	$14.3480	$17.6429
2	$13.3479		$9.0644	$4.7144	$4.4071	$5.6390	$7.7558	$10.0118
3	$13.5840		$7.1799	$4.7525	$3.4286	$5.2666	$9.5251	$11.0065
4	$17.2471		$15.9003	$6.0594	$9.2085	$4.5075	$4.8747	$6.9640
5	$20.5647		$14.4505	$6.3563	$7.6911	$5.0074	$4.6970	$6.1147
6	$23.7895		$16.5974	$11.4230	$12.5841	$8.8889	$4.6763	$4.0480

Daily Base
Reservation Rate 1/

RECEIPT	DELIVERY ZONE							
ZONE	0	L	1	2	3	4	5	6
0	$0.1561		$0.3262	$0.4388	$0.4466	$0.4907	$0.5209	$0.6535
L		$0.1386						
1	$0.2350		$0.2253	$0.2998	$0.4247	$0.4183	$0.4717	$0.5800
2	$0.4388		$0.2980	$0.1550	$0.1449	$0.1854	$0.2550	$0.3292
3	$0.4466		$0.2361	$0.1562	$0.1127	$0.1731	$0.3132	$0.3619
4	$0.5670		$0.5227	$0.1992	$0.3027	$0.1482	$0.1603	$0.2290
5	$0.6761		$0.4751	$0.2090	$0.2529	$0.1646	$0.1544	$0.2010
6	$0.7821		$0.5457	$0.3756	$0.4137	$0.2922	$0.1537	$0.1331

Maximum Reservation
Rates 2 /, 3 /

RECEIPT	DELIVERY ZONE							
ZONE	0	L	1	2	3	4	5	6
0	$4.7973		$9.9718	$13.3966	$13.6328	$14.9749	$15.8922	$19.9267
L		$4.2644						
1	$7.1973		$6.9012	$9.1680	$12.9670	$12.7712	$14.3968	$17.6917
2	$13.3967		$9.1132	$4.7632	$4.4559	$5.6878	$7.8046	$10.0606
3	$13.6328		$7.2287	$4.8013	$3.4774	$5.3154	$9.5739	$11.0553
4	$17.2959		$15.9491	$6.1082	$9.2573	$4.5563	$4.9235	$7.0128
5	$20.6135		$14.4993	$6.4051	$7.7399	$5.0562	$4.7458	$6.1635
6	$23.8383		$16.6462	$11.4718	$12.6329	$8.9377	$4.7251	$4.0968

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 $0.0488.

Issued: September 28, 2021
Effective: November 1, 2021

Docket No. RP21-1157-000
Accepted: October 20, 2021

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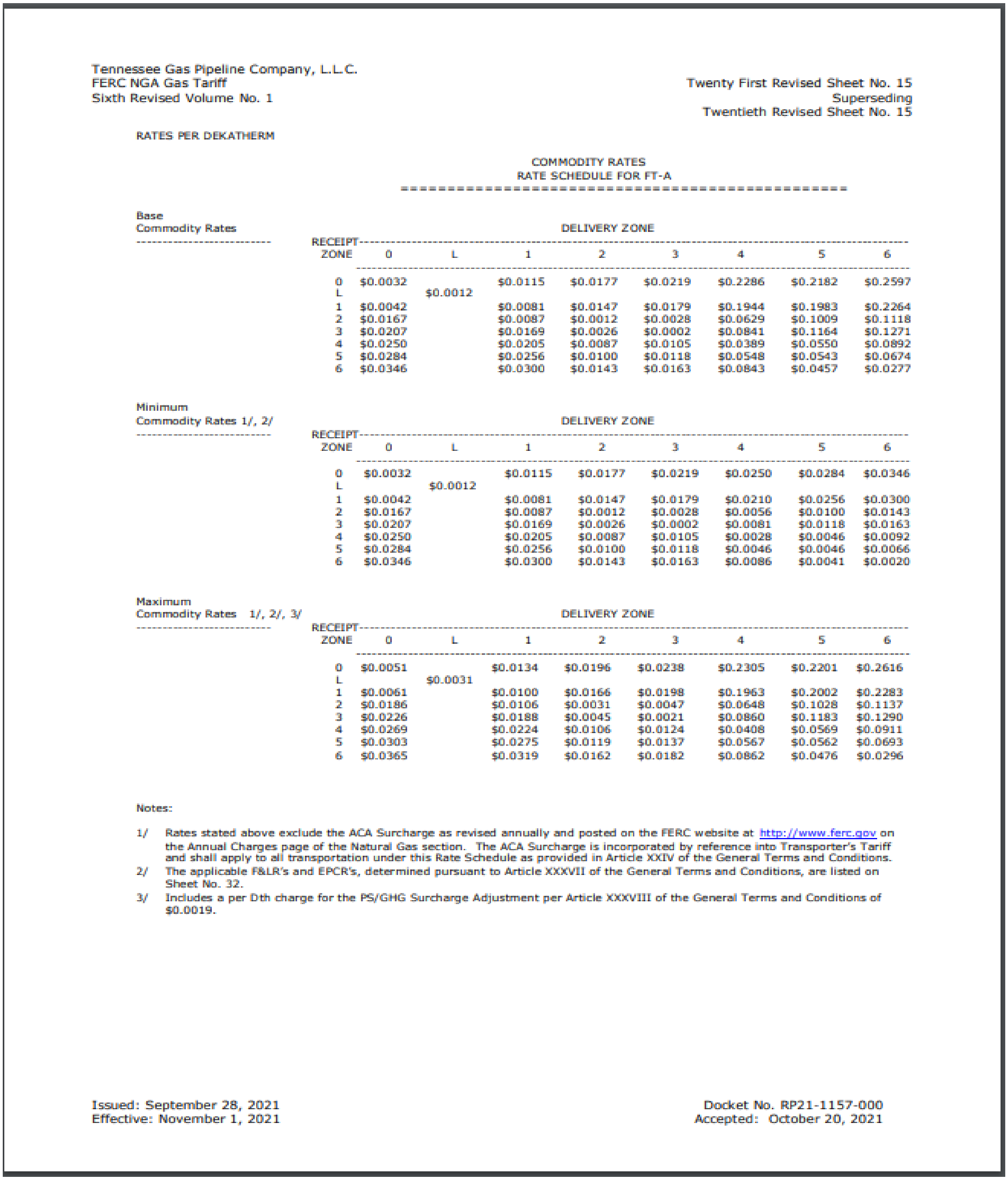

Tennessee Gas Pipeline Company, L.L.C.
FERC NGA Gas Tariff
Sixth Revised Volume No. 1

Twenty First Revised Sheet No. 15
Superseding
Twentieth Revised Sheet No. 15

RATES PER DEKATHERM

COMMODITY RATES
RATE SCHEDULE FOR FT-A

Base
Commodity Rates

DELIVERY ZONE

RECEIPT ZONE	0	L	1	2	3	4	5	6
0	$0.0032		$0.0115	$0.0177	$0.0219	$0.2286	$0.2182	$0.2597
L		$0.0012						
1	$0.0042		$0.0081	$0.0147	$0.0179	$0.1944	$0.1983	$0.2264
2	$0.0167		$0.0087	$0.0012	$0.0028	$0.0629	$0.1009	$0.1118
3	$0.0207		$0.0169	$0.0026	$0.0002	$0.0841	$0.1164	$0.1271
4	$0.0250		$0.0205	$0.0087	$0.0105	$0.0389	$0.0550	$0.0892
5	$0.0284		$0.0256	$0.0100	$0.0118	$0.0548	$0.0543	$0.0674
6	$0.0346		$0.0300	$0.0143	$0.0163	$0.0843	$0.0457	$0.0277

Minimum
Commodity Rates 1/, 2/

DELIVERY ZONE

RECEIPT 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/

DELIVERY ZONE

RECEIPT ZONE	0	L	1	2	3	4	5	6
0	$0.0051		$0.0134	$0.0196	$0.0238	$0.2305	$0.2201	$0.2616
L		$0.0031						
1	$0.0061		$0.0100	$0.0166	$0.0198	$0.1963	$0.2002	$0.2283
2	$0.0186		$0.0106	$0.0031	$0.0047	$0.0648	$0.1028	$0.1137
3	$0.0226		$0.0188	$0.0045	$0.0021	$0.0860	$0.1183	$0.1290
4	$0.0269		$0.0224	$0.0106	$0.0124	$0.0408	$0.0569	$0.0911
5	$0.0303		$0.0275	$0.0119	$0.0137	$0.0567	$0.0562	$0.0693
6	$0.0365		$0.0319	$0.0162	$0.0182	$0.0862	$0.0476	$0.0296

Notes:

1/ Rates stated above exclude the ACA Surcharge as revised annually and posted on the FERC website at http://www.ferc.gov on the Annual Charges page of the Natural Gas section. The ACA Surcharge is incorporated by reference into Transporter's Tariff and shall apply to all transportation under this Rate Schedule as provided in Article XXIV of the General Terms and Conditions.

2/ The applicable F&LR's and EPCR's, determined pursuant to Article XXXVII of the General Terms and Conditions, are listed on Sheet No. 32.

3/ Includes a per Dth charge for the PS/GHG Surcharge Adjustment per Article XXXVIII of the General Terms and Conditions of $0.0019.

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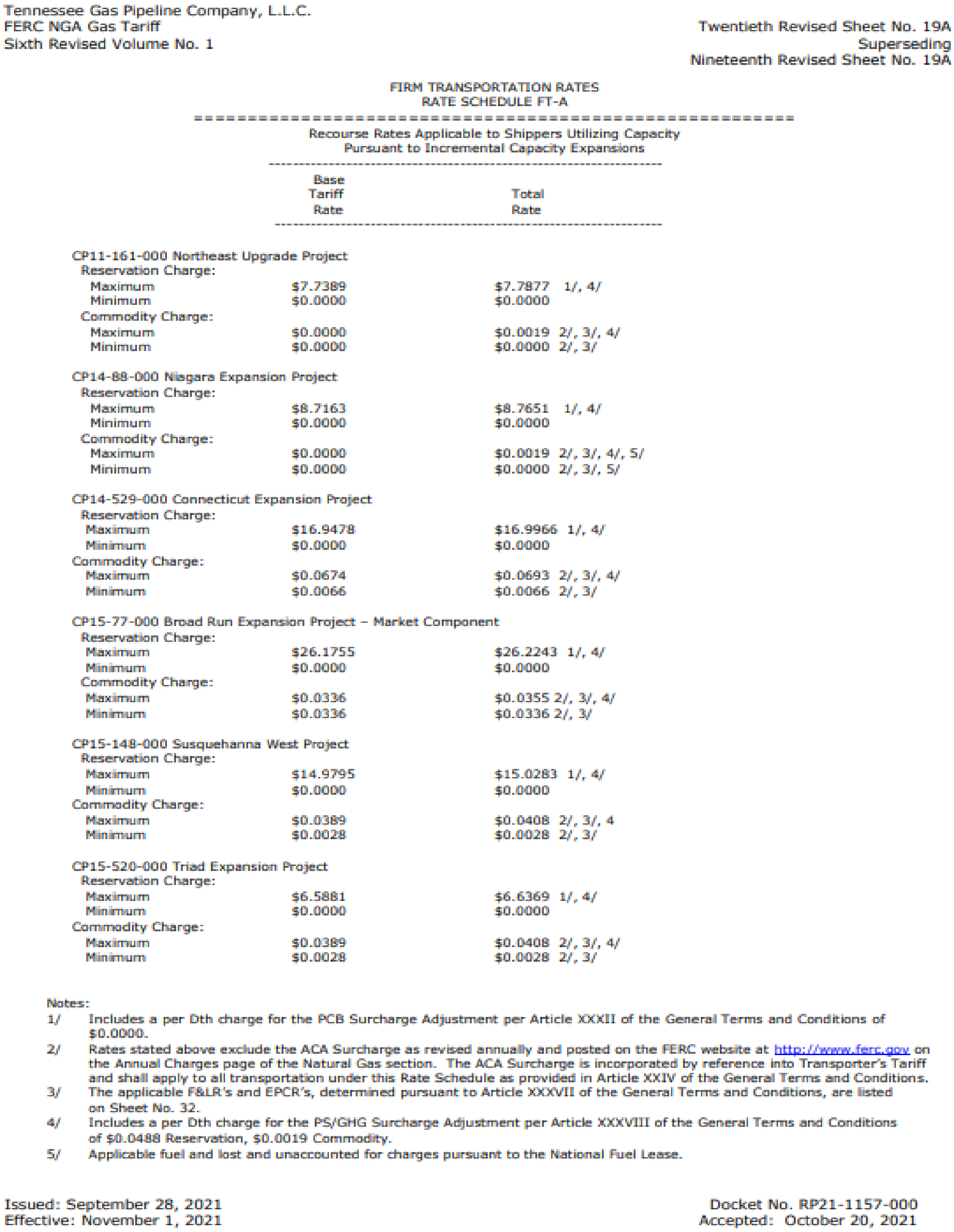
Accepted: October 20, 2021



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

Twentieth Revised Sheet No. 19A
Superseding
Nineteenth Revised Sheet No. 19A

FIRM TRANSPORTATION RATES
RATE SCHEDULE FT-A

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

	Base Tariff Rate	Total Rate
CP11-161-000 Northeast Upgrade Project		
Reservation Charge:		
Maximum	$7.7389	$7.7877 1/, 4/
Minimum	$0.0000	$0.0000
Commodity Charge:		
Maximum	$0.0000	$0.0019 2/, 3/, 4/
Minimum	$0.0000	$0.0000 2/, 3/
CP14-88-000 Niagara Expansion Project		
Reservation Charge:		
Maximum	$8.7163	$8.7651 1/, 4/
Minimum	$0.0000	$0.0000
Commodity Charge:		
Maximum	$0.0000	$0.0019 2/, 3/, 4/, 5/
Minimum	$0.0000	$0.0000 2/, 3/, 5/
CP14-529-000 Connecticut Expansion Project		
Reservation Charge:		
Maximum	$16.9478	$16.9966 1/, 4/
Minimum	$0.0000	$0.0000
Commodity Charge:		
Maximum	$0.0674	$0.0693 2/, 3/, 4/
Minimum	$0.0066	$0.0066 2/, 3/
CP15-77-000 Broad Run Expansion Project – Market Component		
Reservation Charge:		
Maximum	$26.1755	$26.2243 1/, 4/
Minimum	$0.0000	$0.0000
Commodity Charge:		
Maximum	$0.0336	$0.0355 2/, 3/, 4/
Minimum	$0.0336	$0.0336 2/, 3/
CP15-148-000 Susquehanna West Project		
Reservation Charge:		
Maximum	$14.9795	$15.0283 1/, 4/
Minimum	$0.0000	$0.0000
Commodity Charge:		
Maximum	$0.0389	$0.0408 2/, 3/, 4
Minimum	$0.0028	$0.0028 2/, 3/
CP15-520-000 Triad Expansion Project		
Reservation Charge:		
Maximum	$6.5881	$6.6369 1/, 4/
Minimum	$0.0000	$0.0000
Commodity Charge:		
Maximum	$0.0389	$0.0408 2/, 3/, 4/
Minimum	$0.0028	$0.0028 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 $0.0488 Reservation, $0.0019 Commodity.

5/ Applicable fuel and lost and unaccounted for charges pursuant to the National Fuel Lease.

Issued: September 28, 2021
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Docket No. RP21-1157-000
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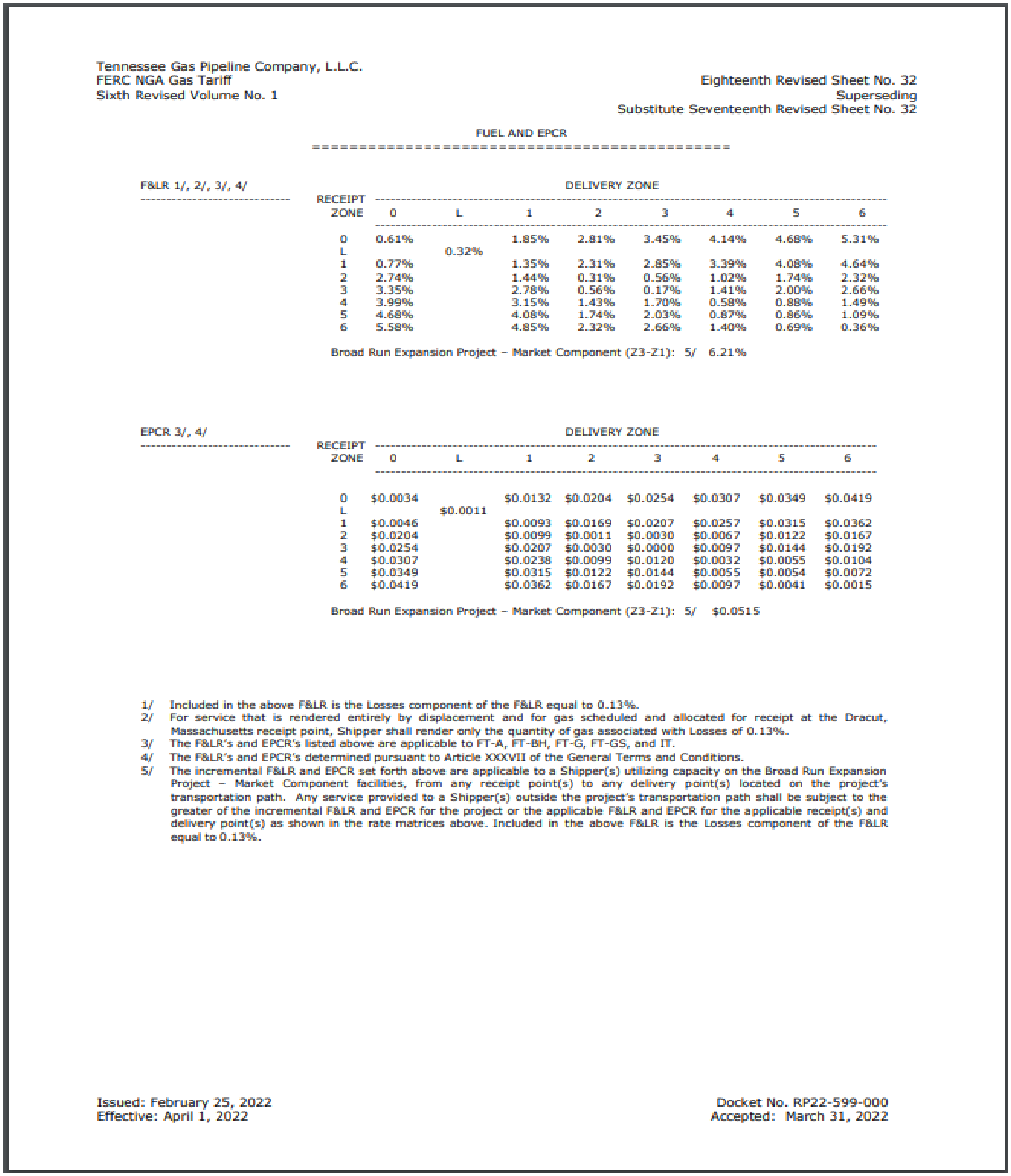


Tennessee Gas Pipeline Company, L.L.C.
FERC NGA Gas Tariff
Sixth Revised Volume No. 1

Eighteenth Revised Sheet No. 32
Superseding
Substitute Seventeenth 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	0.61%		1.85%	2.81%	3.45%	4.14%	4.68%	5.31%
L		0.32%						
1	0.77%		1.35%	2.31%	2.85%	3.39%	4.08%	4.64%
2	2.74%		1.44%	0.31%	0.56%	1.02%	1.74%	2.32%
3	3.35%		2.78%	0.56%	0.17%	1.41%	2.00%	2.66%
4	3.99%		3.15%	1.43%	1.70%	0.58%	0.88%	1.49%
5	4.68%		4.08%	1.74%	2.03%	0.87%	0.86%	1.09%
6	5.58%		4.85%	2.32%	2.66%	1.40%	0.69%	0.36%

Broad Run Expansion Project – Market Component (Z3-Z1): 5/ 6.21%

EPCR 3/, 4/

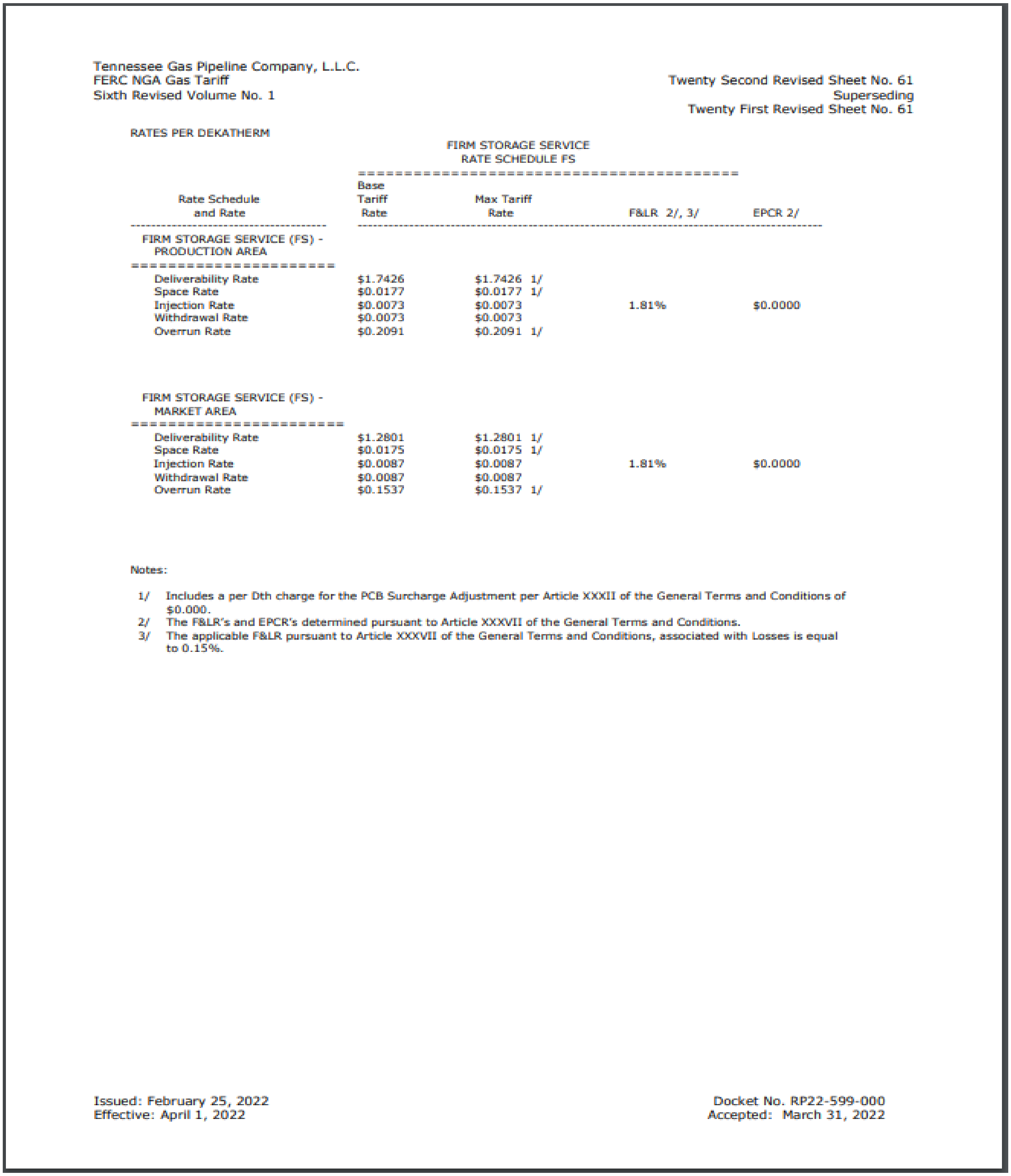
RECEIPT ZONE	DELIVERY ZONE 0	L	1	2	3	4	5	6
0	$0.0034		$0.0132	$0.0204	$0.0254	$0.0307	$0.0349	$0.0419
L		$0.0011						
1	$0.0046		$0.0093	$0.0169	$0.0207	$0.0257	$0.0315	$0.0362
2	$0.0204		$0.0099	$0.0011	$0.0030	$0.0067	$0.0122	$0.0167
3	$0.0254		$0.0207	$0.0030	$0.0000	$0.0097	$0.0144	$0.0192
4	$0.0307		$0.0238	$0.0099	$0.0120	$0.0032	$0.0055	$0.0104
5	$0.0349		$0.0315	$0.0122	$0.0144	$0.0055	$0.0054	$0.0072
6	$0.0419		$0.0362	$0.0167	$0.0192	$0.0097	$0.0041	$0.0015

Broad Run Expansion Project – Market Component (Z3-Z1): 5/ $0.0515

1/ Included in the above F&LR is the Losses component of the F&LR equal to 0.13%.
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 0.13%.
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 0.13%.

Issued: February 25, 2022
Effective: April 1, 2022

Docket No. RP22-599-000
Accepted: March 31, 2022



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

Twenty Second Revised Sheet No. 61
Superseding
Twenty First Revised Sheet No. 61

RATES PER DEKATHERM

FIRM STORAGE SERVICE
RATE SCHEDULE FS

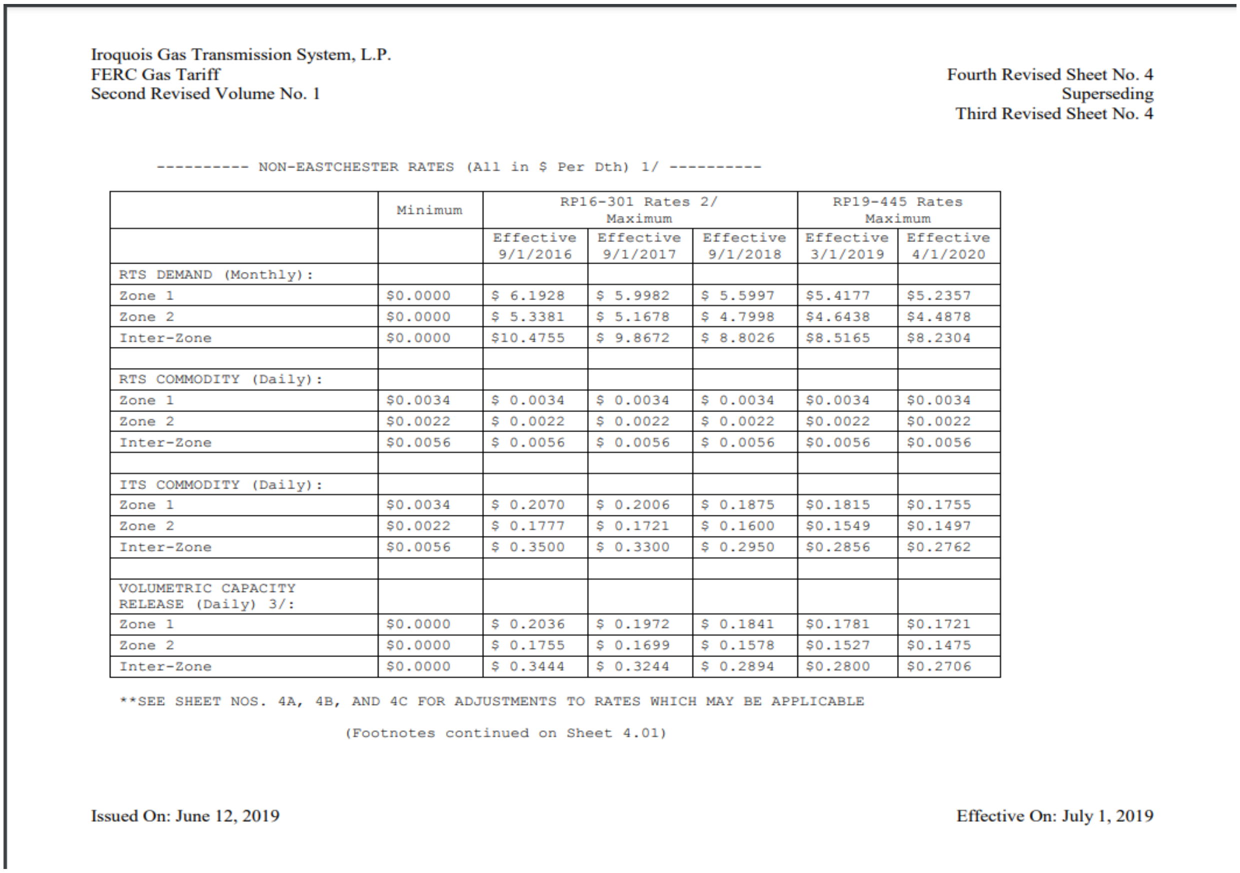
Rate Schedule and Rate	Base Tariff Rate	Max Tariff Rate	F&LR 2/, 3/	EPCR 2/
FIRM STORAGE SERVICE (FS) - PRODUCTION AREA				
Deliverability Rate	$1.7426	$1.7426 1/		
Space Rate	$0.0177	$0.0177 1/		
Injection Rate	$0.0073	$0.0073	1.81%	$0.0000
Withdrawal Rate	$0.0073	$0.0073		
Overrun Rate	$0.2091	$0.2091 1/		
FIRM STORAGE SERVICE (FS) - MARKET AREA				
Deliverability Rate	$1.2801	$1.2801 1/		
Space Rate	$0.0175	$0.0175 1/		
Injection Rate	$0.0087	$0.0087	1.81%	$0.0000
Withdrawal Rate	$0.0087	$0.0087		
Overrun Rate	$0.1537	$0.1537 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 0.15%.

Issued: February 25, 2022
Effective: April 1, 2022

Docket No. RP22-599-000
Accepted: March 31, 2022



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/ ----------

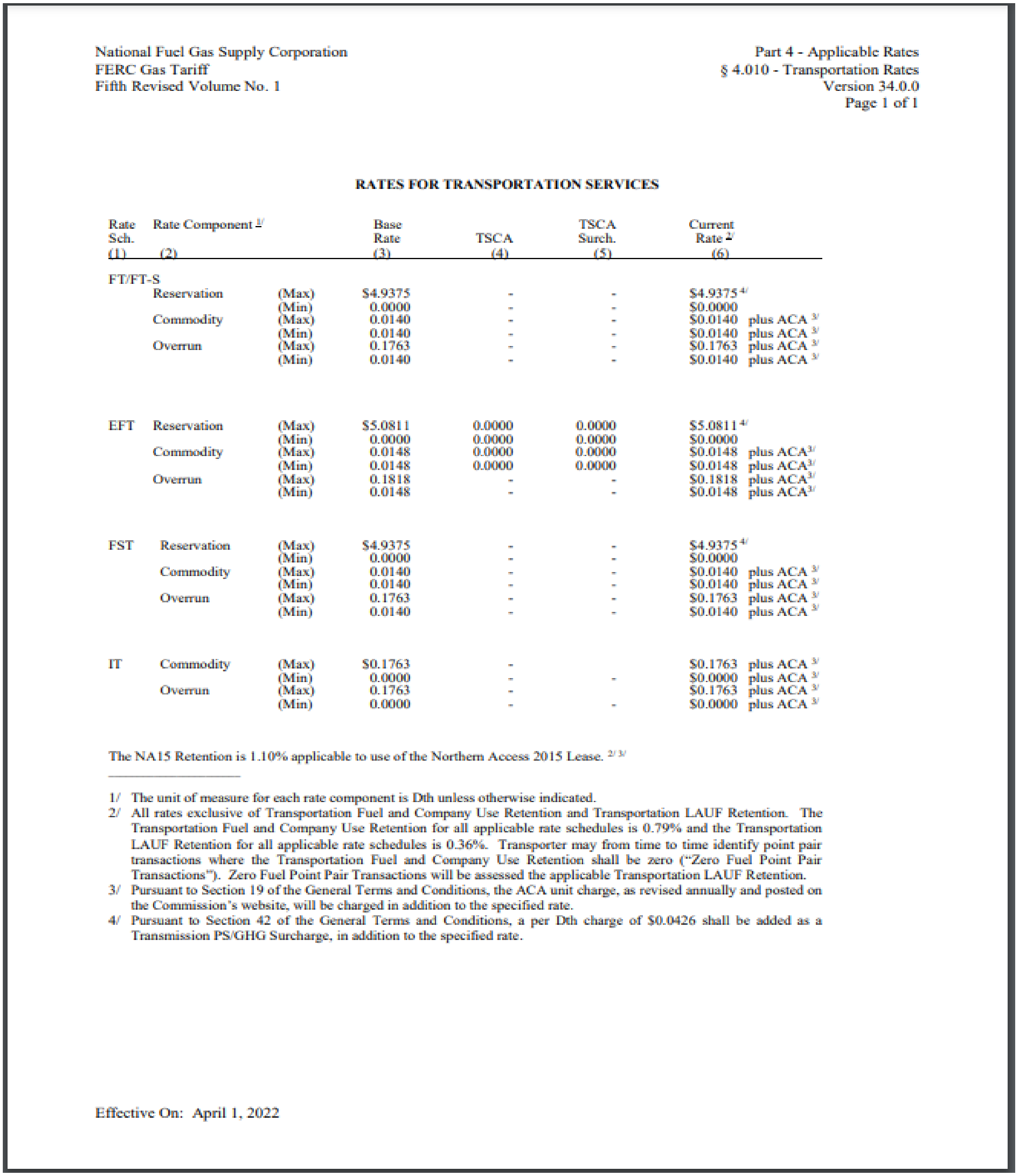
	Minimum	RP16-301 Rates 2/ Maximum			RP19-445 Rates Maximum	
		Effective 9/1/2016	Effective 9/1/2017	Effective 9/1/2018	Effective 3/1/2019	Effective 4/1/2020
RTS DEMAND (Monthly):						
Zone 1	$0.0000	$ 6.1928	$ 5.9982	$ 5.5997	$5.4177	$5.2357
Zone 2	$0.0000	$ 5.3381	$ 5.1678	$ 4.7998	$4.6438	$4.4878
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

Effective On: July 1, 2019



National Fuel Gas Supply Corporation
FERC Gas Tariff
Fifth Revised Volume No. 1

Part 4 - Applicable Rates
§ 4.010 - Transportation Rates
Version 34.0.0
Page 1 of 1

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)	$4.9375	-	-	$4.9375 [4/]
		(Min)	0.0000	-	-	$0.0000
	Commodity	(Max)	0.0140	-	-	$0.0140 plus ACA [3/]
		(Min)	0.0140	-	-	$0.0140 plus ACA [3/]
	Overrun	(Max)	0.1763	-	-	$0.1763 plus ACA [3/]
		(Min)	0.0140	-	-	$0.0140 plus ACA [3/]
EFT	Reservation	(Max)	$5.0811	0.0000	0.0000	$5.0811 [4/]
		(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)	0.1818	-	-	$0.1818 plus ACA[3/]
		(Min)	0.0148	-	-	$0.0148 plus ACA[3/]
FST	Reservation	(Max)	$4.9375	-	-	$4.9375 [4/]
		(Min)	0.0000	-	-	$0.0000
	Commodity	(Max)	0.0140	-	-	$0.0140 plus ACA [3/]
		(Min)	0.0140	-	-	$0.0140 plus ACA [3/]
	Overrun	(Max)	0.1763	-	-	$0.1763 plus ACA [3/]
		(Min)	0.0140	-	-	$0.0140 plus ACA [3/]
IT	Commodity	(Max)	$0.1763	-		$0.1763 plus ACA [3/]
		(Min)	0.0000	-	-	$0.0000 plus ACA [3/]
	Overrun	(Max)	0.1763	-		$0.1763 plus ACA [3/]
		(Min)	0.0000	-	-	$0.0000 plus ACA [3/]

The NA15 Retention is 1.10% applicable to use of the Northern Access 2015 Lease. [2/ 3/]

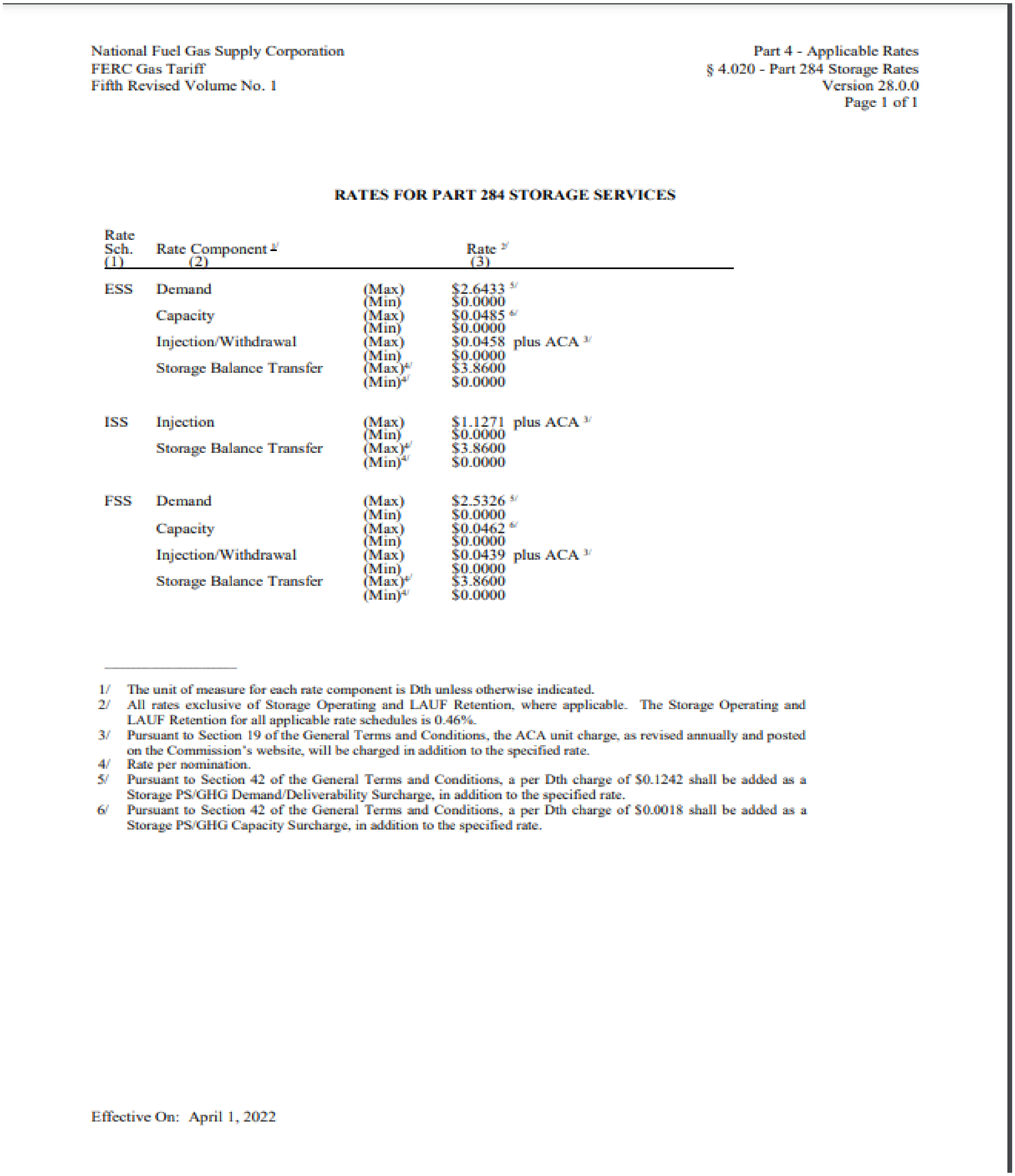
1/ The unit of measure for each rate component is Dth unless otherwise indicated.

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 0.79% and the Transportation LAUF Retention for all applicable rate schedules is 0.36%. 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.

4/ Pursuant to Section 42 of the General Terms and Conditions, a per Dth charge of $0.0426 shall be added as a Transmission PS/GHG Surcharge, in addition to the specified rate.

Effective On: April 1, 2022



RATES FOR PART 284 STORAGE SERVICES

Rate Sch. (1)	Rate Component [1] (2)		Rate [2] (3)
ESS	Demand	(Max)	$2.6433 [5]
		(Min)	$0.0000
	Capacity	(Max)	$0.0485 [6]
		(Min)	$0.0000
	Injection/Withdrawal	(Max)	$0.0458 plus ACA [3]
		(Min)	$0.0000
	Storage Balance Transfer	(Max)[4]	$3.8600
		(Min)[4]	$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 [5]
		(Min)	$0.0000
	Capacity	(Max)	$0.0462 [6]
		(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 0.46%.

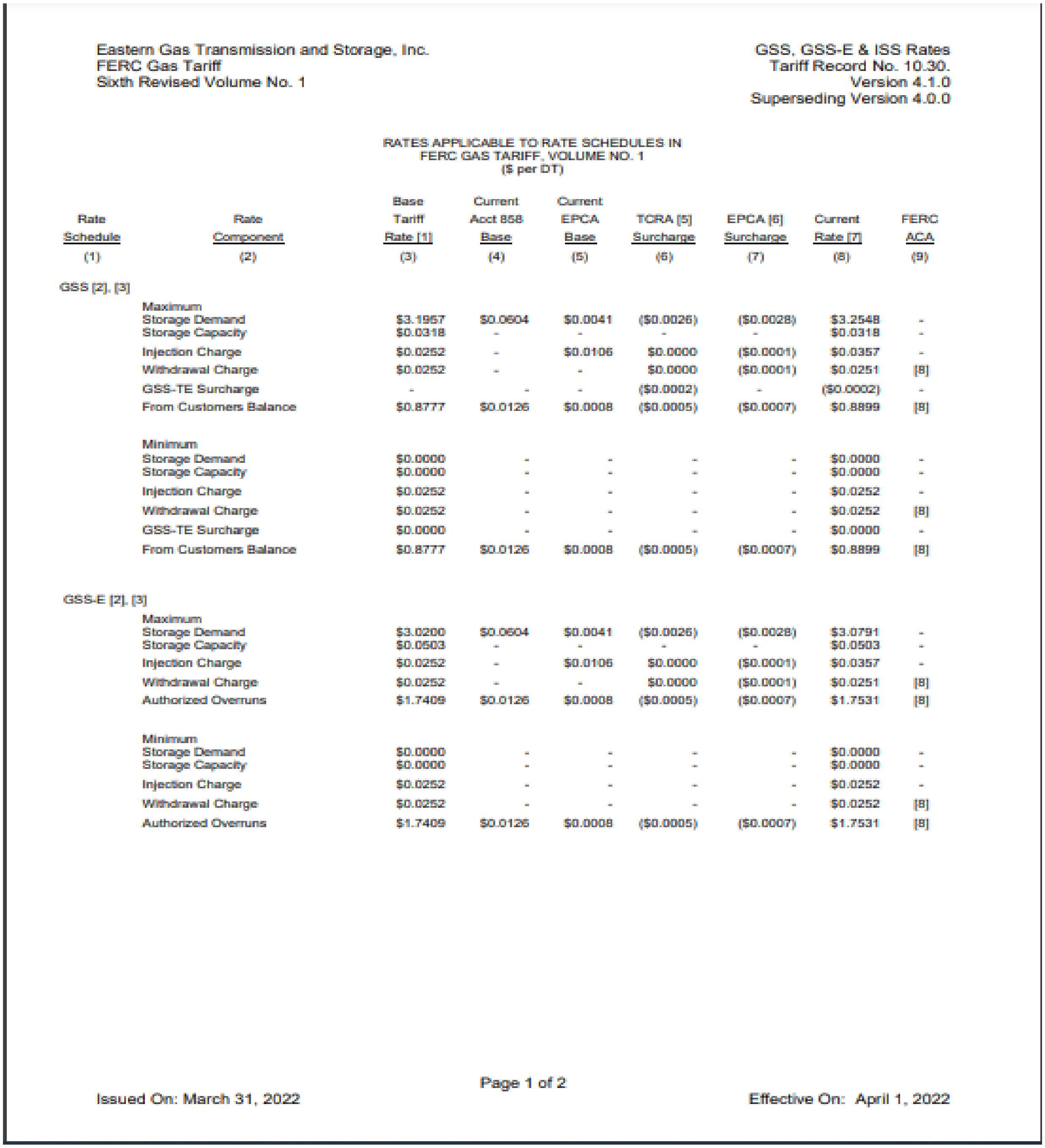
3/ Pursuant to Section 19 of the General Terms and Conditions, the ACA unit charge, as revised annually and posted on the Commission's website, will be charged in addition to the specified rate.

4/ Rate per nomination.

5/ Pursuant to Section 42 of the General Terms and Conditions, a per Dth charge of $0.1242 shall be added as a Storage PS/GHG Demand/Deliverability Surcharge, in addition to the specified rate.

6/ Pursuant to Section 42 of the General Terms and Conditions, a per Dth charge of $0.0018 shall be added as a Storage PS/GHG Capacity Surcharge, in addition to the specified rate.

Effective On: April 1, 2022



Eastern Gas Transmission and Storage, Inc.
FERC Gas Tariff
Sixth Revised Volume No. 1

GSS, GSS-E & ISS Rates
Tariff Record No. 10.30.
Version 4.1.0
Superseding Version 4.0.0

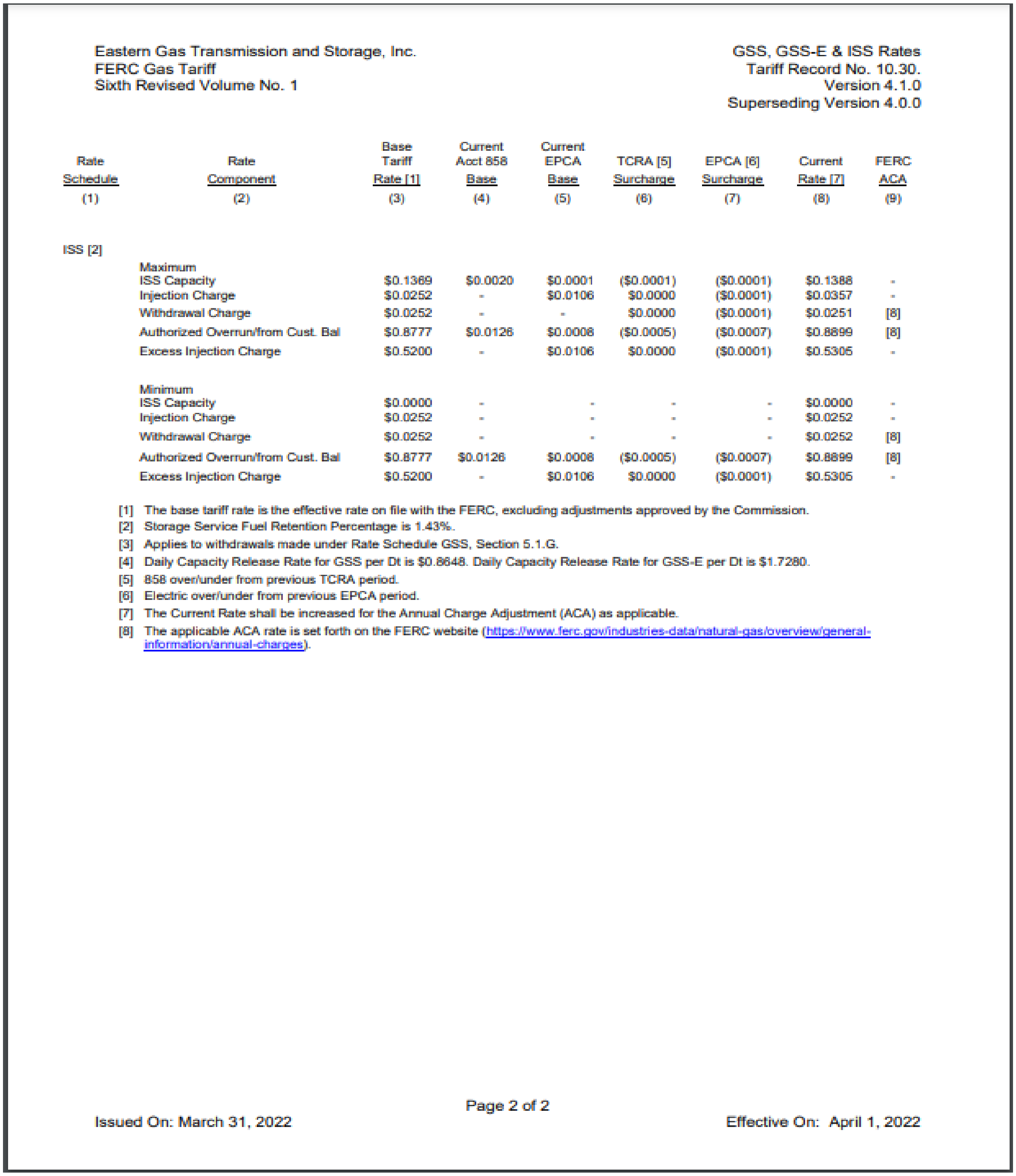
RATES APPLICABLE TO RATE SCHEDULES IN
FERC GAS TARIFF, VOLUME NO. 1
($ per DT)

Rate Schedule (1)	Rate Component (2)	Base Tariff Rate [1] (3)	Current Acct 858 Base (4)	Current EPCA Base (5)	TCRA [5] Surcharge (6)	EPCA [6] Surcharge (7)	Current Rate [7] (8)	FERC ACA (9)
GSS [2], [3]								
	Maximum							
	Storage Demand	$3.1957	$0.0604	$0.0041	($0.0026)	($0.0028)	$3.2548	-
	Storage Capacity	$0.0318	-	-	-	-	$0.0318	-
	Injection Charge	$0.0252	-	$0.0106	$0.0000	($0.0001)	$0.0357	-
	Withdrawal Charge	$0.0252	-	-	$0.0000	($0.0001)	$0.0251	[8]
	GSS-TE Surcharge	-	-	-	($0.0002)	-	($0.0002)	-
	From Customers Balance	$0.8777	$0.0126	$0.0008	($0.0005)	($0.0007)	$0.8899	[8]
	Minimum							
	Storage Demand	$0.0000	-	-	-	-	$0.0000	-
	Storage Capacity	$0.0000	-	-	-	-	$0.0000	-
	Injection Charge	$0.0252	-	-	-	-	$0.0252	-
	Withdrawal Charge	$0.0252	-	-	-	-	$0.0252	[8]
	GSS-TE Surcharge	$0.0000	-	-	-	-	$0.0000	-
	From Customers Balance	$0.8777	$0.0126	$0.0008	($0.0005)	($0.0007)	$0.8899	[8]
GSS-E [2], [3]								
	Maximum							
	Storage Demand	$3.0200	$0.0604	$0.0041	($0.0026)	($0.0028)	$3.0791	-
	Storage Capacity	$0.0503	-	-	-	-	$0.0503	-
	Injection Charge	$0.0252	-	$0.0106	$0.0000	($0.0001)	$0.0357	-
	Withdrawal Charge	$0.0252	-	-	$0.0000	($0.0001)	$0.0251	[8]
	Authorized Overruns	$1.7409	$0.0126	$0.0008	($0.0005)	($0.0007)	$1.7531	[8]
	Minimum							
	Storage Demand	$0.0000	-	-	-	-	$0.0000	-
	Storage Capacity	$0.0000	-	-	-	-	$0.0000	-
	Injection Charge	$0.0252	-	-	-	-	$0.0252	-
	Withdrawal Charge	$0.0252	-	-	-	-	$0.0252	[8]
	Authorized Overruns	$1.7409	$0.0126	$0.0008	($0.0005)	($0.0007)	$1.7531	[8]

Page 1 of 2

Issued On: March 31, 2022

Effective On: April 1, 2022



Eastern Gas Transmission and Storage, Inc.
FERC Gas Tariff
Sixth Revised Volume No. 1

GSS, GSS-E & ISS Rates
Tariff Record No. 10.30.
Version 4.1.0
Superseding Version 4.0.0

Rate Schedule (1)	Rate Component (2)	Base Tariff Rate [1] (3)	Current Acct 858 Base (4)	Current EPCA Base (5)	TCRA [5] Surcharge (6)	EPCA [6] Surcharge (7)	Current Rate [7] (8)	FERC ACA (9)
ISS [2]								
	Maximum							
	ISS Capacity	$0.1369	$0.0020	$0.0001	($0.0001)	($0.0001)	$0.1388	-
	Injection Charge	$0.0252	-	$0.0106	$0.0000	($0.0001)	$0.0357	-
	Withdrawal Charge	$0.0252	-	-	$0.0000	($0.0001)	$0.0251	[8]
	Authorized Overrun/from Cust. Bal	$0.8777	$0.0126	$0.0008	($0.0005)	($0.0007)	$0.8899	[8]
	Excess Injection Charge	$0.5200	-	$0.0106	$0.0000	($0.0001)	$0.5305	-
	Minimum							
	ISS Capacity	$0.0000	-	-	-	-	$0.0000	-
	Injection Charge	$0.0252	-	-	-	-	$0.0252	-
	Withdrawal Charge	$0.0252	-	-	-	-	$0.0252	[8]
	Authorized Overrun/from Cust. Bal	$0.8777	$0.0126	$0.0008	($0.0005)	($0.0007)	$0.8899	[8]
	Excess Injection Charge	$0.5200	-	$0.0106	$0.0000	($0.0001)	$0.5305	-

[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 1.43%.

[3] Applies to withdrawals made under Rate Schedule GSS, Section 5.1.G.

[4] Daily Capacity Release Rate for GSS per Dt is $0.8648. Daily Capacity Release Rate for GSS-E per Dt is $1.7280.

[5] 858 over/under from previous TCRA period.

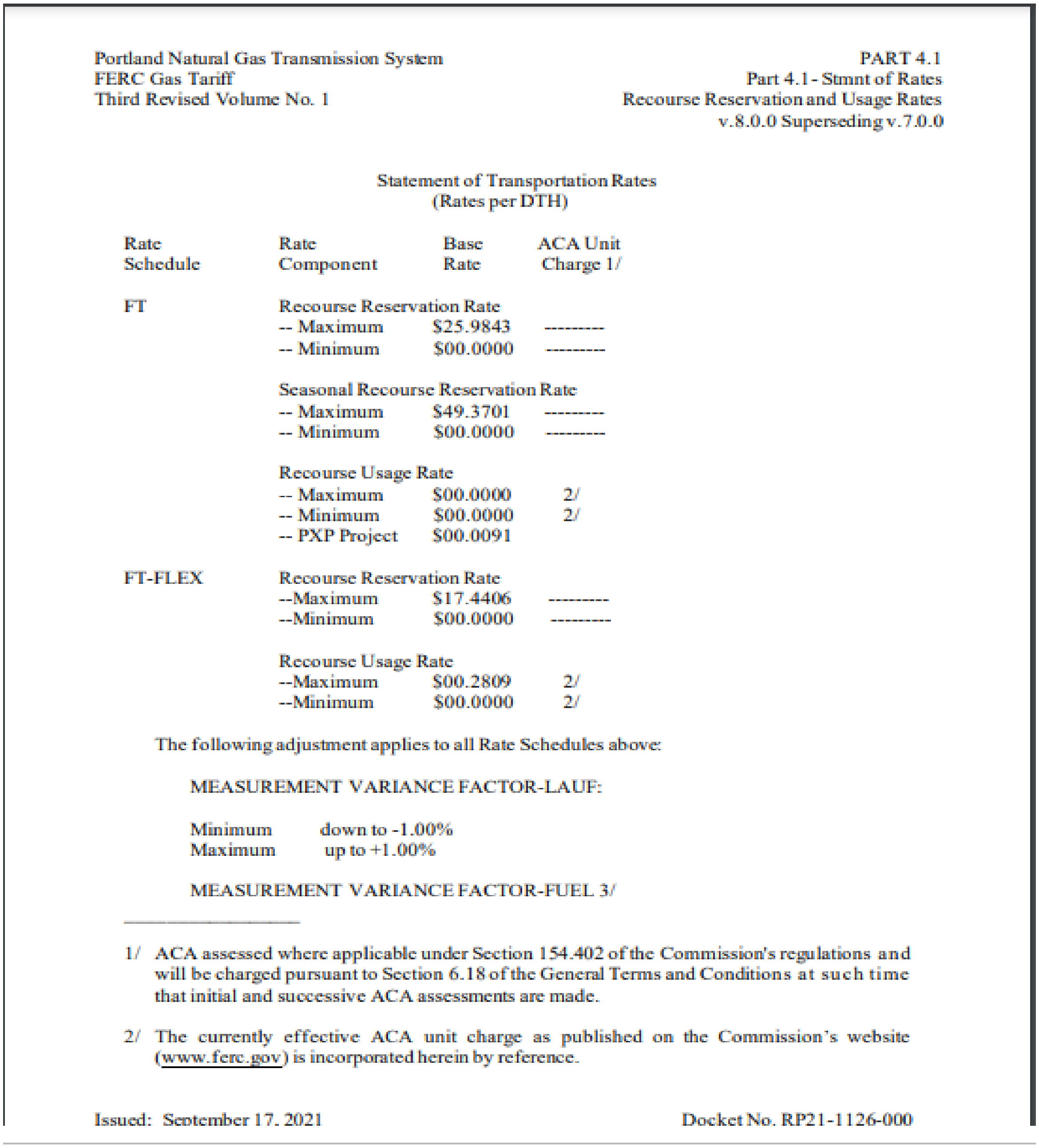
[6] Electric over/under from previous EPCA period.

[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 (https://www.ferc.gov/industries-data/natural-gas/overview/general-information/annual-charges).

Issued On: March 31, 2022

Effective On: April 1, 2022



Portland Natural Gas Transmission System
FERC Gas Tariff
Third Revised Volume No. 1

PART 4.1
Part 4.1 - Stmnt of Rates
Recourse Reservation and Usage Rates
v.8.0.0 Superseding v.7.0.0

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/
	-- PXP Project	$00.0091	
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.

Issued: September 17, 2021

Docket No. RP21-1126-000

Effective
2022-07-01
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).

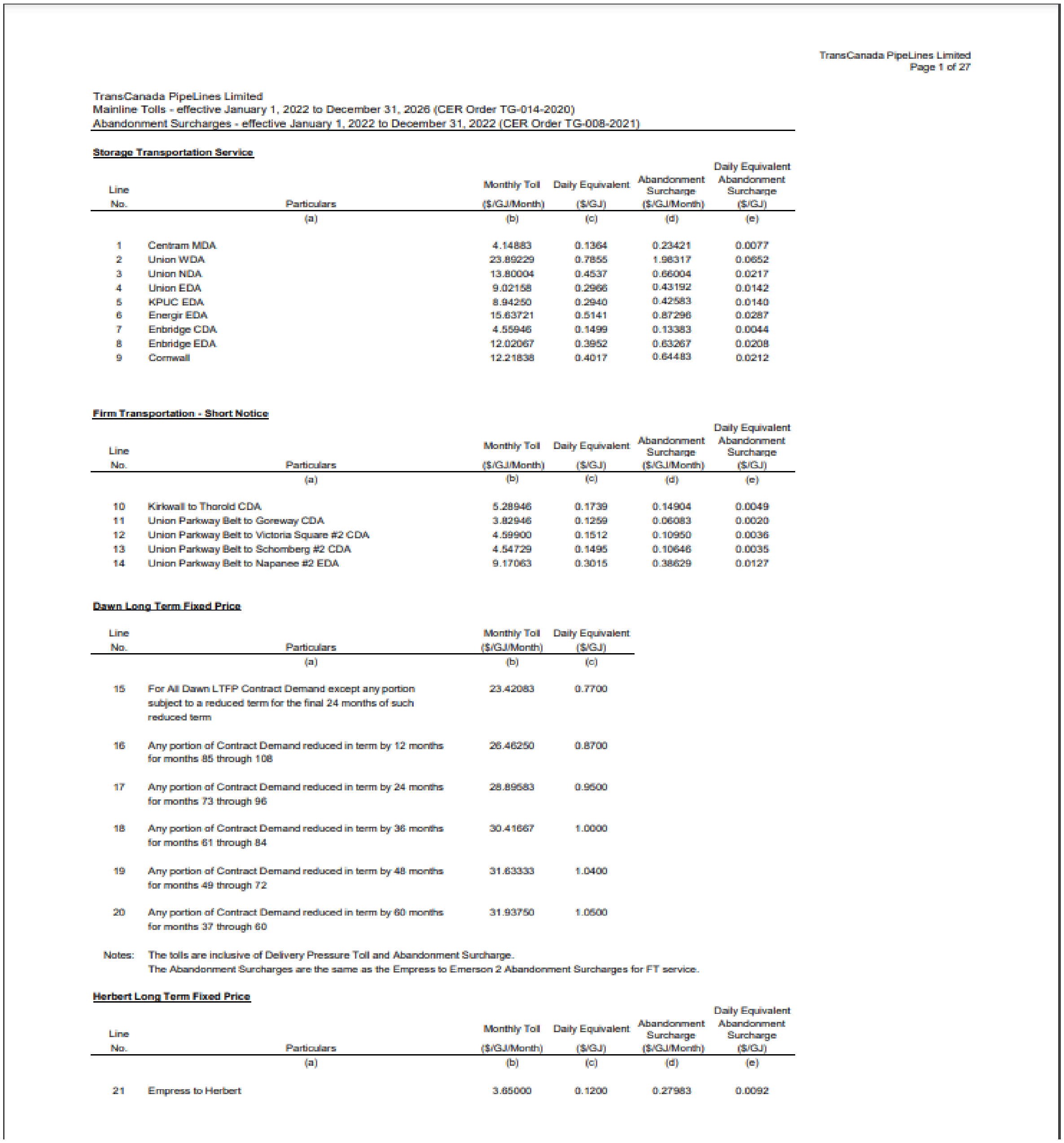
(B) Services

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) Rate/GJ	Fuel and Commodity Charges			
		Union Supplied Fuel	Shipper Supplied Fuel		
		Fuel and Commodity Charge Rate/GJ	Fuel Ratio %	AND	Commodity Charge Rate/GJ
Firm Transportation (1), (5)					
Dawn to Parkway	$3.689	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	$3.130				
Kirkwall to Parkway	$0.559				
M12-X Firm Transportation					
Between Dawn, Kirkwall and Parkway	$4.560	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	$8.854	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	$8.854				
Parkway (TCPL / EGT) to Parkway (Cons) / Lisgar (2)	n/a	n/a	0.167%		
Carbon Charge (applied to all quantities transported)					
Facility Carbon Charge		$0.004			$0.004



TransCanada PipeLines Limited
Mainline Tolls - effective January 1, 2022 to December 31, 2026 (CER Order TG-014-2020)
Abandonment Surcharges - effective January 1, 2022 to December 31, 2022 (CER Order TG-008-2021)

Storage Transportation Service

Line No.	Particulars	Monthly Toll ($/GJ/Month)	Daily Equivalent ($/GJ)	Abandonment Surcharge ($/GJ/Month)	Daily Equivalent Abandonment Surcharge ($/GJ)
	(a)	(b)	(c)	(d)	(e)
1	Centram MDA	4.14883	0.1364	0.23421	0.0077
2	Union WDA	23.89229	0.7855	1.98317	0.0652
3	Union NDA	13.80004	0.4537	0.66004	0.0217
4	Union EDA	9.02158	0.2966	0.43192	0.0142
5	KPUC EDA	8.94250	0.2940	0.42583	0.0140
6	Energir EDA	15.63721	0.5141	0.87296	0.0287
7	Enbridge CDA	4.55946	0.1499	0.13383	0.0044
8	Enbridge EDA	12.02067	0.3952	0.63267	0.0208
9	Cornwall	12.21838	0.4017	0.64483	0.0212

Firm Transportation - Short Notice

Line No.	Particulars	Monthly Toll ($/GJ/Month)	Daily Equivalent ($/GJ)	Abandonment Surcharge ($/GJ/Month)	Daily Equivalent Abandonment Surcharge ($/GJ)
	(a)	(b)	(c)	(d)	(e)
10	Kirkwall to Thorold CDA	5.28946	0.1739	0.14904	0.0049
11	Union Parkway Belt to Goreway CDA	3.82946	0.1259	0.06083	0.0020
12	Union Parkway Belt to Victoria Square #2 CDA	4.59900	0.1512	0.10950	0.0036
13	Union Parkway Belt to Schomberg #2 CDA	4.54729	0.1495	0.10646	0.0035
14	Union Parkway Belt to Napanee #2 EDA	9.17063	0.3015	0.38629	0.0127

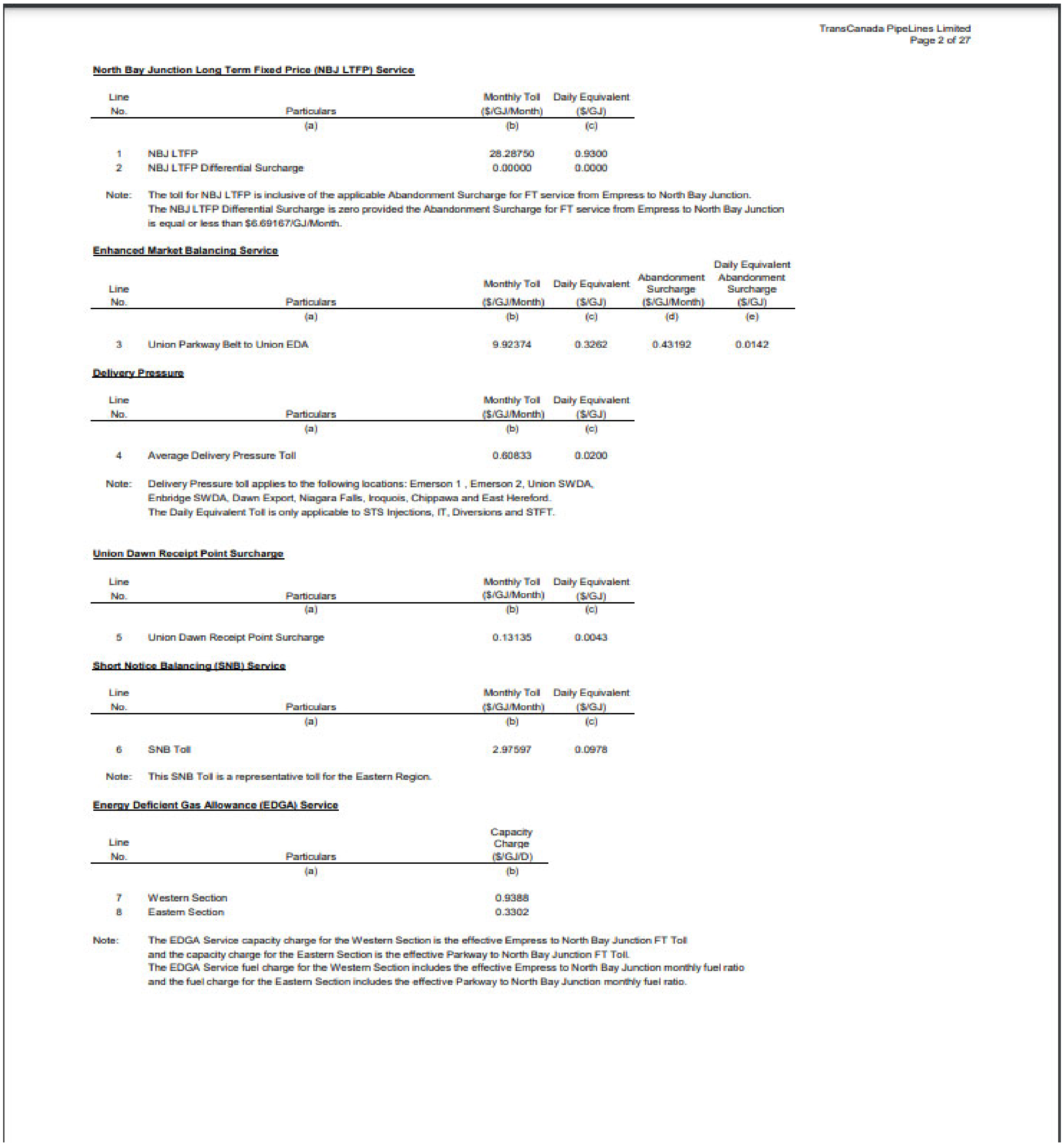
Dawn Long Term Fixed Price

Line No.	Particulars	Monthly Toll ($/GJ/Month)	Daily Equivalent ($/GJ)
	(a)	(b)	(c)
15	For All Dawn LTFP Contract Demand except any portion subject to a reduced term for the final 24 months of such reduced term	23.42083	0.7700
16	Any portion of Contract Demand reduced in term by 12 months for months 85 through 108	26.46250	0.8700
17	Any portion of Contract Demand reduced in term by 24 months for months 73 through 96	28.89583	0.9500
18	Any portion of Contract Demand reduced in term by 36 months for months 61 through 84	30.41667	1.0000
19	Any portion of Contract Demand reduced in term by 48 months for months 49 through 72	31.63333	1.0400
20	Any portion of Contract Demand reduced in term by 60 months for months 37 through 60	31.93750	1.0500

Notes: The tolls are inclusive of Delivery Pressure Toll and Abandonment Surcharge.
The Abandonment Surcharges are the same as the Empress to Emerson 2 Abandonment Surcharges for FT service.

Herbert Long Term Fixed Price

Line No.	Particulars	Monthly Toll ($/GJ/Month)	Daily Equivalent ($/GJ)	Abandonment Surcharge ($/GJ/Month)	Daily Equivalent Abandonment Surcharge ($/GJ)
	(a)	(b)	(c)	(d)	(e)
21	Empress to Herbert	3.65000	0.1200	0.27983	0.0092



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 Abandonment 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	9.92374	0.3262	0.43192	0.0142

Delivery Pressure

Line No.	Particulars (a)	Monthly Toll ($/GJ/Month) (b)	Daily Equivalent ($/GJ) (c)
4	Average Delivery Pressure Toll	0.60833	0.0200

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 and STFT.

Union Dawn Receipt Point Surcharge

Line No.	Particulars (a)	Monthly Toll ($/GJ/Month) (b)	Daily Equivalent ($/GJ) (c)
5	Union Dawn Receipt Point Surcharge	0.13135	0.0043

Short Notice Balancing (SNB) Service

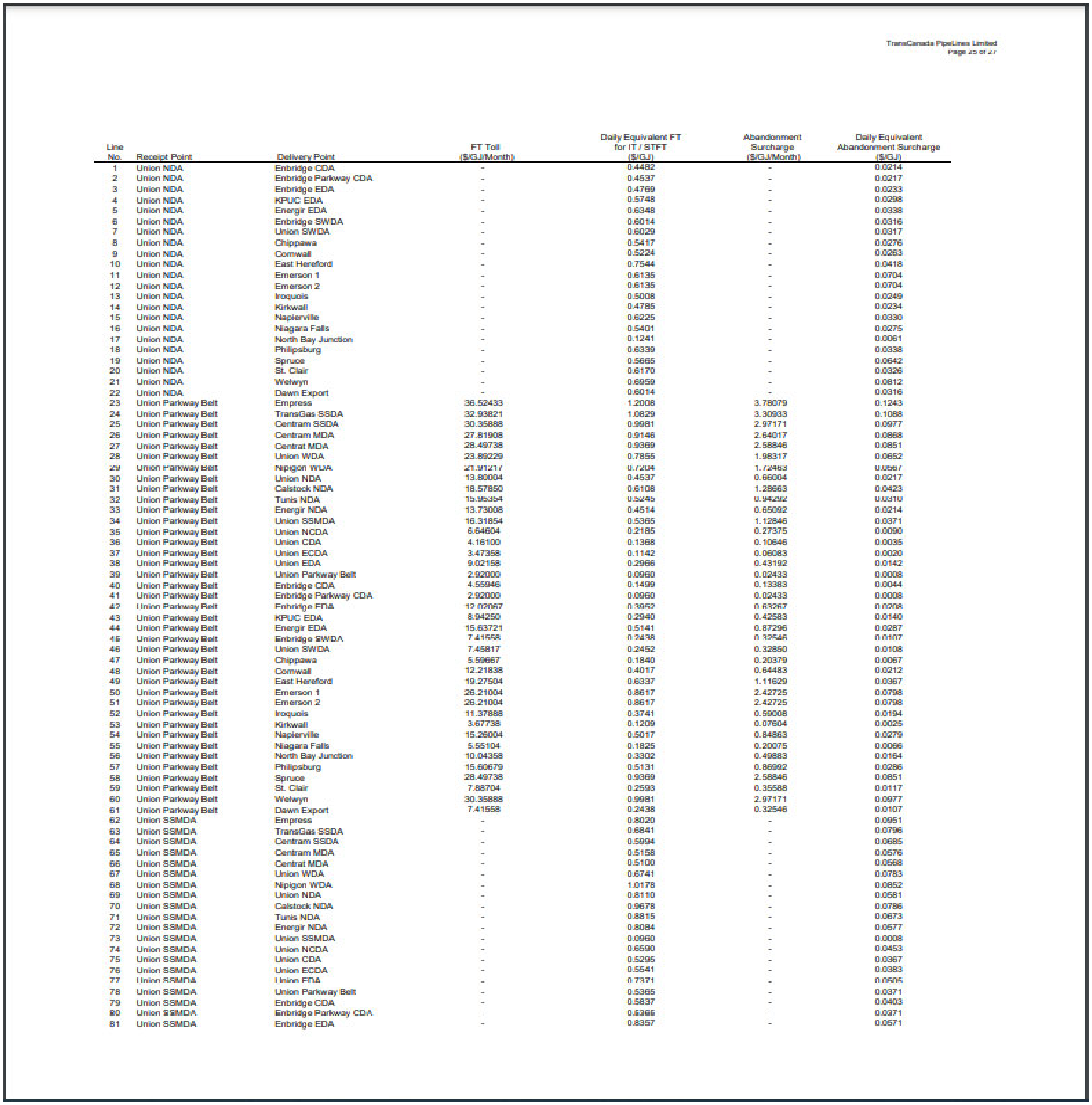
Line No.	Particulars (a)	Monthly Toll ($/GJ/Month) (b)	Daily Equivalent ($/GJ) (c)
6	SNB Toll	2.97597	0.0978

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	0.9388
8	Eastern Section	0.3302

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.



TransCanada PipeLines Limited
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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	-	0.4482	-	0.0214
2	Union NDA	Enbridge Parkway CDA	-	0.4537	-	0.0217
3	Union NDA	Enbridge EDA	-	0.4769	-	0.0233
4	Union NDA	KPUC EDA	-	0.5748	-	0.0298
5	Union NDA	Energir EDA	-	0.6348	-	0.0338
6	Union NDA	Enbridge SWDA	-	0.6014	-	0.0316
7	Union NDA	Union SWDA	-	0.6029	-	0.0317
8	Union NDA	Chippawa	-	0.5417	-	0.0276
9	Union NDA	Cornwall	-	0.5224	-	0.0263
10	Union NDA	East Hereford	-	0.7544	-	0.0418
11	Union NDA	Emerson 1	-	0.6135	-	0.0704
12	Union NDA	Emerson 2	-	0.6135	-	0.0704
13	Union NDA	Iroquois	-	0.5008	-	0.0249
14	Union NDA	Kirkwall	-	0.4785	-	0.0234
15	Union NDA	Napierville	-	0.6225	-	0.0330
16	Union NDA	Niagara Falls	-	0.5401	-	0.0275
17	Union NDA	North Bay Junction	-	0.1241	-	0.0061
18	Union NDA	Philipsburg	-	0.6339	-	0.0338
19	Union NDA	Spruce	-	0.5665	-	0.0642
20	Union NDA	St. Clair	-	0.6170	-	0.0326
21	Union NDA	Welwyn	-	0.6959	-	0.0812
22	Union NDA	Dawn Export	-	0.6014	-	0.0316
23	Union Parkway Belt	Empress	36.52433	1.2008	3.78079	0.1243
24	Union Parkway Belt	TransGas SSDA	32.93821	1.0829	3.30933	0.1088
25	Union Parkway Belt	Centram SSDA	30.35888	0.9981	2.97171	0.0977
26	Union Parkway Belt	Centram MDA	27.81908	0.9146	2.64017	0.0868
27	Union Parkway Belt	Centrat MDA	28.49738	0.9369	2.58846	0.0851
28	Union Parkway Belt	Union WDA	23.89229	0.7855	1.98317	0.0652
29	Union Parkway Belt	Nipigon WDA	21.91217	0.7204	1.72463	0.0567
30	Union Parkway Belt	Union NDA	13.80004	0.4537	0.66004	0.0217
31	Union Parkway Belt	Calstock NDA	18.57850	0.6108	1.28663	0.0423
32	Union Parkway Belt	Tunis NDA	15.95354	0.5245	0.94292	0.0310
33	Union Parkway Belt	Energir NDA	13.73008	0.4514	0.65092	0.0214
34	Union Parkway Belt	Union SSMDA	16.31854	0.5365	1.12846	0.0371
35	Union Parkway Belt	Union NCDA	6.64604	0.2185	0.27375	0.0090
36	Union Parkway Belt	Union CDA	4.16100	0.1368	0.10646	0.0035
37	Union Parkway Belt	Union ECDA	3.47358	0.1142	0.06083	0.0020
38	Union Parkway Belt	Union EDA	9.02158	0.2966	0.43192	0.0142
39	Union Parkway Belt	Union Parkway Belt	2.92000	0.0960	0.02433	0.0008
40	Union Parkway Belt	Enbridge CDA	4.55946	0.1499	0.13383	0.0044
41	Union Parkway Belt	Enbridge Parkway CDA	2.92000	0.0960	0.02433	0.0008
42	Union Parkway Belt	Enbridge EDA	12.02067	0.3952	0.63267	0.0208
43	Union Parkway Belt	KPUC EDA	8.94250	0.2940	0.42583	0.0140
44	Union Parkway Belt	Energir EDA	15.63721	0.5141	0.87296	0.0287
45	Union Parkway Belt	Enbridge SWDA	7.41558	0.2438	0.32546	0.0107
46	Union Parkway Belt	Union SWDA	7.45817	0.2452	0.32850	0.0108
47	Union Parkway Belt	Chippawa	5.59667	0.1840	0.20379	0.0067
48	Union Parkway Belt	Cornwall	12.21838	0.4017	0.64483	0.0212
49	Union Parkway Belt	East Hereford	19.27504	0.6337	1.11629	0.0367
50	Union Parkway Belt	Emerson 1	26.21004	0.8617	2.42725	0.0798
51	Union Parkway Belt	Emerson 2	26.21004	0.8617	2.42725	0.0798
52	Union Parkway Belt	Iroquois	11.37888	0.3741	0.59008	0.0194
53	Union Parkway Belt	Kirkwall	3.67738	0.1209	0.07604	0.0025
54	Union Parkway Belt	Napierville	15.26004	0.5017	0.84863	0.0279
55	Union Parkway Belt	Niagara Falls	5.55104	0.1825	0.20075	0.0066
56	Union Parkway Belt	North Bay Junction	10.04358	0.3302	0.49883	0.0164
57	Union Parkway Belt	Philipsburg	15.60679	0.5131	0.86992	0.0286
58	Union Parkway Belt	Spruce	28.49738	0.9369	2.58846	0.0851
59	Union Parkway Belt	St. Clair	7.88704	0.2593	0.35588	0.0117
60	Union Parkway Belt	Welwyn	30.35888	0.9981	2.97171	0.0977
61	Union Parkway Belt	Dawn Export	7.41558	0.2438	0.32546	0.0107
62	Union SSMDA	Empress	-	0.8020	-	0.0951
63	Union SSMDA	TransGas SSDA	-	0.6841	-	0.0796
64	Union SSMDA	Centram SSDA	-	0.5994	-	0.0685
65	Union SSMDA	Centram MDA	-	0.5158	-	0.0576
66	Union SSMDA	Centrat MDA	-	0.5100	-	0.0568
67	Union SSMDA	Union WDA	-	0.6741	-	0.0783
68	Union SSMDA	Nipigon WDA	-	1.0178	-	0.0852
69	Union SSMDA	Union NDA	-	0.8110	-	0.0581
70	Union SSMDA	Calstock NDA	-	0.9678	-	0.0786
71	Union SSMDA	Tunis NDA	-	0.8815	-	0.0673
72	Union SSMDA	Energir NDA	-	0.8084	-	0.0577
73	Union SSMDA	Union SSMDA	-	0.0960	-	0.0008
74	Union SSMDA	Union NCDA	-	0.6590	-	0.0453
75	Union SSMDA	Union CDA	-	0.5295	-	0.0367
76	Union SSMDA	Union ECDA	-	0.5541	-	0.0383
77	Union SSMDA	Union EDA	-	0.7371	-	0.0505
78	Union SSMDA	Union Parkway Belt	-	0.5365	-	0.0371
79	Union SSMDA	Enbridge CDA	-	0.5837	-	0.0403
80	Union SSMDA	Enbridge Parkway CDA	-	0.5365	-	0.0371
81	Union SSMDA	Enbridge EDA	-	0.8357	-	0.0571

1	**Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**								**REDACTED**
2	**d/b/a Liberty**								Schedule 6
3	**Peak 2022 - 2023 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-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	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 66 * ln 107	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
13	Niagara Supply	ln 67 * ln 112	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
14	TGP Supply (Direct)	ln 68 * ln 132	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
15	Dracut Supply 1 - Baseload	ln 69 * ln 117	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
16	Dracut Supply 2 - Swing	ln 70 * ln 122	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
17	Dracut Supply 3 - Swing	ln 71 * ln 123	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
18	Constellation COMBO	ln 72 * ln 138	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
19	LNG Truck	ln 73 * ln 140	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
20	Propane Truck	ln 74 * ln 142	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
21	PNGTS	ln 75 * ln 147	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
22	Portland Natural Gas	ln 76 * ln 152	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
23	TGP Supply (Z4)	ln 77 * ln 157	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
24									
25	Subtotal Pipeline Gas Costs		$ 14,236,355	$ 21,290,694	$ 31,572,749	$ 36,538,761	$ 24,107,873	$ 5,643,470	$ 133,389,902
26									
27	**Volumetric Transportation Costs**								
28	Dawn Supply	ln 66 * ln 204	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
29	Niagara Supply	ln 67 * ln 215	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
30	TGP Supply (Direct)	ln 68 * ln 242	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
31	Dracut Supply 1 - Baseload	ln 69 * ln 263	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
32	Dracut Supply 2 - Swing	ln 70 * ln 263	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
33	Dracut Supply 3 - Swing	ln 71 * ln 264	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
34	Constellation COMBO	ln 72 * ln 263	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
35	TGP Storage - Withdrawals	ln 82 * ln 179	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
36									
37	**Total Volumetric Transportation Costs**		$ 391,550	$ 363,805	$ 411,856	$ 358,383	$ 271,347	$ 80,327	$ 1,877,268
38									
39	**Less - Gas Refill:**								
40	LNG Truck	ln 91 * ln 164	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
41	Propane	ln 92 * ln 165	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
42	TGP Storage Refill	ln 93 * ln 130	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
43	Storage Refill (Trans.)	ln 93 * ln 242	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
44									
45	Subtotal Refills		$ (1,877,207)	$ (3,046,288)	$ (4,799,129)	$ (3,514,340)	$ (124,702)	$ (579,483)	$ (13,941,150)
46									
47	**Total Supply & Pipeline Commodity Costs**	ln 25 + ln 37 + ln 45	$ 12,750,699	$ 18,608,210	$ 27,185,476	$ 33,382,804	$ 24,254,518	$ 5,144,313	$ 121,326,019
48									
49	**Storage Gas:**								
50	TGP Storage - Withdrawals	ln 82 * ln 171	$ 717,844	$ 3,237,085	$ 3,872,370	$ 3,133,407	$ 929,220	$ 580,022	$ 12,469,948
51									
52	**Produced Gas:**								
53	LNG Vapor	ln 85 * ln 159	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
54	Propane	ln 86 * ln 161	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
55									
56	**Total Produced Gas**	ln 53 + ln 54	$ 165,051	$ 3,099,142	$ 5,778,047	$ 3,535,110	$ 34,374	$ 33,579	$ 12,645,303
57									
58	**AMA Credits**		$ (1,003,702)	$ (1,003,702)	$ (1,003,702)	$ (1,003,702)	$ (1,003,702)	$ (1,003,702)	$ (6,022,210)
59	**Total Commodity Gas & Trans. Costs**	ln 47 + ln 50 + ln 56	$ 12,629,891	$ 23,940,736	$ 35,832,191	$ 39,047,619	$ 24,214,411	$ 4,754,212	$ 140,419,060
60									$ 92,395,519
61					**THIS PAGE HAS BEEN REDACTED**				

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2 **d/b/a Liberty**
3 **Peak 2022 - 2023 Winter Cost of Gas Filing**
4 **Supply and Commodity Costs, Volumes and Rates**

Schedule 6
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5									Peak
6	For Month of:	Reference	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Nov- Apr
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
62									
63	**Volumes (Therms)**								
64									
65	**Pipeline Gas:**	See Schedule 11A							
66	Dawn Supply		874,251	924,161	926,671	839,868	910,477	771,345	5,246,775
67	Niagara Supply		689,540	728,492	730,471	661,898	717,705	678,639	4,206,745
68	TGP Supply (Direct)		4,621,463	3,096,843	3,105,255	2,814,958	3,050,989	641,701	17,331,210
69	Dracut Supply 1 - Baseload		-	-	3,100,000	1,400,000	-	-	4,500,000
70	Dracut Supply 2 - Swing		2,068,620	1,628,571	574,992	2,290,420	4,186,862	1,559,349	12,308,813
71	Dracut Supply 3 - Swing		1,267,959	112,886	75,462	292,325	1,410,944	36,213	3,195,790
72	Constellation COMBO		-	-	-	-	-	-	-
73	LNG Truck		117,744	1,270,345	1,451,131	1,484,347	110,473	-	4,434,041
74	Propane Truck		-	-	691,985	-	-	55,769	747,754
75	PNGTS		218,563	231,040	231,668	209,778	227,619	196,277	1,314,945
76	Portland Natural Gas		1,067,793	1,128,109	1,131,173	1,025,411	1,111,405	840,151	6,304,043
77	TGP Supply (Z4)		1,816,941	1,919,817	1,925,032	1,744,865	1,891,391	5,458,808	14,756,854
78									
79	Subtotal Pipeline Volumes		12,742,875	11,040,265	13,943,840	12,763,870	13,617,866	10,238,252	74,346,969
80									
81	**Storage Gas:**								
82	TGP Storage		1,157,573	5,220,027	6,244,468	5,052,839	1,498,432	1,000,000	20,173,339
83									
84	**Produced Gas:**								
85	LNG Vapor		119,952	1,357,644	1,456,414	1,485,862	21,502	21,004	4,462,377
86	Propane		-	-	1,263,231	8,331	-	-	1,271,562
87									
88	Subtotal Produced Gas		119,952	1,357,644	2,719,645	1,494,192	21,502	21,004	5,733,939
89									
90	**Less - Gas Refill:**								
91	LNG Truck		(117,744)	(1,270,345)	(1,451,131)	(1,484,347)	(110,473)	-	(4,434,041)
92	Propane		-	-	(691,985)	-	-	(55,769)	(747,754)
93	TGP Storage Refill		(1,743,351)	-	-	-	-	(933,581)	(2,676,933)
94									
95	Subtotal Refills		(1,861,095)	(1,270,345)	(2,143,116)	(1,484,347)	(110,473)	(989,350)	(7,858,728)
96									
97	**Total Sendout Volumes**		12,159,305	16,347,591	20,764,836	17,826,554	15,027,327	10,269,906	92,395,519
98									
99									
100									

1	**Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**								**REDACTED**
2	**d/b/a Liberty**								Schedule 6
3	**Peak 2022 - 2023 Winter Cost of Gas Filing**								Page 3 of 5
4	**Supply and Commodity Costs, Volumes and Rates**								
5									Peak
6	For Month of:	Reference	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Nov- Apr
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
101	**Gas Costs and Volumetric Transportation Rates**								
102									
103	**Pipeline Gas:**								
104	**Dawn Supply**								Average Rate
105	NYMEX Price	Sch 7, ln 10/10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
106	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
107	**Net Commodity Costs**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
108									
109	**Niagara Supply**								
110	NYMEX Price	Sch 7, ln 10/10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
111	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
112	**Net Commodity Costs**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
113									
114	**Dracut Supply 1 - Baseload**								
115	Commodity Costs - NYMEX Price	Sch 7, ln 10 / 10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
116	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
117	**Net Commodity Costs**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
118									
119	**Dracut Supply 2 - Swing**								
120	Commodity Costs - NYMEX Price	Sch 7, ln 10 / 10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
121	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
122	**Net Commodity Costs**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
123									
124	**Dracut Supply 3 - Swing**								
125	Commodity Costs - NYMEX Price	Sch 7, ln 10 / 10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
126	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
127	**Net Commodity Costs**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
128									
129	**TGP Supply (Direct)**								
130	NYMEX Price	Sch 7, ln 10/10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
131	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
132	**Net Commodity Costs**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
133									
134									
135	**Constellation COMBO**								
136	NYMEX Price	Sch 7, ln 10/10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
137	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
138	**Net Commodity Costs**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
139									
140	**LNG Truck**	Sch 7, ln 10/10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
141									
142	**Propane Truck**	Propane WACOG	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
143									
144	**PNGTS**								
145	NYMEX Price	Sch 7, ln 10/10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
146	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
147	**Net Commodity Cost**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
148									
149	**PNGTS EXP**								
150	NYMEX Price	Sch 7, ln 10/10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
151	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
152	**Net Commodity Cost**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
153									
154	**TGP Supply (Z4)**								
155	NYMEX Price	Sch 7, ln 10/10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
156	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
157	**Net Commodity Cost**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
158									
159	**LNG Vapor (Storage)**	Sch 16, ln 95 /10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
160									
161	**Propane**	Sch 16, ln 66 /10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
162									
163	**Storage Refill:**								
164	**LNG Truck**	ln 140	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
165	**Propane**	ln 142	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
166									
167						**THIS PAGE HAS BEEN REDACTED**			

1	**Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**								**REDACTED**
2	**d/b/a Liberty**								Schedule 6
3	**Peak 2022 - 2023 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-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Nov- Apr
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
168									
169									
170	**TGP Storage**								
171	**Commodity Costs - Storage withdrawal**	Sch 16, ln 34 /10	$0.6201	$0.6201	$0.6201	$0.6201	$0.6201	$0.5800	$0.6134
172									
173	TGP - Max Commodity - Z 4-6	21st Rev Sheet No. 15	$0.00911	$0.00911	$0.00911	$0.00911	$0.00911	$0.00911	$0.00911
174	TGP - Max Comm. ACA Rate - Z 4-6	21st Rev Sheet No. 15	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015
175	Subtotal TGP - Trans Charge - Max Commodity Rate - Z 4-6		$0.00926	$0.00926	$0.00926	$0.00926	$0.00926	$0.00926	$0.00926
176	TGP - Fuel Charge % - Z 4-6	18th Rev Sheet No. 32	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%
177	TGP - Fuel Charge % - Z 4-6 - (NYMEX * Percentage)		$0.00924	$0.00924	$0.00924	$0.00924	$0.00924	$0.00864	$0.00914
178	TGP - Withdrawal Charge	22nd Rev Sheet No.61	$0.00087	$0.00087	$0.00087	$0.00087	$0.00087	$0.00087	$0.00087
179	**Total Volumetric Transportation Rate - TGP (Storage)**		$0.01937	$0.01937	$0.01937	$0.01937	$0.01937	$0.01877	$0.01927
180									
181	**Total TGP - Comm. & Vol. Trans. Rate**	ln 171 + ln 179	**$0.63950**	**$0.63950**	**$0.63950**	**$0.63950**	**$0.63950**	**$0.59879**	**$0.63271**
182									
183									
184	**Per Unit Volumetric Transportation Rates**								
185	**Dawn Supply Volumetric Transportation Charge**								
186	**Commodity Costs**	ln 107	**$0.9150**	**$0.9270**	**$0.9298**	**$0.9134**	**$0.7974**	**$0.5555**	**$0.8397**
187									
188	TransCanada - Commodity Rate/GJ	Dawn - Parkway to Iroquois	$0.00040	$0.00040	$0.00040	$0.00040	$0.00040	$0.00040	$0.00040
189	Conversion Rate GL to MMBTU		1.0551	1.0551	1.0551	1.0551	1.0551	1.0551	1.0551
190	Conversion Rate to US$	1/0/1900	1.2706	1.2706	1.2706	1.2706	1.2706	1.2706	1.2706
191	Commodity Rate/US$	ln 188 x ln 189 x ln 190	$0.00054	$0.00054	$0.00054	$0.00054	$0.00054	$0.00054	$0.00054
192	TransCanada Fuel %	Dawn - Parkway to Iroquois	0.87%	0.99%	1.10%	1.04%	1.07%	0.82%	0.98%
193	TransCanada Fuel * Percentage	ln 186 x ln 192	$0.00791	$0.00916	$0.01018	$0.00949	$0.00857	$0.00454	$0.00831
194	Subtotal TransCanada		**$0.00845**	**$0.00970**	**$0.01072**	**$0.01002**	**$0.00910**	**$0.00508**	**$0.00885**
195	IGTS - Z1 RTS Commodity	Forth Revised Sheet No. 4	$0.00034	$0.00034	$0.00034	$0.00034	$0.00034	$0.00034	$0.00034
196	IGTS - Z1 RTS ACA Rate Commodity	Forth Revised Sheet No. 4	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015
197	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
198	Subtotal IGTS - Trans Charge - Z1 RTS Commodity		**$0.00049**	**$0.00049**	**$0.00049**	**$0.00049**	**$0.00049**	**$0.00049**	**$0.00049**
199	TGP NET-NE - Comm. Segments 3 & 4	21st Rev Sheet No. 15	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015
200	IGTS -Fuel Use Factor - Percentage	Forth Revised Sheet No. 4	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
201	IGTS -Fuel Use Factor - Fuel * Percentage	ln 186 x ln 200	**$0.00915**	**$0.00927**	**$0.00930**	**$0.00913**	**$0.00797**	**$0.00556**	**$0.00840**
202	TGP FTA Fuel Charge % Z 5-6	18th Rev Sheet No. 32	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%
203	TGP FTA Fuel * Percentage	ln 186 x ln 202	**$0.00997**	**$0.01010**	**$0.01013**	**$0.00996**	**$0.00869**	**$0.00605**	**$0.00915**
204	**Total Volumetric Transportation Charge - Dawn Supply**		**$0.02821**	**$0.02971**	**$0.03079**	**$0.02975**	**$0.02641**	**$0.01733**	**$0.02704**
205									
206									
207	**Niagara Supply Volumetric Transportation Charge**								
208	**Commodity Costs**	Ln 112	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
209									
210	TGP FTA - FTA Z 5-6 Comm. Rate	21st Rev Sheet No. 15	$0.00693	$0.00693	$0.00693	$0.00693	$0.00693	$0.00693	$0.00693
211	TGP FTA - FTA Z 5-6 - ACA Rate	21st Rev Sheet No. 15	$0.00015	$0.0002	$0.0002	$0.0002	$0.0002	$0.0002	$0.0002
212	Subtotal TGP FTA - FTA Z 5-6 Commodity Rate		**$0.00708**	**$0.0071**	**$0.0071**	**$0.0071**	**$0.0071**	**$0.0071**	**$0.0071**
213	TGP FTA Fuel Charge % Z 5-6	18th Rev Sheet No. 32	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%
214	TGP FTA Fuel * Percentage	ln 208 x ln 213	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
215	**Total Volumetric Transportation Rate - Niagara Supply**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
216									
217					**THIS PAGE HAS BEEN REDACTED**				

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty** **REDACTED**
2 **d/b/a Liberty** Schedule 6
3 **Peak 2022 - 2023 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-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Nov- Apr
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
218									
219									
220									
221	**TGP Direct Volumetric Transportation Charge**								Average Rate
222	**Commodity Costs**	Ln 130	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
223									
224	TGP - Max Comm. Base Rate - Z 0-6	21st Rev Sheet No. 15	$0.02616	$0.02616	$0.02616	$0.02616	$0.02616	$0.02616	$0.02616
225	TGP - Max Commodity ACA Rate - Z 0-6	21st Rev Sheet No. 15	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015
226	Subtotal TGP - Max Comm. Rate Z 0-6		$0.02631	$0.02631	$0.02631	$0.02631	$0.02631	$0.02631	$0.02631
227	Prorated Percentage		32.60%	32.60%	32.60%	32.60%	32.60%	32.60%	32.60%
228	Prorated TGP - Max Commodity Rate - Z 0-6		**$0.00858**	**$0.00858**	**$0.00858**	**$0.00858**	**$0.00858**	**$0.00858**	**$0.00858**
229	TGP - Max Comm. Base Rate - Z 1-6	21st Rev Sheet No. 15	$0.02283	$0.02283	$0.02283	$0.02283	$0.02283	$0.02283	$0.02283
230	TGP - Max Commodity ACA Rate - Z 1-6	21st Rev Sheet No. 15	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015
231	Subtotal TGP - Max Commodity Rate - Z 1-6		$0.02298	$0.02298	$0.02298	$0.02298	$0.02298	$0.02298	$0.02298
232	Prorated Percentage		67.40%	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
233	Prorated TGP - Trans Charge - Max Commodity Rate - Z 1-6		**$0.01549**	**$0.01549**	**$0.01549**	**$0.01549**	**$0.01549**	**$0.01549**	**$0.01549**
234	TGP - Fuel Charge % - Z 0 -6	18th Rev Sheet No. 32	5.31%	5.31%	5.31%	5.31%	5.31%	5.31%	5.31%
235	Prorated Percentage		32.6%	32.6%	32.6%	32.6%	32.6%	32.6%	32.6%
236	Prorated TGP Fuel Charge % - Z 0-6		1.73%	1.73%	1.73%	1.73%	1.73%	1.73%	1.73%
237	TGP - Fuel Charge % - Z 1 -6	18th Rev Sheet No. 32	4.64%	4.64%	4.64%	4.64%	4.64%	4.64%	4.64%
238	Prorated Percentage		67.40%	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
239	Prorated TGP Fuel Charge - Fuel Charge % - Z 1-6		3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%
240	TGP - Fuel Charge % - Z 0-6	ln 222 x ln 236	**$0.01597**	**$0.01619**	**$0.01630**	**$0.01546**	**$0.01293**	**$0.00985**	**$0.01445**
241	TGP - Fuel Charge % - Z 1-6	ln 222 x ln 239	**$0.02885**	**$0.02924**	**$0.02945**	**$0.02792**	**$0.02336**	**$0.01779**	**$0.02610**
242	**Total Volumetric Transportation Rate - TGP (Direct)**		**$0.06888**	**$0.06949**	**$0.06982**	**$0.06745**	**$0.06035**	**$0.05171**	**$0.06462**
243									
244	**TGP (Zone 6 Purchase) Volumetric Transportation Charge**								
245	**Commodity Costs**	Ln 130	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
246									
247	TGP - Max Comm. Base Rate - Z 6-6	21st Rev Sheet No. 15	$0.00296	$0.00296	$0.00296	$0.00296	$0.00296	$0.00296	$0.00296
248	TGP - Max Commodity ACA Rate - Z 6-6	21st Rev Sheet No. 15	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015
249	Subtotal TGP - Max Commodity Rate - Z 6-6		**$0.00311**	**$0.00311**	**$0.00311**	**$0.00311**	**$0.00311**	**$0.00311**	**$0.00311**
250	TGP - Fuel Charge % - Z 6-6	18th Rev Sheet No. 32	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%
251	TGP - Fuel Charge	ln 245 x ln 250	**$0.00120**	**$0.00122**	**$0.00122**	**$0.00116**	**$0.00097**	**$0.00074**	**$0.00109**
252	**Total Vol. Trans. Rate - TGP (Zone 6)**		**$0.00431**	**$0.00433**	**$0.00433**	**$0.00427**	**$0.00408**	**$0.00385**	**$0.00420**
253									
254									
255	**TGP Dracut**								
256	**Commodity Costs - NYMEX Price**	Ln 117	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
257									
258	TGP - Trans Charge - Comm. - Z 6-6	21st Rev Sheet No. 15	$0.00296	$0.00296	$0.00296	$0.00296	$0.00296	$0.00296	$0.00296
259	TGP - Trans Charge - ACA Rate - Z6-6	21st Rev Sheet No. 15	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015
260	Subtotal TGP - Trans Charge - Max Commodity Rate - Z 6-6		**$0.00311**	**$0.00311**	**$0.00311**	**$0.00311**	**$0.00311**	**$0.00311**	**$0.00311**
261	TGP - Fuel Charge % - Z 6-6	18th Rev Sheet No. 32	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%
262	TGP - Fuel Charge	ln 256 x ln 261	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
263	**Total Volumetric Transportation Rate - TGP Dracut**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
264									
265									

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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2 **d/b/a Liberty**
3 **Peak 2022 - 2023 Winter Cost of Gas Filing**
4 **NYMEX Futures @ Henry Hub**

Schedule 7
Page 1 of 1

5											Peak
6	For Month of:		Reference		Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Strip Average
7	(a)		(b)		(c)	(d)	(e)	(f)	(g)	(h)	(i)
8	**I. NYMEX Opening Prices as of**	8/23/2022									
9	Opening Prices				$9 2250	$9.3500	$9.4180	$8.9290	$7.4690	$5 6900	$8.3468
10	NYMEX			**Filed COG**	$9 2250	$9.3500	$9.4180	$8.9290	$7.4690	$5 6900	$8.3468

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing
Annual Bill Comparisons, Nov 21 - Apr 22 Actual Rates vs Nov 22 - Apr 23

Annual Bill Comparisons, Nov 21 - Apr 22 Actual Rates vs Nov 22 - Apr 23 -

1	**Non FPO Rate**									
2	**November 1, 2021 - April 30, 2022**									
3	**Residential Heating (R3)**			(1)	(2)	(3)	(4)	(5)	(6)	(7)
4	**PROPOSED**									**Winter**
5				**Nov-22**	**Dec-22**	**Jan-23**	**Feb-23**	**Mar-23**	**Apr-23**	**Nov-Apr**
6	**average Usage (Therms)**			45	92	117	148	130	88	621
7			8/1/2022 - Current							
8	**Winter**									
9	Cust. Chg		$ 15.39	$ 15.39	$ 15 39	$ 15.39	$ 15.39	$ 15 39	$ 15.39	$ 92.34
10	Headblock		$ 0.6337							
11	Tailblock		$ 0.6337	$ 28.41	$ 58 57	$ 74.27	$ 93.79	$ 82 64	$ 55.68	$ 393 36
12	HB Threshold		-							
13										
20	Total Base Rate Amount			$ 43.80	$ 73 96	$ 89.66	$ 109.18	$ 98 03	$ 71.07	$ 485.70
21										
22	COG Rate - (Seasonal)			$ 1.7335	$ 1.7335	$ 1.7335	$ 1.7335	$ 1.7335	$ 1.7335	$ 1.7335
23	COG amount			$ 77.71	$ 160 21	$ 203.17	$ 256.57	$ 226 07	$ 152.30	$ 1,076.04
24										
25	LDAC			$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508
26	LDAC amount			$ 6.76	$ 13 94	$ 17.67	$ 22.32	$ 19 67	$ 13.25	$ 93.61
27										
28	**Total Bill**			**$ 128.27**	**$ 248.10**	**$ 310.51**	**$ 388.07**	**$ 343.77**	**$ 236.62**	**$ 1,655.34**
29										
30	**November 1, 2020 - April 30, 2021**									
31	**Residential Heating (R3)**									
32	**CURRENT**									**Winter**
33				**Nov-21**	**Dec-21**	**Jan-22**	**Feb-22**	**Mar-22**	**Apr-22**	**Nov-Apr**
34	**average Usage (Therms)**			45	92	117	148	130	88	621
35										
36	**Winter**	8/1/2021 - 7/31/2022	8/1/2022 - Current							
37	Cust. Chg	$ 15.39	$ 15 39	$ 15.39	$ 15 39	$ 15.39	$ 15.39	$ 15 39	$ 15.39	$ 92.34
38	Headblock	$ 0.5632	$ 0.6337							
39	Tailblock	$ 0.5632	$ 0.6337	$ 25.25	$ 52 05	$ 66.01	$ 83.36	$ 73.45	$ 49.48	$ 349 60
40	HB Threshold	-	-							
41										
48	Total Base Rate Amount			$ 40.64	$ 67.44	$ 81.40	$ 98.75	$ 88 84	$ 64.87	$ 441 94
49										
50	COG Rate - (Seasonal)			$ 1.1339	$ 1.0173	$ 0.7246	$ 0 5956	$ 0.7743	$ 1.1747	$ 0.8411
51	COG amount			$ 50.83	$ 94 02	$ 84.93	$ 88.15	$ 100 98	$ 103.21	$ 522.12
52										
53	LDAC			$ 0.1397	$ 0.1012	$ 0.1154	$ 0.1154	$ 0.1318	$ 0.1318	$ 0.1208
54	LDAC amount			$ 6.26	$ 9 35	$ 13.53	$ 17.08	$ 17.19	$ 11.58	$ 74.99
55										
56	**Total Bill**			**$ 97.73**	**$ 170.81**	**$ 179.85**	**$ 203.98**	**$ 207.01**	**$ 179.66**	**$ 1,039.04**
57										
58	**DIFFERENCE**									
59	**Total Bill**			**$30.54**	**$77.29**	**$130.66**	**$184.09**	**$136.77**	**$56.96**	**$616.30**
60	% Change			**31.25%**	**45.25%**	**72.65%**	**90.25%**	**66.07%**	**31.70%**	**59.31%**
61										
62	**Base Rate**			$ 3.16	$ 6 52	$ 8.26	$ 10.43	$ 9.19	$ 6.19	$ 43.76
63	% Change			7.78%	9.66%	10.15%	10.57%	10.35%	9 55%	9.90%
64										
65	**COG & LDAC**			**$ 27.38**	**$ 70.78**	**$ 122.40**	**$ 173.65**	**$ 127.57**	**$ 50.76**	**$ 572.54**
66	% Change			**47.95%**	**68.47%**	**124.32%**	**165.02%**	**107.96%**	**44.23%**	**95.89%**

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing
Annual Bill Comparisons, Nov 21 - Apr 22 Actual Rates vs Nov 22 - Apr 23

	Annual Bill Comparisons, Nov 21 - Apr 22 Actual Rates vs Nov 22 - Apr 23 -									
1	**FPO Rate**									
2	**November 1, 2021 - April 30, 2022**									
3	**Residential Heating (R3-FPO)**			(1)	(2)	(3)	(4)	(5)	(6)	(7)
4	**PROPOSED**									**Winter**
5				**Nov-22**	**Dec-22**	**Jan-23**	**Feb-23**	**Mar-23**	**Apr-23**	**Nov-Apr**
6	**average Usage (Therms)**			45	92	117	148	130	88	621
7			8/1/2022 - Current							
8	**Winter**									
9	Cust. Chg		$ 15.39	$ 15.39	$ 15 39	$ 15.39	$ 15.39	$ 15 39	$ 15.39	$ 92.34
10	Headblock		$ 0.6337							
11	Tailblock		$ 0.6337	$ 28.41	$ 58 57	$ 74.27	$ 93.79	$ 82 64	$ 55.68	$ 393 36
12	HB Threshold		-							
13										
20	Total Base Rate Amount			$ 43.80	$ 73 96	$ 89.66	$ 109.18	$ 98 03	$ 71.07	$ 485.70
21										
22	COG Rate - (Seasonal)			$ 1.7535	$ 1.7535	$ 1.7535	$ 1.7535	$ 1.7535	$ 1.7535	$ 1.7535
23	COG amount			$ 78.61	$ 162 06	$ 205.52	$ 259.53	$ 228 68	$ 154.06	$ 1,088.45
24										
25	LDAC			$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508
26	LDAC amount			$ 6.76	$ 13 94	$ 17.67	$ 22.32	$ 19 67	$ 13.25	$ 93.61
27										
28	**Total Bill**			**$ 129.17**	**$ 249.95**	**$ 312.85**	**$ 391.03**	**$ 346.38**	**$ 238.37**	**$ 1,667.76**
29										
30	**November 1, 2020 - April 30, 2021**									
31	**Residential Heating (R3-FPO)**									
32	**CURRENT**									**Winter**
33				**Nov-21**	**Dec-21**	**Jan-22**	**Feb-22**	**Mar-22**	**Apr-22**	**Nov-Apr**
34	**average Usage (Therms)**			45	92	117	148	130	88	621
35										
36	**Winter**	8/1/2021 - 7/31/2022	8/1/2022 - Current							
37	Cust. Chg	$ 15.39	$ 15 39	$ 15.39	$ 15 39	$ 15.39	$ 15.39	$ 15 39	$ 15.39	$ 92.34
38	Headblock	$ 0.5632	$ 0.6337							
39	Tailblock	$ 0.5632	$ 0.6337	$ 25.25	$ 52 05	$ 66.01	$ 83.36	$ 73.45	$ 49.48	$ 349 60
40	HB Threshold	-	-							
41										
48	Total Base Rate Amount			$ 40.64	$ 67.44	$ 81.40	$ 98.75	$ 88 84	$ 64.87	$ 441 94
49										
50	COG Rate - (Seasonal)			$ 1.1539	$ 1.1539	$ 1.1539	$ 1.1539	$ 1.1539	$ 1.1539	$ 1.1539
51	COG amount			$ 51.73	$ 106 64	$ 135.24	$ 170.78	$ 150.49	$ 101.38	$ 716 26
52										
53	LDAC			$ 0.1397	$ 0.1012	$ 0.1154	$ 0.1154	$ 0.1318	$ 0.1318	$ 0.1208
54	LDAC amount			$ 6.26	$ 9 35	$ 13.53	$ 17.08	$ 17.19	$ 11.58	$ 74.99
55										
56	**Total Bill**			**$ 98.63**	**$ 183.44**	**$ 230.17**	**$ 286.61**	**$ 256.51**	**$ 177.83**	**$ 1,233.19**
57										
58	**DIFFERENCE**									
59	**Total Bill**			**$30.54**	**$66.51**	**$82.69**	**$104.42**	**$89.87**	**$60.54**	**$434.57**
60	% Change			**30.96%**	**36.26%**	**35.93%**	**36.43%**	**35.03%**	**34.05%**	**35.24%**
61										
62	**Base Rate**			$ 3.16	$ 6 52	$ 8.26	$ 10.43	$ 9.19	$ 6.19	$ 43.76
63	% Change			7.78%	9.66%	10.15%	10.57%	10.35%	9 55%	9.90%
64										
65	**COG & LDAC**			**$ 27.38**	**$ 60.00**	**$ 74.42**	**$ 93.98**	**$ 80.67**	**$ 54.35**	**$ 390.81**
66	% Change			**47.21%**	**51.72%**	**50.03%**	**50.03%**	**48.11%**	**48.11%**	**49.39%**

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing
Annual Bill Comparisons, Nov 21 - Apr 22 Actual Rates vs Nov 22 - Apr 23

1 **Annual Bill Comparisons, Nov 21 - Apr 22 Actual Rates vs Nov 22 - Apr 23 - GAP Rate**
2 **November 1, 2021 - April 30, 2022**

3	**Residential Heating (R4-GAP)**		(1)	(2)	(3)	(4)	(5)	(6)	(7)
4	**PROPOSED**								**Winter**
5			**Nov-22**	**Dec-22**	**Jan-23**	**Feb-23**	**Mar-23**	**Apr-23**	**Nov-Apr**
6	**average Usage (Therms)**		45	92	117	148	130	88	621
7		8/1/2022 - Current							
8	**Winter**								
9	Cust. Chg	$ 15.39	$ 15.39	$ 15 39	$ 15.39	$ 15.39	$ 15 39	$ 15.39	$ 92.34
10	Headblock	$ 0.6337							
11	Tailblock	$ 0.6337	$ 28.41	$ 58 57	$ 74.27	$ 93.79	$ 82 64	$ 55.68	$ 393 36
12	HB Threshold	-							
13									
20	Total Base Rate Amount		$ 43.80	$ 73 96	$ 89.66	$ 109.18	$ 98 03	$ 71.07	$ 485.70
21									
22	COG Rate - (Seasonal)		$ 0 9534	$ 0.9534	$ 0.9534	$ 0 9534	$ 0.9534	$ 0 9534	$ 0.9534
23	COG amount		$ 42.74	$ 88.12	$ 111.75	$ 141.11	$ 124 34	$ 83.77	$ 591 82
24									
25	LDAC		$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508
26	LDAC amount		$ 6.76	$ 13 94	$ 17.67	$ 22.32	$ 19 67	$ 13.25	$ 93.61
27									
28	**Total Bill**		**$ 93.30**	**$ 176.01**	**$ 219.08**	**$ 272.61**	**$ 242.04**	**$ 168.08**	**$ 1,171.12**

29

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

31	**Residential Heating (R4-GAP)**									
32	**CURRENT**									**Winter**
33				**Nov-21**	**Dec-21**	**Jan-22**	**Feb-22**	**Mar-22**	**Apr-22**	**Nov-Apr**
34	**average Usage (Therms)**			45	92	117	148	130	88	621
35										
36	**Winter**	8/1/2021 - 7/31/2022	8/1/2022 - Current							
37	Cust. Chg	$ 15.39	$ 15 39	$ 15.39	$ 15 39	$ 15.39	$ 15.39	$ 15 39	$ 15.39	$ 92.34
38	Headblock	$ 0.5632	$ 0.6337							
39	Tailblock	$ 0.5632	$ 0.6337	$ 25.25	$ 52 05	$ 66.01	$ 83.36	$ 73.45	$ 49.48	$ 349 60
40	HB Threshold	-	-							
41										
48	Total Base Rate Amount			$ 40.64	$ 67.44	$ 81.40	$ 98.75	$ 88 84	$ 64.87	$ 441 94
49										
50	COG Rate - (Seasonal)			$ 0 6236	$ 0.5595	$ 0.3985	$ 0 3276	$ 0.4259	$ 0 6461	$ 0.4626
51	COG amount			$ 27.96	$ 51.71	$ 46.71	$ 48.48	$ 55 54	$ 56.76	$ 287.16
52										
53	LDAC			$ 0.1397	$ 0.1012	$ 0.1154	$ 0.1154	$ 0.1318	$ 0.1318	$ 0.1208
54	LDAC amount			$ 6.26	$ 9 35	$ 13.53	$ 17.08	$ 17.19	$ 11.58	$ 74.99
55										
56	**Total Bill**			**$ 74.86**	**$ 128.50**	**$ 141.63**	**$ 164.31**	**$ 161.57**	**$ 133.21**	**$ 804.09**

57

58	**DIFFERENCE**							
59	**Total Bill**	**$18.44**	**$47.50**	**$77.45**	**$108.30**	**$80.47**	**$34.87**	**$367.04**
60	% Change	**24.64%**	**36.97%**	**54.68%**	**65.91%**	**49.81%**	**26.17%**	**45.65%**
61								
62	**Base Rate**	$ 3.16	$ 6 52	$ 8.26	$ 10.43	$ 9.19	$ 6.19	$ 43.76
63	% Change	7.78%	9.66%	10.15%	10.57%	10.35%	9 55%	9.90%
64								
65	**COG & LDAC**	**$ 15.28**	**$ 40.99**	**$ 69.19**	**$ 97.87**	**$ 71.28**	**$ 28.67**	**$ 323.27**
66	% Change	**44.66%**	**67.13%**	**114.86%**	**149.27%**	**98.01%**	**41.95%**	**89.26%**

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing
Annual Bill Comparisons, Nov 21 - Apr 22 Actual Rates vs Nov 22 - Apr 23

Annual Bill Comparisons, Nov 19 - Apr 20 vs Nov 20 - Apr 21 - Commercial

1	**Rate G-41**									
2	**November 1, 2021 - April 30, 2022**									
3	**Commercial Rate (G-41)**			(1)	(2)	(3)	(4)	(5)	(6)	(7)
4	**PROPOSED**									**Winter**
5				**Nov-22**	**Dec-22**	**Jan-23**	**Feb-23**	**Mar-23**	**Apr-23**	**Nov-Apr**
6	**average Usage (Therms)**			111	274	376	483	425	270	1,939
7										
8	**Winter**		8/1/2022 - Current							
9	Cust. Chg		$ 62.03	$ 62.03	$ 62 03	$ 62.03	$ 62.03	$ 62 03	$ 62.03	$ 372.18
10	Headblock		$ 0.5007	$ 50.07	$ 50 07	$ 50.07	$ 50.07	$ 50 07	$ 50.07	$ 300.42
11	Tailblock		$ 0.3469	$ 3.97	$ 60 34	$ 95.65	$ 133.01	$ 112 57	$ 58.95	$ 464.49
12	HB Threshold		100							
13										
20	Total Base Rate Amount			$ 116.07	$ 172.44	$ 207.75	$ 245.11	$ 224 67	$ 171.05	$ 1,137.09
21										
22	COG Rate - (Seasonal)			$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336
23	COG amount			$ 193.20	$ 474 89	$ 651.37	$ 838.08	$ 735 92	$ 467.96	$ 3,361.42
24										
25	LDAC			$ 0 0915	$ 0.0915	$ 0.0915	$ 0 0915	$ 0.0915	$ 0 0915	$ 0.0915
26	LDAC amount			$ 10.20	$ 25 06	$ 34.38	$ 44.23	$ 38 84	$ 24.70	$ 177.42
27										
28	**Total Bill**			**$319.47**	**$672.39**	**$893.50**	**$1,127.42**	**$999.43**	**$663.71**	**$4,675.92**
29										
30	**November 1, 2020 - April 30, 2021**									
31	**Commercial Rate (G-41)**									
32	**CURRENT**									**Winter**
33				**Nov-21**	**Dec-21**	**Jan-22**	**Feb-22**	**Mar-22**	**Apr-22**	**Nov-Apr**
34	**average Usage (Therms)**			111	274	376	483	425	270	1,939
35										
36	**Winter**	8/1/2021 - 7/31/2022	8/1/2022 - Current							
37	Cust. Chg	$ 57.06	$ 62 03	$ 57.06	$ 57 06	$ 57.06	$ 57.06	$ 57 06	$ 57.06	$ 342 36
38	Headblock	$ 0.4688	$ 0.5007	$ -	$ 46 88	$ 46.88	$ 46.88	$ 46 88	$ 46.88	$ 234.40
39	Tailblock	$ 0.3149	$ 0.3469	$ 3.60	$ 54.77	$ 86.83	$ 120.74	$ 102.19	$ 53.51	$ 421 64
40	HB Threshold	100	100							
41										
48	Total Base Rate Amount			$ 60.66	$ 158.71	$ 190.77	$ 224.68	$ 206.13	$ 157.45	$ 998.40
49										
50	COG Rate - (Seasonal)			$ 1.1341	$ 1.0175	$ 0.7248	$ 0 5958	$ 0.7745	$ 1.1749	$ 0.8311
51	COG amount			$ 126.39	$ 278.73	$ 272.33	$ 288.03	$ 328.78	$ 317.15	$ 1,611.40
52										
53	LDAC			$ 0 0831	$ 0.0749	$ 0.0891	$ 0 0891	$ 0.0991	$ 0 0991	$ 0.0903
54	LDAC amount			$ 9.26	$ 20 52	$ 33.48	$ 43.07	$ 42 07	$ 26.75	$ 175.15
55										
56	**Total Bill**			**$196.31**	**$457.96**	**$496.58**	**$555.79**	**$576.97**	**$501.35**	**$2,784.95**
57										
58	**DIFFERENCE**									
59	**Total Bill**			**$ 123.15**	**$ 214.44**	**$ 396.92**	**$ 571.64**	**$ 422.46**	**$ 162.36**	**$ 1,890.97**
60	% Change			**62.73%**	**46.82%**	**79.93%**	**102.85%**	**73.22%**	**32.38%**	**67.90%**
61										
62	**Base Rate**			$ 55.41	$ 13.73	$ 16.98	$ 20.43	$ 18 54	$ 13.60	$ 138 69
63	% Change			91 33%	8.65%	8 90%	9.09%	9.00%	8 64%	13.89%
64										
65	**COG & LDAC**			$ 67.75	$ 200.71	$ 379.94	$ 551.21	$ 403 91	$ 148.76	$ 1,752.28
66	% Change			49 94%	67.07%	124 24%	166.48%	108.92%	43 26%	98.08%

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing
Annual Bill Comparisons, Nov 21 - Apr 22 Actual Rates vs Nov 22 - Apr 23

Annual Bill Comparisons, Nov 19 - Apr 20 vs Nov 20 - Apr 21 - Commercial

1	**Rate G-42**									
2	**November 1, 2021 - April 30, 2022**									
3	**C&I High Winter Use Medium G-42**			(1)	(2)	(3)	(4)	(5)	(6)	(7)
4	**PROPOSED**									**Winter**
5				**Nov-22**	**Dec-22**	**Jan-23**	**Feb-23**	**Mar-23**	**Apr-23**	**Nov-Apr**
6	**average Usage (Therms)**			1,369	2,729	3,456	4,165	3,658	2,463	17,839
7			8/1/2022 - Current							
8	**Winter**									
9	Cust. Chg		$ 186 03	$ 186.03	$ 186 03	$ 186.03	$ 186.03	$ 186 03	$ 186.03	$ 1,116.18
10	Headblock		$ 0.4558	$ 455.80	$ 455 80	$ 455.80	$ 455.80	$ 455 80	$ 455.80	$ 2,734.80
11	Tailblock		$ 0.3136	$ 115.68	$ 542.10	$ 770.21	$ 992.39	$ 833.43	$ 458.89	$ 3,712.70
12	HB Threshold		1,000							
13										
20	Total Base Rate Amount			$ 757.51	$ 1,183 93	$ 1,412.04	$ 1,634.22	$ 1,475 26	$ 1,100.72	$ 7,563.68
21										
22	COG Rate - (Seasonal)			$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336
23	COG amount			$ 2,373.07	$ 4,730 38	$ 5,991.35	$ 7,219.62	$ 6,340 86	$ 4,270.35	$ 30,925 63
24										
25	LDAC			$ 0 0915	$ 0.0915	$ 0 0915	$ 0.0915	$ 0.0915	$ 0 0915	$ 0.0915
26	LDAC amount			$ 125.25	$ 249 67	$ 316.23	$ 381.05	$ 334 67	$ 225.39	$ 1,632 27
27										
28	**Total Bill**			**$ 3,255.83**	**$ 6,163.99**	**$ 7,719.61**	**$ 9,234.90**	**$ 8,150.79**	**$ 5,596.45**	**$ 40,121.57**
29										
30	**November 1, 2020 - April 30, 2021**									
31	**C&I High Winter Use Medium G-42**									
32	**CURRENT**									**Winter**
33				**Nov-21**	**Dec-21**	**Jan-22**	**Feb-22**	**Mar-22**	**Apr-22**	**Nov-Apr**
34	**average Usage (Therms)**			1,369	2,729	3,456	4,165	3,658	2,463	17,839
35										
36	**Winter**	8/1/2021 - 7/31/2022	8/1/2022 - Current							
37	Cust. Chg	$ 171.19	$ 186 03	$ 171.19	$ 171.19	$ 171.19	$ 171.19	$ 171.19	$ 171.19	$ 1,027.14
38	Headblock	$ 0.4261	$ 0.4558	$ 426.10	$ 426.10	$ 426.10	$ 426.10	$ 426.10	$ 426.10	$ 2,556.60
39	Tailblock	$ 0.2839	$ 0.3136	$ 104.72	$ 490.76	$ 697.26	$ 898.41	$ 754 50	$ 415.43	$ 3,361.08
40	HB Threshold	1,000	1,000							
41										
48	Total Base Rate Amount			$ 702.01	$ 1,088 05	$ 1,294.55	$ 1,495.70	$ 1,351.79	$ 1,012.72	$ 6,944.82
49										
50	COG Rate - (Seasonal)			$ 1.1341	$ 1.0175	$ 0.7248	$ 0 5958	$ 0.7745	$ 1.1749	$0.8432
51	COG amount			$ 1,552.43	$ 2,776.40	$ 2,504.92	$ 2,481.22	$ 2,832 83	$ 2,894.11	$ 15,041 92
52										
53	LDAC			$ 0 0831	$ 0.0831	$ 0 0831	$ 0.0831	$ 0.0831	$ 0 0831	0.0831
54	LDAC amount			$ 113.75	$ 226.75	$ 287.19	$ 346.07	$ 303 95	$ 204.70	$ 1,482.42
55										
56	**Total Bill**			**$ 2,368.20**	**$ 4,091.20**	**$ 4,086.67**	**$ 4,322.99**	**$ 4,488.57**	**$ 4,111.53**	**$ 23,469.16**
57										
58	**DIFFERENCE**									
59	**Total Bill**			**$ 887.63**	**$ 2,072.79**	**$ 3,632.94**	**$ 4,911.90**	**$ 3,662.22**	**$ 1,484.93**	**$ 16,652.42**
60	% Change			**37.48%**	**50.66%**	**88.90%**	**113.62%**	**81.59%**	**36.12%**	**70.95%**
61										
62	**Base Rate**			$ 55.50	$ 95 88	$ 117.48	$ 138.53	$ 123.47	$ 88.00	$ 618.86
63	% Change			7 91%	8.81%	9 08%	9.26%	9.13%	8 69%	8.91%
64										
65	**COG & LDAC**			$ 832.14	$ 1,976 91	$ 3,515.46	$ 4,773.38	$ 3,538.75	$ 1,396.93	$ 16,033 56
66	% Change			49 94%	65.83%	125 91%	168.83%	112.81%	45 08%	97.03%

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing
Annual Bill Comparisons, Nov 21 - Apr 22 Actual Rates vs Nov 22 - Apr 23

	Annual Bill Comparisons, Nov 19 - Apr 20 vs Nov 20 - Apr 21 - Commercial									
1	**Rate G-52**									
2	**November 1, 2021 - April 30, 2022**									
3	**Commercial Rate (G-52)**			(1)	(2)	(3)	(4)	(5)	(6)	(7)
4	**PROPOSED**									**Winter**
5				**Nov-22**	**Dec-22**	**Jan-23**	**Feb-23**	**Mar-23**	**Apr-23**	**Nov-Apr**
6	**average Usage (Therms)**			1,340	1,718	1,891	2,207	1,964	1,672	10,793
7										
8	**Winter**		8/1/2022 - Current							
9	Cust. Chg		$ 185 80	$ 185.80	$ 185 80	$ 185.80	$ 185.80	$ 185 80	$ 185.80	$ 1,114.80
10	Headblock		$ 0.2602	$ 260.20	$ 260 20	$ 260.20	$ 260.20	$ 260 20	$ 260.20	$ 1,561.20
11	Tailblock		$ 0.1791	$ 60.88	$ 128 67	$ 159.64	$ 216.18	$ 172 66	$ 120.40	$ 858.44
12	HB Threshold		1,000							
13										
20	Total Base Rate Amount			$ 506.88	$ 574 67	$ 605.64	$ 662.18	$ 618 66	$ 566.40	$ 3,534.44
21										
22	COG Rate - (Seasonal)			$1.7331	$1.7331	$1.7331	$1.7331	$1.7331	$1.7331	$ 1.7331
23	COG amount			$ 2,322.25	$ 2,978 23	$ 3,277.91	$ 3,825.06	$ 3,403 89	$ 2,898.15	$ 18,705 50
24										
25	LDAC			$ 0 0915	$ 2.0848	$ -	$ 0.1933	$ 1.0106	$ 0 0915	$ 0.5809
26	LDAC amount			$ 122.60	$ 3,582 61	$ -	$ 426.62	$ 1,984 87	$ 153.01	$ 6,269.72
27										
28	**Total Bill**			**$2,951.74**	**$7,135.51**	**$3,883.55**	**$4,913.87**	**$6,007.42**	**$3,617.56**	**$28,509.66**
29										
30	**November 1, 2020 - April 30, 2021**									
31	**Commercial Rate (G-52)**									
32	**CURRENT**									**Winter**
33				**Nov-21**	**Dec-21**	**Jan-22**	**Feb-22**	**Mar-22**	**Apr-22**	**Nov-Apr**
34	**average Usage (Therms)**			1,340	1,718	1,891	2,207	1,964	1,672	10,793
35										
36	**Winter**	8/1/2021 - 7/31/2022	8/1/2022 - Current							
37	Cust. Chg	$ 171.19	$ 185 80	$ 171.19	$ 171.19	$ 171.19	$ 171.19	$ 171.19	$ 171.19	$ 1,027.14
38	Headblock	$ 0.2428	$ 0.2602	$ 242.80	$ 242 80	$ 242.80	$ 242.80	$ 242 80	$ 242.80	$ 1,456.80
39	Tailblock	$ 0.1617	$ 0.1791	$ 54.97	$ 116.17	$ 144.13	$ 195.18	$ 155 89	$ 108.70	$ 775.04
40	HB Threshold	1,000	1,000							
41										
48	Total Base Rate Amount			$ 468.96	$ 530.16	$ 558.12	$ 609.17	$ 569 88	$ 522.69	$ 3,258.98
49										
50	COG Rate - (Seasonal)			$ 1.1324	$ 1.0158	$ 0.7231	$ 0 5941	$ 0.7728	$ 1.1732	$ 0.8729
51	COG amount			$ 1,517.35	$ 1,745 59	$ 1,367.64	$ 1,311.22	$ 1,517 82	$ 1,961.87	$ 9,421.48
52										
53	LDAC			$ 0 0831	$ 0.0749	$ 0.0891	$ 0 0891	$ 0.0991	$ 0 0991	$ 0.0895
54	LDAC amount			$ 111.35	$ 128.71	$ 168.52	$ 196.65	$ 194 64	$ 165.72	$ 965 59
55										
56	**Total Bill**			**$2,097.66**	**$2,404.47**	**$2,094.28**	**$2,117.04**	**$2,282.33**	**$2,650.28**	**$13,646.05**
57										
58	**DIFFERENCE**									
59	**Total Bill**			**$ 854.08**	**$ 4,731.05**	**$ 1,789.27**	**$ 2,796.83**	**$ 3,725.09**	**$ 967.28**	**$ 14,863.61**
60	% Change			**40.72%**	**196.76%**	**85.44%**	**132.11%**	**163.21%**	**36.50%**	**108.92%**
61										
62	**Base Rate**			$ 37.93	$ 44 51	$ 47.52	$ 53.01	$ 48.78	$ 43.71	$ 275.46
63	% Change			8 09%	8.40%	8 51%	8.70%	8.56%	8 36%	8.45%
64										
65	**COG & LDAC**			$ 816.16	$ 4,686 54	$ 1,741.75	$ 2,743.82	$ 3,676 31	$ 923.58	$ 14,588.15
66	% Change			50.11%	250.04%	113 38%	181.97%	214.68%	43.41%	140.45%

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

Peak 2022 - 2023 Winter Cost of Gas Filing

Annual Bill Comparisons, Nov 21 - Apr 22 Actual Rates vs Nov 22 - Apr 23

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1	**Residential Heating**		
2		Winter 2021-22	Winter 2022-2023
3	Customer Charge	$ 15.39	$ 15 39
4	First 100 Therms	$ 0.5632	$ 0.6337
5	Excess 100 Therms	$ 0.5632	$ 0.6337
6	LDAC	$ 0.1208	$ 0.1508
7	COG	$ 0.8411	$ 1.7335
8	Total Adjust	$ 0.9619	$ 1.8843
9			
10			
11			

12					Total		Base Rate		COG		LDAC	
13			Winter 2021-22 @	Winter 2022-23 @	$ Impact	% Impact	$ Impact	% Impact	$ Impact	% Impact	$ Impact	% Impact
14			$0 9619	$1.8843	$0.92	96%						
15												
16	Cooking alone	5	$23 37	$27.98	$4.61	19.74%	$0 00	0%	$4.46	16%	$0.15	0.64%
17												
18		10	$31 35	$40.57	$9.22	29.42%	$0 00	0%	$8 92	22%	$0.30	0.96%
19												
20		20	$47 30	$65.75	$18.45	39 00%	$0 00	0%	$17.85	27%	$0.60	1.27%
21												
22	Water Heating alone	30	$63 26	$90.93	$27.67	43.74%	$0 00	0%	$26.77	29%	$0.90	1.42%
23												
24		45	$87.19	$128.70	$41.51	47 60%	$0 00	0%	$40.16	31%	$1.35	1.55%
25												
26		50	$95.17	$141 29	$46.12	48.46%	$0 00	0%	$44.62	32%	$1.50	1.58%
27												
28	Heating Alone	80	$135.06	$204 24	$69.18	51 22%	$0 00	0%	$66.93	33%	$2.25	1.67%
29												
30		125	$227.61	$350 28	$122.67	53 90%	$0 00	0%	$118.69	34%	$3.99	1.75%
31												
32		150	$254.74	$393 09	$138.35	54 31%	$0 00	0%	$133.86	34%	$4.50	1.77%
33												
34		200	$334.52	$518 99	$184.47	55.15%	$0 00	0%	$178.47	34%	$6.00	1.79%
35												

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2 **d/b/a Liberty**
3 **Peak 2022 - 2023 Winter Cost of Gas Filing**
4 **Variance Analysis of the Components of the Winter 2021-2022 Actual Results vs Proposed Winter 2022-2023 Cost of Gas Rat**

		WINTER 2021-2022 ACTUAL RESULTS (6 months actual)			**WINTER 2022-2023 (6 months Proposed)**		
11	Therm Sales (COG)	84,205,453			92,780,984		
12-14		THERM SENDOUT	COSTS	EFFECT ON COST OF GAS	THERM SENDOUT	COSTS	EFFECT ON COST OF GAS
16	Demand Charges		$ 11,731,449	$ 0.1393		$ 12,510,219	$ 0.1348
18	Purchased Gas		64,509,427	0.7661	66,488,241	121,326,019	1.3077
20	Storage/Produced Gas		-	-	25,907,278	25,115,250	0.2707
22	Hedging (Gain)/Loss		-	-		-	-
25	Total Volumes and Cost	90,819,934	$ 76,240,876	$ 0.9054	92,395,519	$ 158,951,489	$ 1.7132
27	Direct Costs						
28	Prior Period Balance		$ (3,130,571)	$ (0.0372)		$ 4,089,654	$ 0.0441
29	Interest		2,832	0.0000		(48,335)	(0.0005)
30	Prior Period Adjustment		2,143,613	0.0255		515,609	0.0056
31	Broker Revenues		(396,197)	(0.0047)		(3,600)	(0.0000)
32	Refunds from Suppliers		-	-		-	-
33	Fuel Financing		-	-		-	-
34	Transportation CGA Revenues		72,941	0.0009		(422,021)	(0.0045)
35	280 Day Margin		-	-		-	-
36	Interruptible Sales Margin		-	-		-	-
37	Capacity Release and Off System Sales Margins		(1,462,297)	(0.0174)		(1,676,512)	(0.0181)
38	Hedging Costs		-	-		-	-
39	FPO Admin Costs		-	-		59,917	0.0006
40	Indirect Costs		-	-			
41	Misc Overhead		-	-		-	-
42	Occupant Disallowance/Credits		-			-	-
43	Production & Storage		3,685,458	0.0438		3,685,458	0.0397
44	Bad Debt Adjustment %		-	-		1,706,431	0.0184
45	Cashout, Broker penalty, Canadian Managed,…		-	-		-	-
46	Total Adjusted Cost		$ 77,156,654	**$ 0.9163**		$ 166,858,089	**$ 1.7984**

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

Peak 2022 - 2023 Winter Cost of Gas Filing
Capacity Assignment Calculations 2020-2021
Derivation of Class Assignments and Weightings

Schedule 10A
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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			639	641	0.4%		97	544
2	RATE R-3-Resi Htg			71,962	72,211	43.6%		3,484	68,728
3	RATE G-41 (T)			30,001	30,106	18.2%		968	29,139
4	RATE G-51 (S)			2,639	2,646	1.6%		742	1,904
5	RATE G-42 (V)			38,016	38,148	23.0%		1,839	36,309
6	RATE G-52			5,466	5,480	3.3%		1,742	3,738
7	RATE G-43			9,590	9,623	5.8%		645	8,977
8	RATE G-53			5,350	5,363	3.2%		1,871	3,492
9	RATE G-54			1,417	1,421	0.9%		419	1,001
10									
11	Total			165,079	165,638	100.0%		11,806	153,832
12									-
13	Residential Total			72,601	72,852	**43.983%**		3,581	69,272
14	LLF Total			77,606	77,877	**47.016%**		3,452	74,425
15	HLF Total			14,872	14,909	**9.001%**		4,774	10,135
16	Total			165,079	165,638	100.0%		11,806	153,832
17									
18	C&I Breakdown								
19	LLF Total							3,452	74,425
20	HLF Total							4,774	10,135
21	Total							8,226	84,560
22									
23	C&I Breakdown Percentage								
24	LLF Total							41.961%	88.014%
25	HLF Total							58.039%	11.986%
26	Total							**100.0%**	**100.0%**
27									
28				Capacity Cost	MDQ, Dt	$/Dt-Mo.			
29	Pipeline			$16,149,021	119,718	$11.2410			
30	Storage			$4,130,365	28,115	$12.2425			
31									
32	Peaking			$2,370,511					
33	Peaking Additional Costs								
34	Subtotal Peaking Costs			$2,370,511	17,805	$11.0948			
35	Total			$22,649,897	165,638	$11.3953			
36									
37				Capacity Cost	MDQ, Dt	$/Dt-Mo.			
38	Pipeline - Baseload			1,592,596	11,806	$11.2410			
39	Pipeline - Remaining			14,556,425	107,912	$11.2410			
40	Storage			4,130,365	28,115	$12.2425			
41	Peaking			2,370,511	17,805	$11.0948			
42	Total			22,649,897	165,638	$11.3953			
43									
44									
45	Residential Allocation			Capacity Cost	MDQ, Dt	$/Dt-Mo.			
46	Pipeline - Base	Line 38 * Line 13 Col C	**43.983%**	700,471	5,193	$11.2410			
47	Pipeline - Remaining	Line 39 * Line 13 Col C	**43.983%**	6,402,344	47,463	$11.2410			
48	Storage	Line 40 * Line 13 Col C	**43.983%**	1,816,663	12,366	$12.2425			
49	Peaking	Line 41 * Line 13 Col C	**43.983%**	1,042,601	7,831	$11.0948			
50	Total		**43.983%**	9,962,098	72,852	$11.3953			

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

Peak 2022 - 2023 Winter Cost of Gas Filing
Capacity Assignment Calculations 2020-2021
Derivation of Class Assignments and Weightings

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51							
52							**Ratios for COG**
53	C&I Allocation			Capacity Cost	MDQ, Dt	$/Dt-Mo.	
54	Pipeline - Base	Line 38 - Line 46		892,125	6,614	$11.2410	
55	Pipeline - Remaining	Line 39 - Line 47		8,154,081	60,449	$11.2410	
56	Storage	Line 40 - Line 48		2,313,702	15,749	$12.2424	
57	Peaking	Line 41 - Line 49		1,327,910	9,974	$11.0948	
58	Total		**56.017%**	12,687,818	92,786	$11.3953	**1.0000**
59							
60							
61	LLF - C&I Allocation			Capacity Cost	MDQ, Dt	$/Dt-Mo.	
62	Pipeline - Base	Line 54 * Line 24 Col E		374,343	2,775	$11.2415	
63	Pipeline - Remaining	Line 55 * Line 24 Col F		7,176,761	53,204	$11.2409	
64	Storage	Line 56 * Line 24 Col F		2,036,390	13,862	$12.2420	
65	Peaking	Line 57 * Line 24 Col F		1,168,752	8,779	$11.0942	
66	Total		**47.4892%**	10,756,246	78,620	$11.4011	**1.0005**
67			41.961%	85%			(Line 66 / Line 58)
68							
69	HLF - C&I Allocation			Capacity Cost	MDQ, Dt	$/Dt-Mo.	
70	Pipeline - Base	Line 54 - Line 62		517,782	3,839	$11.2395	
71	Pipeline - Remaining	Line 55 - Line 63		977,320	7,245	$11.2413	
72	Storage	Line 56 - Line 64		277,312	1,887	$12.2466	
73	Peaking	Line 57 - Line 65		159,158	1,195	$11.0989	
74	Total		**8.5280%**	1,931,572	14,166	$11.3627	**0.9971**
75							(Line 74 / Line 58)
76							
77	Unit Cost			Residential	LLF C&I	HLF C&I	
78							
79	Pipeline			$ 11.2410	$ 11.2410	$ 11.2410	
80	Storage			$ 12.2425	$ 12.2425	$ 12.2425	
81	Peaking			$ -	$ -	$ -	
82	Total			$ 11.3953	$ 11.4011	$ 11.3627	
83							
84							
85	Load Makeup			Residential	**LLF C&I**	**HLF C&I**	
86							
87	Pipeline			72.28%	**71.20%**	**78.24%**	
88	Storage			16.97%	**17.63%**	**13.32%**	
89	Peaking			10.75%	**11.17%**	**8.44%**	
90	Total			100.00%	**100.00%**	**100.00%**	
91							
92							
93	Supply Makeup			Residential	LLF C&I	HLF C&I	Total
94							
95	Pipeline			43.98%	46.76%	9.26%	100.00%
96	Storage			43.98%	49.30%	6.71%	100.00%
97	Peaking			43.98%	49.31%	6.71%	100.00%

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty** Schedule 10A
2 **0** Page 3 of 3
3 **2022 - 2023 Winter Cost of Gas Filing**
4 **Correction Factor Calculation**
5
6

		d	e	f	g	h	i	
7								
8	Data Source: Schedule 10B							Total
9		Nov	Dec	Jan	Feb	Mar	Apr	Sales
10								
11	G-41	2,024,090	3,305,230	3,990,080	3,360,930	2,728,610	1,602,400	17,011,340
12	G-42	1,638,690	2,577,550	3,049,640	2,578,010	2,207,610	1,222,890	13,274,390
13	G-43	356,550	540,700	658,270	547,120	495,700	292,490	2,890,830
14	High Winter Use	4,019,330	6,423,480	7,697,990	6,486,060	5,431,920	3,117,780	33,176,560
15								
16	G-51	279,050	363,480	398,180	331,040	342,590	216,120	1,930,460
17	G-52	328,800	421,730	457,600	372,490	381,360	245,600	2,207,580
18	G-53	364,036	444,039	483,757	396,097	410,759	345,126	2,443,814
19	G-54	36,310	41,220	17,430	15,680	16,970	14,010	141,620
21	Low Winter Use	1,008,196	1,270,469	1,356,967	1,115,307	1,151,679	820,856	6,723,474
22								
23	Gross Total	5,027,526	7,693,949	9,054,957	7,601,367	6,583,599	3,938,636	39,900,034
24								
25								

26	Total Sales	39,900,034	
27	Low Winter Use	6,723,474	
28	Winter Ratio for Low Winter Use	**0.9971**	Schedule 10A p 2, ln 74
29	High Winter Use	33,176,560	
30	Winter Ratio for High Winter Use	**1.0005**	Schedule 10A p 2, ln 66
31			

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 = **100.0073%**
34
35
36 **Allocation Calculation for Miscellaneous Overhead**
37

38	Projected Winter Sales Volume	11/1/22- 4/30/23	92,780,984	Sch.10B, ln 23
39	Projected Annual Sales Volume	11/1/22 - 10/31/23	116,429,889	Sch.10B, ln 23
40	Percentage of Winter Sales to Annual Sales		79.69%	

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty** Schedule 10 B

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3 **Peak 2022 - 2023 Winter Cost of Gas Filing**

4

5

6 **Dry Therms**

7 **Firm Sales**							**Subtotal**							**Subtotal**	
8	**Nov-22**	**Dec-22**	**Jan-23**	**Feb-23**	**Mar-23**	**Apr-23**	**PK 22-23**	**May-23**	**Jun-23**	**Jul-23**	**Aug-23**	**Sep-23**	**Oct-23**	**OP 23**	**Total**
9 R-1	68,950	88,860	102,240	87,330	87,040	65,450	499,870	52,140	39,450	34,490	34,700	38,650	52,460	251,890	751,760
10 R-3	6,285,460	9,460,770	11,083,750	9,374,930	7,887,130	4,769,830	48,861,870	2,698,720	1,310,080	1,017,330	1,041,040	1,740,970	4,150,980	11,959,120	60,820,990
11 R-4	456,240	673,650	788,260	669,350	566,410	365,300	3,519,210	206,240	101,740	77,310	76,480	120,880	287,900	870,550	4,389,760
12 Total Residential.	6,810,650	10,223,280	11,974,250	10,131,610	8,540,580	5,200,580	52,880,950	2,957,100	1,451,270	1,129,130	1,152,220	1,900,500	4,491,340	13,081,560	65,962,510
13															
14 G-41	2,024,090	3,305,230	3,990,080	3,360,930	2,728,610	1,602,400	17,011,340	747,050	280,900	206,300	208,340	367,080	958,770	2,768,440	19,779,780
15 G-42	1,638,690	2,577,550	3,049,640	2,578,010	2,207,610	1,222,890	13,274,390	699,850	303,310	225,260	233,780	406,410	879,510	2,748,120	16,022,510
16 G-43	356,550	540,700	658,270	547,120	495,700	292,490	2,890,830	182,490	74,810	59,600	60,370	102,490	207,170	686,930	3,577,760
17 G-51	279,050	363,480	398,180	331,040	342,590	216,120	1,930,460	204,580	181,150	182,590	182,770	188,450	244,780	1,184,320	3,114,780
18 G-52	328,800	421,730	457,600	372,490	381,360	245,600	2,207,580	226,060	205,490	216,980	216,330	215,810	260,610	1,341,280	3,548,860
19 G-53	364,036	444,039	483,757	396,097	410,759	345,126	2,443,814	309,892	269,892	270,211	265,876	271,048	323,306	1,710,225	4,154,039
20 G-54	36,310	41,220	17,430	15,680	16,970	14,010	141,620	15,380	19,010	22,810	24,340	22,210	24,280	128,030	269,650
21 Total C/I	5,027,526	7,693,949	9,054,957	7,601,367	6,583,599	3,938,636	39,900,034	2,385,302	1,334,562	1,183,751	1,191,806	1,573,498	2,898,426	10,567,345	50,467,379
22															
23 **Sales Volume**	**11,838,176**	**17,917,229**	**21,029,207**	**17,732,977**	**15,124,179**	**9,139,216**	**92,780,984**	**5,342,402**	**2,785,832**	**2,312,881**	**2,344,026**	**3,473,998**	**7,389,766**	**23,648,905**	**116,429,889**
24															
25 Transportation Sales															
26 G-41	582,770	880,040	1,055,350	869,770	774,950	457,900	4,620,780	265,850	143,190	108,120	97,250	159,240	331,950	1,105,600	5,726,380
27 G-42	1,997,440	2,956,400	3,441,830	2,872,700	2,552,380	1,546,030	15,366,780	919,290	503,450	400,550	403,990	669,630	1,280,150	4,177,060	19,543,840
28 G-43	778,960	1,055,230	1,249,450	1,050,480	981,780	544,520	5,660,420	369,150	239,600	215,710	243,220	342,610	535,700	1,945,990	7,606,410
29 G-51	87,610	108,870	116,400	96,830	101,020	83,010	593,740	78,680	65,660	61,970	61,670	64,120	76,290	408,390	1,002,130
30 G-52	515,770	638,420	695,870	577,050	589,970	437,350	3,454,430	396,040	365,860	371,740	366,710	375,870	444,530	2,320,750	5,775,180
31 G-53	871,410	1,003,760	1,096,490	926,310	943,320	847,150	5,688,440	731,010	625,610	627,450	662,150	677,440	792,690	4,116,350	9,804,790
32 G-54	1,589,640	1,297,120	1,272,510	1,056,470	1,163,130	1,359,460	7,738,330	1,562,310	1,567,620	1,631,390	1,738,910	1,681,980	1,754,440	9,936,650	17,674,980
33															
34 Total Trans. Sales	**6,423,600**	**7,939,840**	**8,927,900**	**7,449,610**	**7,106,550**	**5,275,420**	**43,122,920**	**4,322,330**	**3,510,990**	**3,416,930**	**3,573,900**	**3,970,890**	**5,215,750**	**24,010,790**	**67,133,710**
35															
36 Total All Sales	**18,261,776**	**25,857,069**	**29,957,107**	**25,182,587**	**22,230,729**	**14,414,636**	**135,903,904**	**9,664,732**	**6,296,822**	**5,729,811**	**5,917,926**	**7,444,888**	**12,605,516**	**47,659,695**	**183,563,599**

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/

Peak 2022 - 2023 Winter Cost of Gas Filing

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Volumes (Therms) **Normal Year**

For the Months of May 21 - October 21

	Nov-22	**Dec-22**	**Jan-23**	**Feb-23**	**Mar-23**	**Apr-23**	**Peak Nov - Apr**
Pipeline Gas:							
Dawn Supply	874,251	924,161	926,671	839,868	910,477	771,345	5,246,775
Niagara Supply	689,540	728,492	730,471	661,898	717,705	678,639	4,206,745
TGP Supply (Gulf)	4,621,463	3,096,843	3,105,255	2,814,958	3,050,989	641,701	17,331,210
Dracut Supply 1 - Baseload			3,100,000	1,400,000		-	4,500,000
Dracut Supply 2 - Swing	2,068,620	1,628,571	574,992	2,290,420	4,186,862	1,559,349	12,308,813
Dracut Supply 3 - Swing	1,267,959	112,886	75,462	292,325	1,410,944	36,213	3,195,790
Constellation Combo							0
LNG Truck	117,744	1,270,345	1,451,131	1,484,347	110,473	-	4,434,041
Propane Truck	-	-	691,985	-	-	55,769	747,754
PNGTS	218,563	231,040	231,668	209,778	227,619	196,277	1,314,945
Portland Natural Gas	1,067,793	1,128,109	1,131,173	1,025,411	1,111,405	840,151	6,304,043
TGP Supply (Z4)	1,816,941	1,919,817	1,925,032	1,744,865	1,891,391	5,458,808	14,756,854
Subtotal Pipeline Volumes	12,742,875	11,040,265	13,943,840	12,763,870	13,617,866	10,238,252	74,346,969
Storage Gas:							
TGP Storage	1,157,573	5,220,027	6,244,468	5,052,839	1,498,432	1,000,000	20,173,339
Produced Gas:							
LNG Vapor	119,952	1,357,644	1,456,414	1,485,862	21,502	21,004	4,462,377
Propane	-	-	1,263,231	8,331	-	-	1,271,562
Subtotal Produced Gas	119,952	1,357,644	2,719,645	1,494,192	21,502	21,004	5,733,939
Less - Gas Refills:							
LNG Truck	(117,744)	(1,270,345)	(1,451,131)	(1,484,347)	(110,473)	-	(4,434,041)
Propane	-	-	(691,985)	-	-	(55,769)	(747,754)
TGP Storage Refill	(1,743,351)	-	-	-	-	(933,581)	(2,676,933)
Subtotal Refills	(1,861,095)	(1,270,345)	(2,143,116)	(1,484,347)	(110,473)	(989,350)	(7,858,728)
Total Sendout Volumes	12,159,305	16,347,591	20,764,836	17,826,554	15,027,327	10,269,906	92,395,519

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/**
2
3 **Peak 2022 - 2023 Winter Cost of Gas Filing**
44 **Normal and Design Year Volumes** **Schedule 11B**
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46

47	**Volumes (Therms)**	**Design Year**						
48				**1,310,745**	**2,460,817**			
49	**For the Months of May 21 - October 21**			**3100000.238**	**1399999.54**			
50								
51								**Peak**
52		**Nov-22**	**Dec-22**	**Jan-23**	**Feb-23**	**Mar-23**	**Apr-23**	**Nov - Apr**
53	Pipeline Gas:							
54	Dawn Supply	1,067,793	1,128,109	1,131,173	1,025,411	1,111,405	836,530	6,300,421
55	Niagara Supply	689,540	728,492	730,471	661,898	717,705	678,639	4,206,745
56	TGP Supply (Gulf)	4,620,727	3,096,843	3,105,255	2,814,958	3,050,989	635,907	17,324,680
57	Dracut Supply 1 - Baseload			3,100,000	1,400,000			4,500,000
58	Dracut Supply 2 - Swing	2,618,338	4,157,974	2,220,815	4,195,080	5,065,458	211,486	18,469,150
59	Dracut Supply 3 - Swing	2,210,649	305,545	1,091,178	657,354	2,425,963	1,346,414	8,037,103
60	Constellation Combo							0
61	LNG Truck	117,744	1,140,150	1,599,791	1,467,686	108,990	-	4,434,362
62	Propane Truck	-	-	691,985	-	-	83,291	775,276
63	PNGTS	218,563	231,040	231,668	209,778	227,619	195,552	1,314,220
64	Portland Natural Gas	874,251	924,161	926,671	839,868	910,477	769,897	5,245,326
65	TGP Supply (Z4)	1,816,941	1,919,817	1,925,032	1,744,865	1,891,391	5,457,359	14,755,405
66	Subtotal Pipeline Volumes	14,234,547	13,632,132	16,754,039	15,016,897	15,509,998	10,215,076	85,362,689
67								
68	Storage Gas:							
69	TGP Storage	1,111,948	4,910,719	6,399,165	5,235,353	1,470,999	1,000,000	20,128,183
70								0
71	Produced Gas:							0
72	LNG Vapor	119,952	1,189,067	1,642,804	1,468,443	21,502	21,004	4,462,772
73	Propane	-	-	1,271,532	-	-	-	1,271,532
74	Subtotal Produced Gas	119,952	1,189,067	2,914,337	1,468,443	21,502	21,004	5,734,305
75								
76	Less - Gas Refills:							
77	LNG Truck	(117,744)	(1,140,150)	(1,599,791)	(1,467,686)	(108,990)	-	-4,434,362
78	Propane	-	-	(691,985)	-	-	(83,291)	-775,276
79	TGP Storage Refill	(1,696,989)	-	-	-	-	(934,306)	-2,631,295
80	Subtotal Refills	(1,814,734)	(1,140,150)	(2,291,776)	(1,467,686)	(108,990)	(1,017,597)	(7,840,933)
81								
82	Total Sendout Volumes	13,651,713	18,591,768	23,775,764	20,253,007	16,893,509	10,218,483	103,384,244

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty** **Schedule 11C**

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3 **Peak 2022 - 2023 Winter Cost of Gas Filing**

4 **Capacity Utilization**

5 **Volumes (Therms)**

6

		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
11	**Pipeline Gas:**								
12	Dawn Supply	5,246,775	4,000	7,240,000	72%	6,300,421	4,000	7,240,000	87%
13	Niagara Supply	4,206,745	3,122	5,650,820	74%	4,206,745	3,122	5,650,820	74%
14	TGP Supply (Gulf + Z4)	32,088,064	21,596	39,088,760	82%	32,080,085	21,596	39,088,760	82%
15	Dracut Supply 1 & 2 & 3	20,004,603	90,000	162,900,000	12%	31,006,253	90,000	162,900,000	19%
16	LNG Truck	4,434,041	-	-	-	4,434,362	-	-	-
17	Propane Truck	747,754	-	-	-	775,276	-	-	-
18	PNGTS	1,314,945	1,000	1,810,000	73%	1,314,220	1,000	1,810,000	73%
19	Portland Natural Gas	6,304,043	5,000	9,050,000	70%	5,245,326	5,000	9,050,000	58%
20	Constellation Vapor	-				-	-	-	-
21									
22									
23	Subtotal Pipeline Volumes	74,346,969				85,362,689			
24									
25	**Storage Gas:**								
26	TGP Storage	20,173,339		25,791,710	78%	20,128,183		25,791,710	78%
27									
28	**Produced Gas:**								
29	LNG Vapor	4,462,377				4,462,772			
30	Propane	1,271,561.8				1,271,532			
31									
32	Subtotal Produced Gas	5,733,939				5,734,305			
33									
34	**Less - Gas Refills:**								
35	LNG Truck	(4,434,041)				(4,434,362)			
36	Propane	(747,754)				(775,276)			
37	TGP Storage Refill	(2,676,933)				(2,631,295)			
38									
39	Subtotal Refills	(7,858,728)				(7,840,933)			
40									
41	Total Sendout Volumes	92,395,519				103,384,244			

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

Peak 2022 - 2023 Winter Cost of Gas Filing

Forecast of Upcoming Winter Period
Design Day Report
2022/ 2023 Heating Season
(Therms)

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

Requirements

Firm Sales	1,237,481
Interruptible Sales	0
Firm Transportation	418,899
Interruptible Transportation	0
Total Requirements	1,656,380

Resources

Purchased Pipeline Gas	1,197,180
Underground Storage Gas	281,150
Propane Air Production	52,050
LNG Produced Gas	126,000
Third-Party Supply	
Total Resources	1,656,380

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 2022 - 2023 Winter Cost of Gas Filing
Transportation Available for Pipeline Supply and Storage
(MMBtu)

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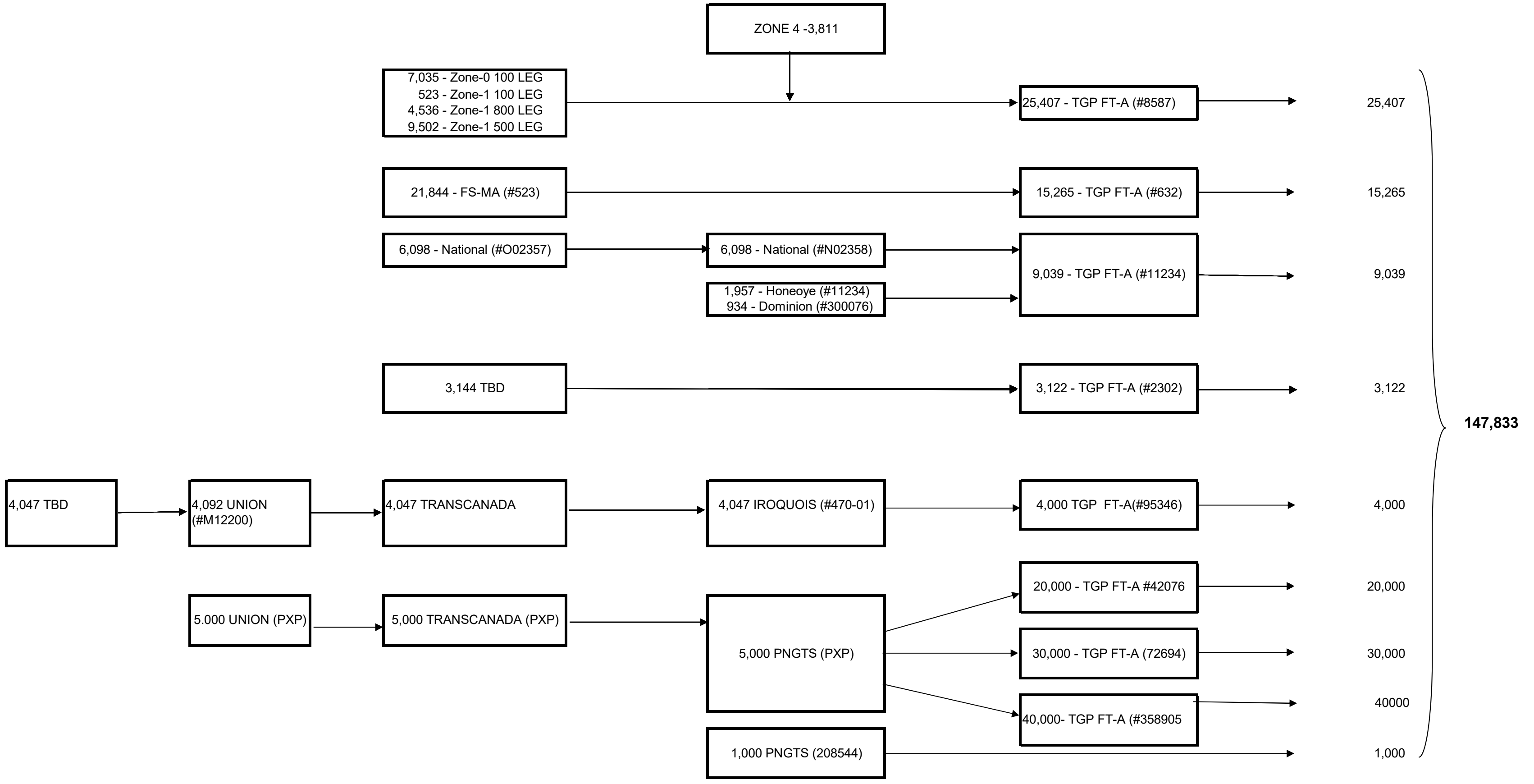

LIBERTY UTILITIES (ENERGYNORTH NATURAL GAS) CORP.

Peak 2022 - 2023 Winter Cost of Gas Filing
Transportation Available for Pipeline Supply and Storage

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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	665,000	3/31/2022 Peak Only	N/A	Terminates
Dracut or Z6	NA	NA	Supply	Up to 20,000 / day	1,412,000	2/28/2022	N/A	Terminates
TGP Long-Haul	NA	NA	Supply	21,596	3,908,876	4/30/2023	N/A	Terminates
Northern Transport	NA	NA	Trucking	28,000 Gallons	500,000 gallons	3/31/2023	N/A	Terminates
Dominion Transmission Incorporated	GSS	300076	Storage	934	102,700	3/31/2025	3/31/2023	Mutually agreed upon
Honeoye Storage Corporation	SS-NY	11234	Storage	1,957	245,380	3/31/2024	12 months notice	Evergreen Provision
National Fuel Gas Supply Corporation	FSS	O02358	Storage	6,098	670,800	3/31/2024	3/31/2023	Evergreen Provision
National Fuel Gas Supply Corporation	FSST	N02358	Transportation	6,098	670,800	3/31/2024	3/31/2023	Evergreen Provision
Iroquois Gas Transmission System	RTS	47001	Transportation	4,047	1,477,155	11/1/2027	11/1/2026	Evergreen Provision
Portland Natural Gas Transmission System	FT	208544	Transportation	1,000	365,000	11/30/2032	11/30/2031	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	11/30/2023	11/30/2022	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	42076	Transportation	20,000	7,300,000	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	358905	Transportation	40,000	14,600,000	10/31/2041	10/31/2040	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	10/31/2039	Precedent Agreement
Union Gas Limited	M12	M12200	Transportation	4,092	1,493,580	10/31/2024	10/31/2022	Evergreen Provision
Union Gas Limited	M12	PXP	Transportation	5,000	1,825,000	10/31/2040	10/31/2039	Precedent Agreement

* MAQ is calculated on a 365 day calendar year.

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing

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

July 2021 - June 2022 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	19,166,867	46.40%	78.50%
G-42	16,268,328	39.38%	45.29%
G-43	4,210,173	10.19%	33.83%
G-51	3,030,027	7.33%	76.58%
G-52	2,850,332	6.90%	33.27%
G-53	219,876	0.53%	2.11%
G-54	(4,433,944)	-10.73%	-29.14%
Total C/I	41,311,658	100.00%	

	Annual Transportation	% of Total by Class	% of Transportation to Total Volume by Class
G-41	5,250,441	7.54%	21.50%
G-42	19,650,487	28.22%	54.71%
G-43	8,233,094	11.82%	66.17%
G-51	926,670	1.33%	23.42%
G-52	5,717,816	8.21%	66.73%
G-53	10,207,700	14.66%	97.89%
G-54	19,648,661	28.22%	129.14%
Total C/I	69,634,870	100.00%	

Sales & Transportation	Total	% of Total by Class	
G-41	24,417,308	22.01%	100.00%
G-42	35,918,815	32.37%	100.00%
G-43	12,443,268	11.22%	100.00%
G-51	3,956,697	3.57%	100.00%
G-52	8,568,147	7.72%	100.00%
G-53	10,427,576	9.40%	100.00%
G-54	15,214,716	13.71%	100.00%
Total C/I	110,946,528	100.00%	

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

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Peak 2022 - 2023 Winter Cost of Gas Filing

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

	Off-Peak	**Peak**	**Total**	
	May 21 - Oct 21	**Nov 21-Apr 22**	**May 21 - Oct 22**	
	(Therms)	(Therms)	(Therms)	
Pipeline Deliveries	17,089,850	88,448,634	105,538,484	
All Others	97,860	2,371,300	2,469,160	
	17,187,710	90,819,934	108,007,644	
				Ratio
Total Winter Supplies				90,819,934
Total Pipeline Deliveries				105,538,484
Ratio Winter Supplies to Pipeline Supplies				0.861

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing

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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-21**	**Aug-21**	**Jul - Aug 2021 Total**	**Total Annual**	**% of Jul-Aug to Total**
(a)	(b)	(c)	(e)=(c)+(d)	(f)	(g)=(e)/(f)
G-41	203,980	164,223	368,203	19,166,867	1.92%
G-42	198,671	75,257	273,928	16,268,328	1.68%
G-43	112,543	113,302	225,845	4,210,173	5.36%
G-51	193,352	180,705	374,056	3,030,027	12.34%
G-52	205,194	202,459	407,652	2,850,332	14.30%
G-53	68,611	61,778	130,389	219,876	59.30%
G-54	31,618	33,493	65,111	(4,433,944)	-1.47%
Total C/I	1,013,969	831,216	1,845,185	41,311,658	4.47%

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2 **Peak 2022 - 2023 Winter Cost of Gas Filing**
3

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4 **Storage Inventory, Undergound, LPG and LNG including Calculation of Money Pool Interest Costs Associated with Natural Gas**
5

6 **Underground Storage Gas**

7			May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Total
8			(Actual)	(Actual)	(Actual)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	
9	Beginning Balance (MMBtu)		531,016	808,417	1,005,342	1,245,383	1,508,568	1,771,753	2,034,938	1,919,181	1,397,178	772,731	267,447	117,604	531,016
10															
11	Injections (MMBtu)	Sch 11A ln 39 /10	281,796	199,940	243,767	263,185	263,185	263,185		-	-	-	-	93,358	1,608,416
12															
13	Subtotal		812,812	1,008,357	1,249,109	1,508,568	1,771,753	2,034,938	2,034,938	1,919,181	1,397,178	772,731	267,447	210,962	
14															
15	Storage Sale/Adjustments		(4,395)	(3,015)	(3,726)	-	-	-	-	-	-	-	-	-	(11,136)
16															
17	Withdrawals (MMBtu)	Sch 11A ln 29 /10	-	-	-	-	-	-	(115,757)	(522,003)	(624,447)	(505,284)	(149,843)	(100,000)	(2,017,334)
18															
19	Ending Balance (MMBtu)		808,417	1,005,342	1,245,383	1,508,568	1,771,753	2,034,938	1,919,181	1,397,178	772,731	267,447	117,604	110,962	110,962
20															
21															
22	Beginning Balance		$ 1,962,850	$ 3,828,588	$ 5,462,121	$ 6,904,920	$ 8,809,687	$ 10,714,454	$ 12,619,222	$ 11,901,378	$ 8,664,293	$ 4,791,923	$ 1,658,516	$ 729,296	$ 1,962,850
23															
24	Injections	ln 11 * ln 36	$ 1,859,310	$ 1,628,729	$ 1,443,037	$ 1,904,767	$ 1,904,767	$ 1,904,767	$ -	$ -	$ -	$ -	$ -	$ 494,331	$ 11,139,710
25															
26	Subtotal		$ 3,822,160	$ 5,457,317	$ 6,905,159	$ 8,809,687	$ 10,714,454	$ 12,619,222	$ 12,619,222	$ 11,901,378	$ 8,664,293	$ 4,791,923	$ 1,658,516	$ 1,223,627	
27															
28	Storage Sale/Adjustments		$ 6,428	$ 4,804	$ (239)			$ -							
29															
30	Withdrawals	ln 17 * ln 34	-	-	-	-	-	-	(717,844)	(3,237,085)	(3,872,370)	(3,133,407)	(929,220)	(580,022)	$ (12,469,948)
31															
32	Ending Balance		$ 3,828,588	$ 5,462,121	$ 6,904,920	$ 8,809,687	$ 10,714,454	$ 12,619,222	$ 11,901,378	$ 8,664,293	$ 4,791,923	$ 1,658,516	$ 729,296	$ 643,605	$ 632,613
33															
34	Average Rate For Withdrawals	ln 22 /ln 9	$ 4.7024	$ 5.4121	$ 5.5281	$ 5.8398	$ 6.0474	$ 6.2013	$ 6.2013	$ 6.2013	$ 6.2013	$ 6.2013	$ 6.2013	$ 5.8002	
35															
36	TGP Storage Rate for Injections	Actual or NYMEX plus TGP Transportation	$ 6.5981	$ 8.1461	$ 5.9197	$ 7.2374	$ 7.2374	$ 7.2374	$ 8.5550	$ 8.8075	$ 8.9355	$ 8.5915	$ 7.1215	$ 5.2950	
37															
38	For Informational Purposes								Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Total
39	Summer Hedge Contracts - Vols Dth								-	-	-	-	-	-	-
40	Average Hedge Price								$ -	$ -	$ -	$ -	$ -	$ -	
41	NYMEX								$ 9.2250	$ 9.3500	$ 9.4180	$ 8.9290	$ 7.4690	$ 5.6900	
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				$ 7,857,303	$ 9,762,071	$ 11,666,838	$ 12,260,300	$ 10,282,835	$ 6,728,108	$ 3,225,219	$ 1,193,906	$ 686,451	
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															

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41	**Liquid Propane Gas (LPG)**														
42			May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Total
43			(Actual)	(Actual)	(Actual)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	
44	Beginning Balance		32,352	32,015	31,856	42,889	65,583	88,277	110,971	110,971	110,971	53,846	53,013	53,013	32,352
46	Injections	Sch 11A In 38 /10	-	-	14,266	22,694	22,694	22,694	-	-	69,199	-	-	5,577	157,123
48	Subtotal		32,352	32,015	46,122	65,583	88,277	110,971	110,971	110,971	180,170	53,846	53,013	58,590	
50	Withdrawals	Sch 11A In 33 /10	-	-	-	-	-	-	-	-	(126,323)	(833)	-	-	(127,156)
52	Adjustment for change in temperature		(337)	(159)	(3,233)	-	-	-	-	-	-	-	-	-	(3,729)
53	Adjustment for Transfer		-	-	-	-	-	-	-	-	-	-	-	-	-
54	Ending Balance		32,015	31,856	42,889	65,583	88,277	110,971	110,971	110,971	53,846	53,013	53,013	58,590	58,590
57	Beginning Balance		$ 477,921	$ 472,943	$ 470,594	$ 654,434	$ 1,085,620	$ 1,516,806	$ 1,947,992	$ 1,947,992	$ 1,947,992	$ 973,058	$ 958,004	$ 958,004	$ 477,921
59	Injections	In 46 * In 69	-	-	231,600	431,186	431,186	431,186	-	-	1,307,852	-	-	-	2,833,010
61	Subtotal		$ 477,921	$ 472,943	$ 702,194	$ 1,085,620	$ 1,516,806	$ 1,947,992	$ 1,947,992	$ 1,947,992	$ 3,255,844	$ 973,058	$ 958,004	$ 958,004	
63	Withdrawals/ Adjust	In 52 * In 67	(4,978)	(2,349)	(47,760)	-	-	-	-	-	(2,282,786)	(15,054)	-	-	(2,352,927)
65	Ending Balance		$ 472,943	$ 470,594	$ 654,434	$ 1,085,620	$ 1,516,806	$ 1,947,992	$ 1,947,992	$ 1,947,992	$ 973,058	$ 958,004	$ 958,004	$ 958,004	$ 958,004
67	Average Rate For Withdrawals		$14.7725	$14.7725	$15.2247	$16.5534	$17.1823	$17.5541	$17.5541	$17.5541	$18.0710	$18.0710	$18.0710	$16.3509	
69	Propane Rate for Injections	Actual or Sch. 6, In 165 * 10	$14.7725	$14.7725	$15.2247	$16.5534	$17.1823	$17.5541	$18.9000	$18.9000	$18.9000	$18.9000	$18.9000	$0.0000	
72	Month Dollar Average	In (57 + In 65) /2				$ 870,027	$ 1,301,213	$ 1,732,399	$ 1,947,992	$ 1,947,992	$ 1,460,525	$ 965,531	$ 958,004	$ 958,004	
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	In 72 * In 74				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
79	**Liquid Natural Gas (LNG)**		May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Total
80			(Actual)	(Actual)	(Actual)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	(Estimate)	
81	Beginning Balance		11,460	10,769	10,761	12,163	13,565	14,967	16,369	16,148	7,418	6,890	6,739	15,636	11,460
83	Injections	Sch 11A In 37 /10	812	1,638	2,496	2,496	2,496	2,496	11,774	127,035	145,113	148,435	11,047	-	455,838
85	Subtotal		12,272	12,407	13,257	14,659	16,061	17,463	28,143	143,183	152,531	155,325	17,786	15,636	
87	Withdrawals	Sch 11A In 32 /10	(1,503)	(1,646)	(1,094)	(1,094)	(1,094)	(1,094)	(11,995)	(135,764)	(145,641)	(148,586)	(2,150)	(2,100)	(453,763)
89	Ending Balance		10,769	10,761	12,163	13,565	14,967	16,369	16,148	7,418	6,890	6,739	15,636	13,535	13,535
92	Beginning Balance		$ 88,967	$ 100,266	$ 118,983	$ 150,191	$ 180,308	$ 209,643	$ 238,370	$ 222,195	$ 169,342	$ 165,357	$ 159,641	$ 249,969	$ 88,967
94	Injections	In 83 * In 104	25,292	36,851	44,659	44,659	44,659	44,659	148,876	3,046,288	3,491,277	3,514,340	124,702	-	10,566,261
96	Subtotal		$ 114,259	$ 137,117	$ 163,641	$ 194,849	$ 224,966	$ 254,301	$ 387,246	$ 3,268,484	$ 3,660,618	$ 3,679,697	$ 284,344	$ 249,969	
98	Withdrawals	In 87 * In 102	(13,993)	(18,135)	(13,450)	(14,542)	(15,324)	(15,931)	(165,051)	(3,099,142)	(3,495,261)	(3,520,056)	(34,374)	(33,579)	(10,438,837)
100	Ending Balance		$ 100,266	$ 118,983	$ 150,191	$ 180,308	$ 209,643	$ 238,370	$ 222,195	$ 169,342	$ 165,357	$ 159,641	$ 249,969	$ 216,391	$ 216,391
102	Average Rate For Withdrawals		$9.3105	$11.0516	$12.3438	$13.2921	$14.0070	$14.5623	$13.7597	$22.8274	$23.9991	$23.6903	$15.9869	$15.9869	
104	LNG Rate for Injections	Actual or Sch. 6, In 164 * 10	$31.1481	$22.4977	$17.8921	$17.8921	$17.8921	$17.8921	$12.6440	$23.9800	$24.0590	$23.6760	$11.2880	$0.0000	
107	Month Dollar Average	In (92 + In 100) /2				$ 165,249	$ 194,975	$ 224,007	$ 230,283	$ 195,769	$ 167,349	$ 162,499	$ 204,805	$ 233,180	
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	In 107 * In 109				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
114	Total Fuel Financing	Ins 53 + 76 + 111				$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Peak 2022 - 2023 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-22	6,423,600	$ 0.0098	$ 62,864
Dec-22	7,939,840	0.0098	77,703
Jan-23	8,927,900	0.0098	87,373
Feb-23	7,449,610	0.0098	72,905
Mar-23	7,106,550	0.0098	69,548
Apr-23	5,275,420	0.0098	51,628
Total	**43,122,920**		**$ 422,021**

1/ Per Schedule 10B, line 34. Excludes special contract volumes subject to transportation cost of gas.

2/ Refer to Proposed Second Revised Page 98 for calculation of rate.

III DELIVERY TERMS AND CONDITIONS

ATTACHMENT B
Schedule of Administrative Fees and Charges

I.	Supplier Balancing Charge:	$ 0.21	
II.	Capacity Mitigation Fee	15% of the Proceeds from the Marketing of Capacity for Mitigation.	
III.	Peaking Demand Charge	$ 56.69	MMBTU of Peak MDQ
IV.	Company Allowance Calculation (per Schedule 25)		
		170,377,710	Total Sendout - Therms Jul-2018 - Jun-2019
		166,126,573	Total Throughput - Therms Jul-2018 - Jun-2019
		4,251,137	Variance (Sendout - Throughput)
	Company Allowance Percentage 2022-23	2.5%	Variance / Total Sendout

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

Calculation of Supplier Balancing Charge
2022-2023

Rate: **$ 0.2109 /MMBtu**

		Rate	Volume		Total	
Injection Cost		$ 0.0087	**331,633**	$	2,885	
Fuel	1.81%	$ 0.0498	**331,633**	$	16,507	
Withdrawal Cost		$ 0.0087	**229,846**	$	2,000	
Delivery Rate		$ 0.0421	229,846	$	9,678	
FTA Demand Charge		$ 0.2359	229,846	$	54,226	
FTA Commodity Charge		$ 0.1030	229,846	$	23,674	
Fuel	1.49%	$ 0.0410	229,846	$	9,418	
			Total Cost	$	118,388	
		Absolute Value of the	Sendout Error		**561,480**	MMBtu
			Rate	$	0.2109	/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	$	1.2801	/ MMBtu per month
	$	0.0421	/ MMBtu per day
TGP Z4-6 Demand Charge	$	7.1720	/ MMBtu per month
	$	0.2359	/ MMBtu per day
TGP Z4-6 Commodity Charge	$	0.1030	/ MMBtu

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

Calculation of Supplier Balancing Charge
2022-2023
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	696	694	2	1,568,263	1,564,464	3,799	60,784	32,291	28,492
Dec	913	913	-	2,117,278	2,117,278	(0)	80,260	40,130	40,130
Jan	1,315	1,293	22	3,086,621	3,043,588	43,033	117,362	80,197	37,165
Feb	990	975	15	2,369,504	2,342,994	26,510	92,936	59,723	33,213
Mar	761	736	25	1,732,238	1,692,369	39,870	84,524	62,197	22,327
Apr	455	459	(4)	1,094,027	1,100,826	(6,799)	64,589	28,895	35,694
May	185	181	4	607,712	604,152	3,559	23,135	13,347	9,788
Jun	4	6	(2)	205,729	206,626	(897)	897	-	897
Jul	18	21	(3)	478,760	479,522	(762)	1,701	470	1,232
Aug	-	-	-	346,071	346,071	-	-	-	-
Sep	19	22	(3)	363,716	365,812	(2,095)	3,492	698	2,794
Oct	248	252	(4)	696,565	700,996	(4,431)	31,800	13,685	18,115
Total	**5,604**	**5,552**	**52**	**14,666,484**	**14,564,697**	**101,787**	**561,480**	**331,633**	**229,846**

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Calculation of Supplier Balancing Charge
2021-2022

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, 2021	28	30	-2	58280.60622	61680.04141	-3399.43519	3399.43519	0	3399.435186
Apr 2, 2021	32	34	-2	65079.47659	68478.91178	-3399.43519	3399.43519	0	3399.435186
Apr 3, 2021	25	26	-1	53181.45344	54881.17104	-1699.71759	1699.71759	0	1699.717593
Apr 4, 2021	16	14	2	37883.9951	34484.55992	3399.43519	3399.43519	3399.43519	0
Apr 5, 2021	17	15	2	39583.7127	36184.27751	3399.43519	3399.43519	3399.43519	0
Apr 6, 2021	14	13	1	34484.55992	32784.84232	1699.71759	1699.71759	1699.71759	0
Apr 7, 2021	11	8	3	29385.40714	24286.25436	5099.15278	5099.15278	5099.15278	0
Apr 8, 2021	10	10	0	27685.68955	27685.68955	0	0	0	0
Apr 9, 2021	5	6	-1	19187.10158	20886.81917	-1699.71759	1699.71759	0	1699.717593
Apr 10, 2021	2	1	1	14087.9488	12388.23121	1699.71759	1699.71759	1699.71759	0
Apr 11, 2021	16	17	-1	37883.9951	39583.7127	-1699.71759	1699.71759	0	1699.717593
Apr 12, 2021	19	19	0	42983.14788	42983.14788	0	0	0	0
Apr 13, 2021	11	10	1	29385.40714	27685.68955	1699.71759	1699.71759	1699.71759	0
Apr 14, 2021	13	12	1	32784 84232	31085.12473	1699.71759	1699.71759	1699.71759	0
Apr 15, 2021	21	22	-1	46382 58307	48082.30066	-1699.71759	1699.71759	0	1699.717593
Apr 16, 2021	26	27	-1	54881.17104	56580.88863	-1699.71759	1699.71759	0	1699.717593
Apr 17, 2021	20	20	0	44682 86548	44682.86548	0	0	0	0
Apr 18, 2021	15	14	1	36184 27751	34484.55992	1699.71759	1699.71759	1699.71759	0
Apr 19, 2021	9	10	-1	25985 97195	27685.68955	-1699.71759	1699.71759	0	1699.717593
Apr 20, 2021	7	7	0	22586 53677	22586.53677	0	0	0	0
Apr 21, 2021	17	22	-5	39583.7127	48082.30066	-8498.58797	8498 58797	0	8498.587966
Apr 22, 2021	24	25	-1	51481.73585	53181.45344	-1699.71759	1699.71759	0	1699.717593
Apr 23, 2021	13	13	0	32784 84232	32784.84232	0	0	0	0
Apr 24, 2021	7	4	3	22586 53677	17487.38399	5099.15278	5099.15278	5099.15278	0
Apr 25, 2021	16	16	0	37883.9951	37883.9951	0	0	0	0
Apr 26, 2021	17	18	-1	39583.7127	41283.43029	-1699.71759	1699.71759	0	1699.717593
Apr 27, 2021	9	7	2	25985 97195	22586.53677	3399.43519	3399.43519	3399.43519	0
Apr 28, 2021	9	11	-2	25985 97195	29385.40714	-3399.43519	3399.43519	0	3399.435186
Apr 29, 2021	12	14	-2	31085.12473	34484.55992	-3399.43519	3399.43519	0	3399.435186
Apr 30, 2021	14	14	0	34484 55992	34484.55992	0	0	0	0
May 1, 2021	12	11	1	24971.178	24081.36584	889.812165	889.812165	889.812165	0
May 2, 2021	4	0	4	17852 68068	14293.43202	3559.24866	3559 24866	3559 24866	0
May 3, 2021	11	9	2	24081 36584	22301.74151	1779.62433	1779 62433	1779 62433	0
May 4, 2021	14	12	2	26750 80233	24971.178	1779.62433	1779 62433	1779 62433	0
May 5, 2021	13	15	-2	25860 99016	27640.61449	-1779.62433	1779 62433	0	1779.624329
May 6, 2021	13	9	4	25860 99016	22301.74151	3559.24866	3559 24866	3559 24866	0
May 7, 2021	13	14	-1	25860 99016	26750.80233	-889.812165	889.812165	0	889 8121646
May 8, 2021	11	11	0	24081 36584	24081.36584	0	0	0	0
May 9, 2021	7	8	-1	20522.11718	21411.92934	-889.812165	889.812165	0	889 8121646
May 10, 2021	9	7	2	22301.74151	20522.11718	1779.62433	1779 62433	1779 62433	0
May 11, 2021	11	11	0	24081 36584	24081.36584	0	0	0	0
May 12, 2021	8	8	0	21411 92934	21411.92934	0	0	0	0
May 13, 2021	4	5	-1	17852 68068	18742.49285	-889.812165	889.812165	0	889 8121646
May 14, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 15, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 16, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 17, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 18, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 19, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 20, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 21, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 22, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 23, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 24, 2021	2	4	-2	16073 05635	17852 68068	-1779.62433	1779 62433	0	1779.624329
May 25, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 26, 2021	0	0	0	14293.43202	14293.43202	0	0	0	0
May 27, 2021	0	1	-1	14293.43202	15183 24419	-889 812165	889.812165	0	889 8121646
May 28, 2021	11	14	-3	24081 36584	26750 80233	-2669.43649	2669.43649	0	2669.436494
May 29, 2021	17	17	0	29420 23882	29420 23882	0	0	0	0
May 30, 2021	16	16	0	28530.42666	28530.42666	0	0	0	0
May 31, 2021	9	9	0	22301.74151	22301.74151	0	0	0	0
Jun 1, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 2, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 3, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 4, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 5, 2021	0	0	0	11329.70941	11329.70941	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, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 7, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 8, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 9, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 10, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 11, 2021	4	5	-1	13123.90543	13572.45443	-448.549004	448.549004	0	448 5490037
Jun 12, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 13, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 14, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 15, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 16, 2021	0	1	-1	11329.70941	11778.25842	-448.549004	448.549004	0	448 5490037
Jun 17, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 18, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 19, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 20, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 21, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 22, 2021	1	2	-1	11778 25842	12226.80742	-448.549004	448.549004	0	448 5490037
Jun 23, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 24, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 25, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 26, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 27, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 28, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 29, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jun 30, 2021	0	0	0	11329.70941	11329.70941	0	0	0	0
Jul 1, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 2, 2021	5	7	-2	12106 04958	12419.23155	-313.181965	313.181965	0	313.1819651
Jul 3, 2021	7	8	-1	12419 23155	12575.82253	-156.590983	156.590983	0	156 5909826
Jul 4, 2021	5	2	3	12106 04958	11636.27663	469.772948	469.772948	469.772948	0
Jul 5, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 6, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 7, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 8, 2021	0	2	-2	11323 09467	11636.27663	-313.181965	313.181965	0	313.1819651
Jul 9, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 10, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 11, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 12, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 13, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 14, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 15, 2021	0	0	0	11323 09467	11323.09467	0	0	0	0
Jul 16, 2021	0	0	0	11323 09467	11323 09467	0	0	0	0
Jul 17, 2021	0	0	0	11323 09467	11323 09467	0	0	0	0
Jul 18, 2021	0	0	0	11323 09467	11323 09467	0	0	0	0
Jul 19, 2021	0	0	0	11323 09467	11323 09467	0	0	0	0
Jul 20, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 21, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 23, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 23, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 24, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 25, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 26, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 27, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 28, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 29, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 30, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Jul 31, 2021	0	0	0	11323.09467	11323 09467	0	0	0	0
Aug 1, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 2, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 3, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 4, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 5, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 6, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 7, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 8, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 8, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 10, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0
Aug 11, 2021	0	0	0	11158.25093	11158 25093	0	0	0	0

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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)
8/12/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/13/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/14/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/15/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/16/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/17/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/18/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/19/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/20/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/21/2021	0	0	0	11158.25093	11158.25093	0	0	0	0
8/22/2021	0	0	0	11158 25093	11158.25093	0	0	0	0
8/23/2021	0	0	0	11158 25093	11158.25093	0	0	0	0
8/24/2021	0	0	0	11158 25093	11158.25093	0	0	0	0
8/25/2021	0	0	0	11158 25093	11158.25093	0	0	0	0
8/26/2021	0	0	0	11158 25093	11158.25093	0	0	0	0
8/27/2021	0	0	0	11158 25093	11158.25093	0	0	0	0
8/28/2021	0	0	0	11158 25093	11158.25093	0	0	0	0
8/29/2021	0	0	0	11158 25093	11158.25093	0	0	0	0
8/30/2021	0	0	0	11158 25093	11158.25093	0	0	0	0
8/31/2021	0	0	0	11158 25093	11158.25093	0	0	0	0
9/1/2021	0	1	-1	11699 57295	12398.01574	-698.442789	698.442789	0	698.4427892
9/2/2021	1	0	1	12398 01574	11699.57295	698.442789	698.442789	698.442789	0
9/3/2021	0	0	0	11699 57295	11699.57295	0	0	0	0
9/4/2021	0	0	0	11699 57295	11699.57295	0	0	0	0
9/5/2021	0	0	0	11699 57295	11699.57295	0	0	0	0
9/6/2021	0	0	0	11699 57295	11699.57295	0	0	0	0
9/7/2021	0	0	0	11699 57295	11699.57295	0	0	0	0
9/8/2021	0	0	0	11699 57295	11699.57295	0	0	0	0
9/9/2021	0	0	0	11699 57295	11699.57295	0	0	0	0
9/10/2021	1	1	0	12398 01574	12398.01574	0	0	0	0
9/11/2021	0	0	0	11699 57295	11699 57295	0	0	0	0
9/12/2021	0	0	0	11699 57295	11699 57295	0	0	0	0
9/13/2021	0	0	0	11699 57295	11699 57295	0	0	0	0
9/14/2021	0	0	0	11699 57295	11699 57295	0	0	0	0
9/15/2021	0	0	0	11699.57295	11699 57295	0	0	0	0
9/16/2021	0	0	0	11699.57295	11699 57295	0	0	0	0
9/17/2021	0	0	0	11699.57295	11699 57295	0	0	0	0
9/18/2021	0	0	0	11699.57295	11699 57295	0	0	0	0
9/19/2021	1	1	0	12398.01574	12398 01574	0	0	0	0
9/20/2021	2	2	0	13096.45853	13096.45853	0	0	0	0
9/21/2021	0	0	0	11699.57295	11699 57295	0	0	0	0
9/22/2021	0	0	0	11699.57295	11699 57295	0	0	0	0
9/23/2021	0	0	0	11699.57295	11699 57295	0	0	0	0
9/24/2021	0	0	0	11699.57295	11699 57295	0	0	0	0
9/25/2021	0	0	0	11699.57295	11699 57295	0	0	0	0
9/26/2021	1	3	-2	12398.01574	13794 90132	-1396.88558	1396 88558	0	1396 885578
9/27/2021	0	0	0	11699.57295	11699 57295	0	0	0	0
9/28/2021	5	6	-1	15191.7869	15890 22969	-698.442789	698.442789	0	698.4427892
9/29/2021	8	8	0	17287.11527	17287.11527	0	0	0	0
9/30/2021	10	11	-1	18684.00084	19382.44363	-698.442789	698.442789	0	698.4427892
10/1/2021	8	9	-1	22268.44474	23512 51636	-1244.07162	1244 07162	0	1244 071617
10/2/2021	2	3	-1	14804.01504	16048 08666	-1244.07162	1244 07162	0	1244 071617
10/3/2021	6	6	0	19780.30151	19780 30151	0	0	0	0
10/4/2021	10	9	1	24756.58798	23512 51636	1244.07162	1244 07162	1244.07162	0
10/5/2021	9	7	2	23512.51636	21024 37313	2488.14324	2488.14324	2488.14324	0
10/6/2021	4	3	1	17292.15828	16048 08666	1244.07162	1244 07162	1244.07162	0
10/7/2021	2	2	0	14804.01504	14804 01504	0	0	0	0
10/8/2021	4	4	0	17292.15828	17292.15828	0	0	0	0
10/9/2021	9	8	1	23512.51636	22268.44474	1244.07162	1244 07162	1244.07162	0
10/10/2021	6	4	2	19780.30151	17292.15828	2488.14324	2488.14324	2488.14324	0
10/11/2021	4	4	0	17292.15828	17292.15828	0	0	0	0
10/12/2021	1	1	0	13559.94342	13559 94342	0	0	0	0
10/13/2021	0	0	0	12315.87181	12315 87181	0	0	0	0
10/14/2021	0	0	0	12315.87181	12315 87181	0	0	0	0
10/15/2021	0	0	0	12315.87181	12315 87181	0	0	0	0
10/16/2021	0	0	0	12315.87181	12315 87181	0	0	0	0
10/17/2021	8	10	-2	22268.44474	24756 58798	-2488.14324	2488.14324	0	2488.143235

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10/18/2021	14	14	0	29732.87445	29732.87445	0	0	0	0
10/19/2021	10	11	-1	24756.58798	26000.6596	-1244.07162	1244 07162	0	1244.071617
10/20/2021	4	3	1	17292.15828	16048.08666	1244.07162	1244 07162	1244.07162	0
10/21/2021	0	1	-1	12315.87181	13559.94342	-1244.07162	1244 07162	0	1244.071617
10/22/2021	7	8	-1	21024.37313	22268.44474	-1244.07162	1244 07162	0	1244.071617
10/23/2021	16	17	-1	32221.01768	33465.0893	-1244.07162	1244 07162	0	1244.071617
10/24/2021	16	15	1	32221.01768	30976.94607	1244.07162	1244 07162	1244.07162	0
10/25/2021	16	17	-1	32221.01768	33465.0893	-1244.07162	1244 07162	0	1244.071617
10/26/2021	13	13	0	28488.80283	28488.80283	0	0	0	0
10/27/2021	17	16	1	33465.0893	32221.01768	1244.07162	1244 07162	1244.07162	0
10/28/2021	20	22	-2	37197.30415	39685.44739	-2488.14324	2488.14324	0	2488.143235
10/29/2021	16	17	-1	32221.01768	33465.0893	-1244.07162	1244 07162	0	1244.071617
10/30/2021	8	10	-2	22268.44474	24756.58798	-2488.14324	2488.14324	0	2488.143235
10/31/2021	8	7	1	22268.44474	21024.37313	1244.07162	1244 07162	1244.07162	0
11/1/2021	16	16	0	38599.13528	38599.13528	0	0	0	0
11/2/2021	20	18	2	46197.08616	42398.11072	3798.97544	3798 97544	3798.97544	0
11/3/2021	23	24	-1	51895 54933	53795.03705	-1899.48772	1899.48772	0	1899.487721
11/4/2021	25	24	1	55694 52477	53795.03705	1899.48772	1899.48772	1899.48772	0
11/5/2021	26	27	-1	57594 01249	59493.50021	-1899.48772	1899.48772	0	1899.487721
11/6/2021	24	26	-2	53795 03705	57594.01249	-3798.97544	3798 97544	0	3798.975442
11/7/2021	21	22	-1	48096 57389	49996.06161	-1899.48772	1899.48772	0	1899.487721
11/8/2021	17	18	-1	40498 623	42398.11072	-1899.48772	1899.48772	0	1899.487721
11/9/2021	12	7	5	31001.1844	21503.74579	9497.43861	9497.43861	9497.43861	0
11/10/2021	19	21	-2	44297 59844	48096.57389	-3798.97544	3798 97544	0	3798.975442
11/11/2021	16	14	2	38599.13528	34800.15984	3798.97544	3798 97544	3798 97544	0
11/12/2021	15	16	-1	36699 64756	38599.13528	-1899.48772	1899.48772	0	1899.487721
11/13/2021	19	19	0	44297 59844	44297.59844	0	0	0	0
11/14/2021	21	21	0	48096 57389	48096.57389	0	0	0	0
11/15/2021	24	24	0	53795 03705	53795.03705	0	0	0	0
11/16/2021	28	27	1	61392 98793	59493.50021	1899.48772	1899.48772	1899.48772	0
11/17/2021	19	20	-1	44297 59844	46197.08616	-1899.48772	1899.48772	0	1899.487721
11/18/2021	13	11	2	32900 67212	29101.69668	3798.97544	3798 97544	3798 97544	0
11/19/2021	27	27	0	59493 50021	59493.50021	0	0	0	0
11/20/2021	26	25	1	57594 01249	55694.52477	1899.48772	1899.48772	1899.48772	0
11/21/2021	16	17	-1	38599.13528	40498 623	-1899.48772	1899.48772	0	1899.487721
11/22/2021	25	25	0	55694 52477	55694.52477	0	0	0	0
11/23/2021	34	34	0	72789 91426	72789.91426	0	0	0	0
11/24/2021	30	31	-1	65191 96337	67091.4511	-1899.48772	1899.48772	0	1899.487721
11/25/2021	23	20	3	51895 54933	46197.08616	5698.46316	5698.46316	5698.46316	0
11/26/2021	27	28	-1	59493 50021	61392.98793	-1899.48772	1899.48772	0	1899.487721
11/27/2021	35	36	-1	74689.40198	76588.8897	-1899.48772	1899.48772	0	1899.487721
11/28/2021	31	31	0	67091.4511	67091.4511	0	0	0	0
11/29/2021	34	35	-1	72789 91426	74689.40198	-1899.48772	1899.48772	0	1899.487721
11/30/2021	30	30	0	65191 96337	65191.96337	0	0	0	0
12/1/2021	28	27	1	65872 09732	64200.02408	1672.07324	1672 07324	1672 07324	0
12/2/2021	20	23	-3	52495.5114	57511.73112	-5016.21972	5016 21972	0	5016.219721
12/3/2021	34	33	1	75904 53677	74232.46352	1672.07324	1672 07324	1672 07324	0
12/4/2021	29	30	-1	67544.17056	69216.2438	-1672.07324	1672 07324	0	1672.07324
12/5/2021	26	25	1	62527 95084	60855.8776	1672.07324	1672 07324	1672 07324	0
12/6/2021	19	19	0	50823.43816	50823.43816	0	0	0	0
12/7/2021	31	32	-1	70888 31704	72560 39028	-1672.07324	1672 07324	0	1672.07324
12/8/2021	34	37	-3	75904.53677	80920.75649	-5016.21972	5016 21972	0	5016.219721
12/9/2021	33	35	-2	74232.46352	77576 61001	-3344.14648	3344.14648	0	3344.14648
12/10/2021	30	33	-3	69216.2438	74232.46352	-5016.21972	5016 21972	0	5016.219721
12/11/2021	17	21	-4	47479.29168	54167 58464	-6688.29296	6688 29296	0	6688.292961
12/12/2021	25	25	0	60855.8776	60855.8776	0	0	0	0
12/13/2021	22	20	2	55839.65788	52495.5114	3344.14648	3344.14648	3344.14648	0
12/14/2021	30	28	2	69216.2438	65872 09732	3344.14648	3344.14648	3344.14648	0
12/15/2021	23	25	-2	57511.73112	60855.8776	-3344.14648	3344.14648	0	3344.14648
12/16/2021	14	13	1	42463.07196	40790 99872	1672.07324	1672 07324	1672.07324	0
12/17/2021	26	21	5	62527.95084	54167 58464	8360 3662	8360.3662	8360.3662	0
12/18/2021	32	33	-1	72560.39028	74232.46352	-1672.07324	1672 07324	0	1672.07324
12/19/2021	41	42	-1	87609.04945	89281.12269	-1672.07324	1672 07324	0	1672.07324
12/20/2021	37	38	-1	80920.75649	82592 82973	-1672.07324	1672 07324	0	1672.07324
12/21/2021	34	32	2	75904.53677	72560 39028	3344.14648	3344.14648	3344.14648	0
12/22/2021	36	32	4	79248.68325	72560 39028	6688.29296	6688 29296	6688.29296	0
12/23/2021	42	42	0	89281.12269	89281.12269	0	0	0	0

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12/24/2021	39	38	1	84264.90297	82592.82973	1672.07324	1672 07324	1672.07324	0
12/25/2021	32	32	0	72560.39028	72560.39028	0	0	0	0
12/26/2021	35	33	2	77576.61001	74232.46352	3344.14648	3344.14648	3344.14648	0
12/27/2021	34	34	0	75904.53677	75904.53677	0	0	0	0
12/28/2021	30	28	2	69216.2438	65872.09732	3344.14648	3344.14648	3344.14648	0
12/29/2021	28	28	0	65872.09732	65872.09732	0	0	0	0
12/30/2021	27	28	-1	64200.02408	65872.09732	-1672.07324	1672 07324	0	1672.07324
12/31/2021	25	26	-1	60855.8776	62527.95084	-1672.07324	1672 07324	0	1672.07324
1/1/2022	23	25	-2	61583.49549	65495.56413	-3912.06864	3912 06864	0	3912.068638
1/2/2022	36	33	3	87011.94163	81143.83868	5868.10296	5868.10296	5868.10296	0
1/3/2022	44	46	-2	102660.2162	106572.2848	-3912.06864	3912 06864	0	3912.068638
1/4/2022	38	37	1	90924.01027	88967.97595	1956.03432	1956 03432	1956.03432	0
1/5/2022	27	30	-3	69407.63276	75275.73572	-5868.10296	5868.10296	0	5868.102957
1/6/2022	36	33	3	87011.94163	81143.83868	5868.10296	5868.10296	5868.10296	0
1/7/2022	43	42	1	100704.1819	98748.14755	1956.03432	1956 03432	1956.03432	0
1/8/2022	44	44	0	102660.2162	102660.2162	0	0	0	0
1/9/2022	34	31	3	83099.87299	77231.77004	5868.10296	5868.10296	5868.10296	0
1/10/2022	50	48	2	114396.4221	110484.3535	3912.06864	3912 06864	3912.06864	0
1/11/2022	57	58	-1	128088.6623	130044.6966	-1956.03432	1956 03432	0	1956.034319
1/12/2022	41	34	7	96792.11323	83099.87299	13692 2402	13692.2402	13692.2402	0
1/13/2022	34	32	2	83099 87299	79187.80436	3912.06864	3912 06864	3912.06864	0
1/14/2022	48	48	0	110484.3535	110484.3535	0	0	0	0
1/15/2022	58	60	-2	130044.6966	133956.7653	-3912.06864	3912 06864	0	3912.068638
1/16/2022	38	39	-1	90924 01027	92880.04459	-1956.03432	1956 03432	0	1956.034319
1/17/2022	33	30	3	81143 83868	75275.73572	5868.10296	5868.10296	5868.10296	0
1/18/2022	47	45	2	108528.3191	104616.2505	3912.06864	3912 06864	3912 06864	0
1/19/2022	28	26	2	71363 66708	67451.59844	3912.06864	3912 06864	3912 06864	0
1/20/2022	49	47	2	112440.3878	108528.3191	3912.06864	3912 06864	3912 06864	0
1/21/2022	53	54	-1	120264.5251	122220.5594	-1956.03432	1956 03432	0	1956.034319
1/22/2022	46	47	-1	106572.2848	108528.3191	-1956.03432	1956 03432	0	1956.034319
1/23/2022	44	38	6	102660.2162	90924.01027	11736 2059	11736.2059	11736.2059	0
1/24/2022	39	38	1	92880 04459	90924.01027	1956.03432	1956 03432	1956 03432	0
1/25/2022	40	39	1	94836 07891	92880.04459	1956.03432	1956 03432	1956 03432	0
1/26/2022	53	54	-1	120264.5251	122220.5594	-1956.03432	1956 03432	0	1956.034319
1/27/2022	41	42	-1	96792.11323	98748.14755	-1956.03432	1956 03432	0	1956.034319
1/28/2022	40	38	2	94836 07891	90924.01027	3912.06864	3912 06864	3912 06864	0
1/29/2022	52	52	0	118308.4907	118308.4907	0	0	0	0
1/30/2022	52	54	-2	118308.4907	122220.5594	-3912.06864	3912 06864	0	3912.068638
1/31/2022	47	49	-2	108528.3191	112440.3878	-3912.06864	3912 06864	0	3912.068638
2/1/2022	35	36	-1	83559.5075	85316.06341	-1756.55591	1756 55591	0	1756.55591
2/2/2022	27	25	2	69507 06022	65993.9484	3513.11182	3513.11182	3513.11182	0
2/3/2022	28	25	3	71263 61613	65993.9484	5269.66773	5269 66773	5269 66773	0
2/4/2022	43	42	1	97611 95478	95855.39887	1756.55591	1756 55591	1756 55591	0
2/5/2022	54	50	4	116934.0698	109907.8462	7026.22364	7026 22364	7026 22364	0
2/6/2022	48	44	4	106394.7343	99368.5107	7026.22364	7026 22364	7026 22364	0
2/7/2022	29	32	-3	73020.17204	78289 83977	-5269.66773	5269 66773	0	5269.667731
2/8/2022	32	30	2	78289 83977	74776.72795	3513.11182	3513.11182	3513.11182	0
2/9/2022	30	30	0	74776.72795	74776.72795	0	0	0	0
2/10/2022	28	27	1	71263 61613	69507 06022	1756.55591	1756 55591	1756 55591	0
2/11/2022	19	17	2	55454 61293	51941 50111	3513.11182	3513.11182	3513.11182	0
2/12/2022	26	25	1	67750 50431	65993.9484	1756.55591	1756 55591	1756 55591	0
2/13/2022	40	41	-1	92342.28705	94098 84296	-1756.55591	1756 55591	0	1756.55591
2/14/2022	50	50	0	109907.8462	109907.8462	0	0	0	0
2/15/2022	46	45	1	102881.6225	101125.0666	1756.55591	1756 55591	1756 55591	0
2/16/2022	20	21	-1	57211.16884	58967.72475	-1756.55591	1756 55591	0	1756.55591
2/17/2022	8	7	1	36132.49792	34375 94201	1756.55591	1756 55591	1756 55591	0
2/18/2022	37	39	-2	87072.61932	90585.73114	-3513.11182	3513.11182	0	3513.111821
2/19/2022	39	42	-3	90585.73114	95855 39887	-5269.66773	5269 66773	0	5269 667731
2/20/2022	32	34	-2	78289.83977	81802 95159	-3513.11182	3513.11182	0	3513.111821
2/21/2022	26	24	2	67750.50431	64237 39249	3513.11182	3513.11182	3513.11182	0
2/22/2022	12	14	-2	43158.72156	46671 83338	-3513.11182	3513.11182	0	3513.111821
2/23/2022	29	28	1	73020.17204	71263 61613	1756.55591	1756 55591	1756.55591	0
2/24/2022	39	41	-2	90585.73114	94098 84296	-3513.11182	3513.11182	0	3513.111821
2/25/2022	46	47	-1	102881.6225	104638.1784	-1756.55591	1756 55591	0	1756.55591
2/26/2022	44	40	4	99368.5107	92342 28705	7026.22364	7026 22364	7026.22364	0
2/27/2022	41	39	2	94098.84296	90585.73114	3513.11182	3513.11182	3513.11182	0
2/28/2022	51	48	3	111664.4021	106394.7343	5269.66773	5269 66773	5269.66773	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)
3/1/2022	31	32	-1	66725.24099	68320.02821	-1594.78723	1594.78723	0	1594.787227
3/2/2022	34	32	2	71509.60267	68320.02821	3189.57445	3189 57445	3189.57445	0
3/3/2022	46	44	2	90647.04939	87457.47494	3189.57445	3189 57445	3189.57445	0
3/4/2022	43	40	3	85862.68771	81078.32603	4784.36168	4784 36168	4784.36168	0
3/5/2022	30	28	2	65130.45376	61940.87931	3189.57445	3189 57445	3189.57445	0
3/6/2022	12	10	2	36424.28368	33234.70922	3189.57445	3189 57445	3189.57445	0
3/7/2022	19	21	-2	47587.79427	50777.36872	-3189.57445	3189 57445	0	3189.574454
3/8/2022	31	31	0	66725.24099	66725.24099	0	0	0	0
3/9/2022	32	35	-3	68320.02821	73104.38989	-4784.36168	4784 36168	0	4784.36168
3/10/2022	27	27	0	60346.09208	60346.09208	0	0	0	0
3/11/2022	23	21	2	53966.94317	50777.36872	3189.57445	3189 57445	3189.57445	0
3/12/2022	38	38	0	77888.75157	77888.75157	0	0	0	0
3/13/2022	36	34	2	74699.17712	71509.60267	3189.57445	3189 57445	3189.57445	0
3/14/2022	23	21	2	53966 94317	50777.36872	3189.57445	3189 57445	3189.57445	0
3/15/2022	21	20	1	50777 36872	49182.58149	1594.78723	1594.78723	1594.78723	0
3/16/2022	20	17	3	49182 58149	44398.21981	4784.36168	4784 36168	4784.36168	0
3/17/2022	14	13	1	39613 85813	38019.0709	1594.78723	1594.78723	1594.78723	0
3/18/2022	9	6	3	31639 922	26855.56032	4784.36168	4784 36168	4784.36168	0
3/19/2022	16	21	-5	42803.43258	50777.36872	-7973.93613	7973 93613	0	7973.936134
3/20/2022	17	16	1	44398 21981	42803.43258	1594.78723	1594.78723	1594.78723	0
3/21/2022	22	20	2	52372.15595	49182.58149	3189.57445	3189 57445	3189 57445	0
3/22/2022	28	25	3	61940 87931	57156.51763	4784.36168	4784 36168	4784 36168	0
3/23/2022	23	22	1	53966 94317	52372.15595	1594.78723	1594.78723	1594.78723	0
3/24/2022	24	25	-1	55561.7304	57156.51763	-1594.78723	1594.78723	0	1594.787227
3/25/2022	16	14	2	42803.43258	39613.85813	3189.57445	3189 57445	3189 57445	0
3/26/2022	21	19	2	50777 36872	47587.79427	3189.57445	3189 57445	3189 57445	0
3/27/2022	29	30	-1	63535 66653	65130.45376	-1594.78723	1594.78723	0	1594.787227
3/28/2022	41	42	-1	82673.11326	84267.90048	-1594.78723	1594.78723	0	1594.787227
3/29/2022	34	33	1	71509 60267	69914.81544	1594.78723	1594.78723	1594.78723	0
3/30/2022	24	22	2	55561.7304	52372.15595	3189.57445	3189 57445	3189 57445	0
3/31/2022	8	9	-1	30045.13477	31639 922	-1594.78723	1594.78723	0	1594.787227

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

Docket DE 98-124 Gas Restructuring
Peaking Demand Rate

					Source:
1	Peak Day		165,638	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) 358905	40,000		
		TGP FT-A (Z6-Z6) 72694	30,000		
10			119,718	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		17,805	Dekatherm	Line 1 - Line 10 - Line 18
21					
22					
23	Peaking Costs				
23					
23	Gas Supply		$ 2,370,511		Attachment B Page 3 Line 11
25	Indirect Production & Storage Capacity		$ 3,685,458		Summary Page Line 68
26	Granite Ridge		$ -		Attachment B Page 3 Line 1
27	Total		$ 6,055,969		Sum Line 24 - 26
28					
29	Annual Peaking Rate per MDQ		$ 340.13		Line 27 divided by Line 20
30					
31	**Monthly Peaking MDQ**		**$ 56.69**	**/Dekatherm**	Line 29 divided by 6 month

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Tennessee Allocations

Resource Type	High Load Factor	Low Load Factor
Pipeline	79 5%	71 5%
Storage	12 6%	17 4%
Peaking	7 9%	11 0%
TOTAL:	100 00%	100 00%

Capacity Resources effective November 1, 2022*

*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		$13 5069		10/31/2026	
	Iroquois	RTS to Wright	470-01	4,047		$5 2357		11/1/2022	
	TGP	NET-NE (Z5-Z6)	95346	4,000		$6 1635		11/30/2022	
	TGP	FT-A (Z5-Z6)	2302	3,122		$6 1635		10/31/2025	
	TGP	FT-A (Z0-Z6)	8587	7,035		$19 9267		10/31/2025	
	TGP	FT-A (Z1-Z6)	8587	14,561		$17 6917		10/31/2025	
	TCPL + Union	FT to Parkway & PNGT	M12284 & TC	5,000		$20 5005		10/31/2040	
	PNGTS	FT	225800	5,000		$22 7943		10/31/2040	
	TGP	FT-A (Z6-Z6)	42076	20,000		$4 0968		10/31/2025	
	TGP	FT-A (Z6-Z6)	358905	40,000		$4 0968		10/31/2041	
	TGP	FT-A (Z6-Z6)	72694	30,000		$12 2188		10/31/2029	
Storage									
	TGP	FS-MA (Storage)	523*	21,844	1,560,391	$1 2801	$0 0175	10/31/2025	
	TGP	FT-A (Z4-Z6)	632	15,265		$7 0128		10/31/2025	
	TGP	FT-A (Z4-Z6)	8587	3,811		$7 0128		10/31/2025	
	National Fuel	FSS-1 (Storage)	O02357*	6,098	670,800	$2 6568	$0 0480	3/31/2023	
	National Fuel	FST (Transport)	N02358	6,098		$4 9801		3/31/2023	
	TGP	FT-A (Z4-Z6)	11234	6,150		$7.0128		10/31/2025	
	Honeoye	SS-NY (Storage)	SS-NY**	1,957	245,380	$4.2672	$0 0000	3/31/2023	X
	TGP	FT-A (Z5-Z6)	11234	1,957		$6.1635		10/31/2025	
	Dominion	GSS (Storage)	300076*	934	102,700	$3 2548	$0 0318	3/31/2024	
	TGP	FT-A (Z4-Z6)	11234	932		$7.0128		10/31/2025	
Peaking									
	Energy North	LNG/Propane****		17,805	-	$56.6900	$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 11/01/22. 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]	[redacted]	[redacted]	[redacted]	[redacted]
2		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
3						
4	Subtotal					**$ 2,370,511.00** *
5						
6	**Total**					**$ 2,370,511.00**

* Effective November 2022

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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	71.5%	17.4%	11.0%	100.0%
G-51	**LALW**	Low Annual C&I - Low Winter Use	79.5%	12.6%	7.9%	100.0%
G-42	**MAHW**	Medium C&I - High Winter Use	71.5%	17.4%	11.0%	100.0%
G-52	**MALW**	Medium C&I - Low Winter Use	79.5%	12.6%	7.9%	100.0%
G-43	**HAHW**	High Annual C&I - High Winter Use	71.5%	17.4%	11.0%	100.0%
G-53	**HALW90**	High Annual C&I - LF < 90%	79.5%	12.6%	7.9%	100.0%
G-54	**HALWG90**	High Annual C&I - LF > 90%	79.5%	12.6%	7.9%	100.0%

HLF	High Load Factor	79.50%	12.55%	7.95%	100%
LLF	Low Load Factor	71.53%	17.43%	11.04%	100%
	Total	72.28%	16.97%	10.75%	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			**69.390**	
		Base load	**Heat load**	**Total**
HLF	**R-1 RNSH**	97	544	641
LLF	**R-3 RSH**	3,484	68,728	72,211
LLF	**G-41 SL**	968	29,139	30,106
HLF	**G-51 SH**	742	1,904	2,646
LLF	**G-42 ML**	1,839	36,309	38,148
HLF	**G-52 MH**	1,742	3,738	5,480
LLF	**G-43 LL**	645	8,977	9,623
HLF	**G-53 LLL90**	1,871	3,492	5,363
HLF	**G-54 LLG90**	419	1,001	1,421
	TOTAL	11,806	153,832	165,638

HLF	4,871	10,679	15,550
LLF	6,935	143,152	150,088
Total	11,806	153,832	165,638

Allocate Class Design Day Throughput to Supply Sources

	Base Pipeline	**Remaining Pipeline**	**Sub-total Pipeline**	**Storage**	**Peaking**	**Total**
R-1 RNSH	97	382	478	99	62.97	641
R-3 RSH	3,484	48,212	51,696	12,561	7,955	72,211
G-41 SL	968	20,441	21,408	5,326	3,373	30,106
G-51 SH	742	1,336	2,078	348	220	2,646
G-42 ML	1,839	25,470	27,309	6,636	4,203	38,148
G-52 MH	1,742	2,622	4,364	683	433	5,480
G-43 LL	645	6,298	6,943	1,641	1,039	9,623
G-53 LLL90	1,871	2,449	4,320	638	404	5,363
G-54 LLG90	419	702	1,122	183	116	1,421
TOTAL	11,806	107,912	119,718	28,115	17,805	165,638

HLF	4,871	7,491	12,362	1,952	1,236	15,550
LLF	6,935	100,420	107,356	26,163	16,569	150,088
Total	11,806	107,912	119,718	28,115	17,805	165,638

% of Peak Day Requirement

	Pipeline	**Storage**	**Peaking**	**Total**
R-1 RNSH	74.7%	15.5%	9.8%	100.0%
R-3 RSH	71.6%	17.4%	11.0%	100.0%
G-41 SL	71.1%	17.7%	11.2%	100.0%
G-51 SH	78.5%	13.2%	8.3%	100.0%
G-42 ML	71.6%	17.4%	11.0%	100.0%
G-52 MH	79.6%	12.5%	7.9%	100.0%
G-43 LL	72.2%	17.1%	10.8%	100.0%
G-53 LLL90	80.6%	11.9%	7.5%	100.0%
G-54 LLG90	79.0%	12.9%	8.2%	100.0%
TOTAL	72.3%	17.0%	10.7%	100.0%

High Load Factor	79.50%	12.55%	7.95%	100%
Low Load Factor	71.53%	17.43%	11.04%	100%
Total	72.28%	16.97%	10.75%	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 69.39

	Daily Baseload * 1000	Heating Factor * 1000	Heat load (Heating Factor * Design DD)	Total
R-1 RNSH	97	7.81	542	639
R-3 RSH	3,484	986.86	68,478	71,962
G-41 SL	968	418.40	29,033	30,001
G-51 SH	742	27.34	1,897	2,639
G-42 ML	1,839	521.36	36,177	38,016
G-52 MH	1,742	53.67	3,724	5,466
G-43 LL	645	128.91	8,945	9,590
G-53 LLL90	1,871	50.14	3,479	5,350
G-54 LLG90	419	14.38	998	1,417
TOTAL	11,806	2,152.00	153,273	165,079

HLF	4,871	153	10,640	15,511
LLF	6,935	1,999	142,633	149,568
Total	11,806	2,152	153,273	165,079

Design Day from 2022-2023 COG	**165,638**
Design Day from Gas Load Calculation	165,079
Variance	559

Allocate Design Day Sendout to Rate Classes

Baseload as % of Total Class Load	Heat Load as % of Total
15%	0.354%
5%	44.677%
3%	18.942%
28%	1.238%
5%	23.603%
32%	2.430%
7%	5.836%
35%	2.270%
30%	0.651%
	100.000%

Base Load	Heat Load	Total
97	544	641
3,484	68,728	72,211
968	29,139	30,106
742	1,904	2,646
1,839	36,309	38,148
1,742	3,738	5,480
645	8,977	9,623
1,871	3,492	5,363
419	1,001	1,421
11,806	153,832	165,638

Liberty Utilities (EnergyNorth Natural Gas) Corp

Calculation of Capacity Allocators
Docket No DE 98-124

Schedule 22
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CALCULATION OF NORMAL SALES VOLUMES

Actual Volumes

Total Core Sales Volumes(000's) MMBTU

		Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Total	Monthly Baseload (Jul+Aug)/2	Daily Baseload
HLF	R-1 RNSH	7	9	10	9	9	6	5	4	3	3	4	5	74	3 000	0 097
LLF	R-3 RSH	671	1,009	1,175	993	835	507	285	139	108	110	183	435	6,450	108 000	3 484
LLF	G-41 SL	257	412	497	416	345	203	98	41	30	30	51	125	2,505	30 000	0 968
HLF	G-51 SH	35	46	50	42	44	29	26	23	23	23	24	31	396	23 000	0 742
LLF	G-42 ML	351	533	626	525	457	265	151	74	57	58	102	205	3,404	57 000	1 839
HLF	G-52 MH	82	103	113	93	95	67	58	54	56	56	57	68	902	54 000	1 742
LLF	G-43 LL	87	127	153	128	119	65	42	24	20	22	33	53	873	20 000	0 645
HLF	G-53 LLL90	80	93	106	87	91	82	67	58	59	60	63	74	920	58 000	1 871
HLF	G-54 LLL110	17	21	19	16	17	20	15	14	14	14	13	16	196	13 000	0 419
HLF	G-99 LLG110															
	TOTAL	1,587	2,353	2,749	2,309	2,012	1,244	747	431	370	376	530	1,012	15,720	373 000	12 032
	HLF	221	272	298	247	256	204	171	153	155	156	161	194	2,488	151 000	5 016
	LLF	1,366	2,081	2,451	2,062	1,756	1,040	576	278	215	220	369	818	13,232	215 000	7 016

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

		Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Total
		30	31	31	28	31	30	31	30	31	31	30	31	365
HLF	R-1 RNSH	3	3	3	3	3	3	3	3	3	3	3	3	35
LLF	R-3 RSH	105	108	108	98	108	105	108	105	108	110	105	108	1,272
LLF	G-41 SL	29	30	30	27	30	29	30	29	30	30	29	30	353
HLF	G-51 SH	22	23	23	21	23	22	23	22	23	23	22	23	271
LLF	G-42 ML	55	57	57	51	57	55	57	55	57	58	55	57	671
HLF	G-52 MH	52	54	54	49	54	52	54	52	56	56	52	54	636
LLF	G-43 LL	19	20	20	18	20	19	20	19	20	22	19	20	235
HLF	G-53 LLL90	56	58	58	52	58	56	58	56	59	60	56	58	683
HLF	G-54 LLL110	13	13	13	12	13	13	13	13	14	14	13	13	153
HLF	G-63 LLG110	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	354	366	366	331	366	354	366	354	370	376	354	366	4,309
	HLF	146	151	151	136	151	146	151	146	155	156	146	151	1,778
	LLF	208	215	215	194	215	208	215	208	215	220	208	215	2,531

Liberty Utilities (EnergyNorth Natural Gas) Corp

Calculation of Capacity Allocators
Docket No DE 98-124

Schedule 22
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Heating Volumes (= Actual Volumes - Baseload)

		Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Total
HLF	**R-1 RNSH**	4	6	7	6	6	3	2	1	0	0	1	2	39
LLF	**R-3 RSH**	566	901	1,067	895	727	402	177	34	0	0	78	327	5,178
LLF	**G-41 SL**	228	382	467	389	315	174	68	12	0	0	22	95	2,152
HLF	**G-51 SH**	13	23	27	21	21	7	3	1	0	0	2	8	125
LLF	**G-42 ML**	296	476	569	474	400	210	94	19	0	0	47	148	2,733
HLF	**G-52 MH**	30	49	59	44	41	15	4	2	0	0	5	14	266
LLF	**G-43 LL**	68	107	133	110	99	46	22	5	0	0	14	33	638
HLF	**G-53 LLL90**	24	35	48	35	33	26	9	2	0	0	7	16	237
HLF	**G-54 LLL110**	4	8	6	4	4	7	2	1	0	0	0	3	43
HLF	**G-63 LLG110**	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	1,233	1,987	2,383	1,978	1,646	890	381	77	0	0	176	646	11,411

HLF	75	121	147	111	105	58	20	7	0	0	15	43	710
LLF	1,158	1,866	2,236	1,868	1,541	832	361	70	0	0	161	603	10,701

Actual HDD	**694.0**	**913.0**	**1293.0**	**943.0**	**768.0**	**516.0**	**181.0**	**8.0**	**19.0**	**0.0**	**33.0**	**241.0**	5609 0

Heat Factors

		Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Total	AVG	AVG Peak
HLF	**R-1 RNSH**	0 0059	0 0066	0 0054	0 0067	0 0078	0 0060	0 0110	0 1371	0 0000	0 0000	0 0332	0 0083	0 0078	0 0190	0 0064
LLF	**R-3 RSH**	0 8163	0 9869	0 8252	0 9496	0 9466	0 7800	0 9779	4 3105	0 0000	0 0000	2 3783	1 3568	0 9496	1 1940	0 8841
LLF	**G-41 SL**	0 3285	0 4184	0 3612	0 4124	0 4102	0 3371	0 3757	1 4960	0 0000	0 0000	0 6657	0 3942	0 4124	0 4333	0 3780
HLF	**G-51 SH**	0 0184	0 0252	0 0209	0 0225	0 0273	0 0131	0 0166	0 0927	0 0000	0 0000	0 0528	0 0332	0 0273	0 0269	0 0212
LLF	**G-42 ML**	0 4263	0 5214	0 4401	0 5021	0 5208	0 4067	0 5193	2 3548	0 0000	0 0000	1 4194	0 6141	0 5208	0 6437	0 4696
HLF	**G-52 MH**	0 0429	0 0537	0 0456	0 0469	0 0534	0 0286	0 0221	0 2177	0 0000	0 0000	0 1437	0 0581	0 0534	0 0594	0 0452
LLF	**G-43 LL**	0 0975	0 1172	0 1029	0 1166	0 1289	0 0885	0 1215	0 5806	0 0000	0 0000	0 4135	0 1369	0 1289	0 1587	0 1086
HLF	**G-53 LLL90**	0 0344	0 0383	0 0371	0 0367	0 0430	0 0501	0 0497	0 2339	0 0000	0 0000	0 2082	0 0664	0 0430	0 0665	0 0399
HLF	**G-54 LLL110**	0 0064	0 0088	0 0046	0 0045	0 0052	0 0144	0 0110	0 1774	0 0000	0 0000	0 0127	0 0124	0 0088	0 0215	0 0073
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 7764	2 1763	1 8430	2 0980	2 1432	1 7244	2 1050	9 6008	0 0000	0 0000	5 3275	2 6805	2 1520	2 6229	1 9602

Liberty Utilities (EnergyNorth Natural Gas) Corp

Calculation of Capacity Allocators
Docket No DE 98-124

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Actual HDD	**694.0**	**913.0**	**1,293.0**	**943.0**	**768.0**	**516.0**	**181.0**	**8.0**	**19.0**	**0.0**	**33.0**	**241.0**	**5609.0**
Norm HDD	**717.0**	**1,044.0**	**1,220.0**	**1,041.0**	**896.0**	**516.0**	**231.0**	**49.0**	**5.0**	**8.0**	**101.0**	**405.0**	**6233.0**

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

		Nov-21	**Dec-21**	**Jan-22**	**Feb-22**	**Mar-22**	**Apr-22**	**May-21**	**Jun-21**	**Jul-21**	**Aug-21**	**Sep-21**	**Oct-21**	**Total**
HLF	**R-1 RNSH**	7	10	10	10	10	6	6	10	3	3	6	6	86
LLF	**R-3 RSH**	690	1,138	1,115	1,086	956	507	334	316	108	110	345	658	7,362
LLF	**G-41 SL**	265	467	471	456	398	203	117	102	30	30	96	190	2,824
HLF	**G-51 SH**	35	49	48	44	48	29	27	27	23	23	28	36	418
LLF	**G-42 ML**	361	601	594	574	524	265	177	171	57	58	199	306	3,886
HLF	**G-52 MH**	83	110	110	98	102	67	59	63	56	56	67	78	947
LLF	**G-43 LL**	89	142	145	139	136	65	48	48	20	22	61	75	991
HLF	**G-53 LLL90**	81	98	103	91	97	82	69	68	59	60	77	85	969
HLF	**G-54 LLL110**	17	22	19	16	18	20	16	21	14	14	14	18	209
HLF	**G-63 LLG110**	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL	1,628	2,638	2,614	2,515	2,286	1,244	852	825	370	376	892	1,452	17,692

HLF	223	289	290	258	274	204	177	188	155	156	192	223	2,629
LLF	1,404	2,349	2,325	2,256	2,013	1,040	676	636	215	220	701	1,228	15,063

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Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Peak 2022 - 2023 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	1.1086	857.7200	981.2100	$ (123.49)	-12.59%	0 9108	1.1158	$ 2,972.34	$ 3,369.75	$ (397.41)	-11.79%
17	Nov 14 - Apr 15	15.1%	0 0795	8,779,742	$ 697,989.49	1.2425	0 8411	1,127.6600	948.0700	$ 179.59	18.94%	0 5143	1.7336	$ 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	11.1%	0 0200	5,373,268	$ 107,465 36	0.5771	0 5571	895.3200	882.6000	$ 12.72	1.44%						
24	Nov 21 - Apr 22	12.0%	0 0200	5,800,339	$ 116,006.78	1.1539	1.1339	1,333.3500	1,320.6300	$ 12.72	0.96%						
25	Nov 22 - Apr 23					1.7535	1.7335	1,667.7565	1,655.3419	$ 12.41	0.75%						
24	Total									$ 785.03						$ 53 01	

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Peak 2022 - 2023 Winter Cost of Gas Filing
Short-Term Debt Limitations

		For Purposes of Fuel Financing
Total Direct Gas Costs	$	155,443,989
Total Indirect Gas Costs		5,391,889
Total Gas Costs	$	160,835,879
% of Debt to Total Gas Costs		30%
Short Term Debt	$	48,250,764

		For Purposes Other Than Fuel Financing
12/31/2023 Projected Net Plant	$	576,165,518
% of Debt to Net Plant		20%
Short Term Debt	$	115,233,104

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
2022 - 2023 Winter Cost of Gas Filing
Company Allowance Calculation &
Lost and Unaccounted For Gas ("LAUF") Calculation

Company Allowance Calculation

	Jul-2021	Aug-2021	Sep-2021	Oct-2021	Nov-2021	Dec-2021	Jan-2022	Feb-2022	Mar-2022	Apr-2022	May-2022	Jun-2022	Total
Total Sendout- Therms	5,442,090	5,497,110	5,819,000	8,688,720	17,720,430	23,111,810	32,399,870	24,437,270	20,340,550	13,464,370	7,737,350	5,719,140	170,377,710
Total Throughput- Therms	5,660,411	5,151,765	5,330,413	5,973,857	9,442,192	19,179,124	24,588,310	28,267,925	25,235,810	17,808,587	12,357,817	7,130,362	166,126,573
Variance	(218,321)	345,345	488,587	2,714,863	8,278,238	3,932,686	7,811,560	(3,830,655)	(4,895,260)	(4,344,217)	(4,620,467)	(1,411,222)	4,251,137
Company Allowance													**2.50%**

Lost and Unaccounted For Gas ("LAUF") Calculation

	Jul-2021	Aug-2021	Sep-2021	Oct-2021	Nov-2021	Dec-2021	Jan-2022	Feb-2022	Mar-2022	Apr-2022	May-2022	Jun-2022	Total
Total Sendout- Therms	5,442,090	5,497,110	5,819,000	8,688,720	17,720,430	23,111,810	32,399,870	24,437,270	20,340,550	13,464,370	7,737,350	5,719,140	170,377,710
Total Throughput- Therms	5,660,411	5,151,765	5,330,413	5,973,857	9,442,192	19,179,124	24,588,310	28,267,925	25,235,810	17,808,587	12,357,817	7,130,362	166,126,573
Company Use	4,279	3,683	4,176	5,423	15,918	27,834	54,807	49,573	39,450	25,474	9,761	4,516	244,895
Variance	(222,601)	341,662	484,411	2,709,440	8,262,320	3,904,852	7,756,752	(3,880,228)	(4,934,710)	(4,369,691)	(4,630,228)	(1,415,738)	4,006,241
LAUF													**2.35%**

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

Fuel Inventory Revenue Requirement

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
1		**5 Quarter Avg**	**Q2 2021**	**Q3 2021**	**Q4 2021**	**Q1 2022**	**Q2 2022**
2	Gas Stored Underground	$ 3,558,724	$ 2,088,182	$ 4,691,440	$ 4,613,879	$ 937,996	$ 5,462,121
3	Fuel Stock - Propane	$ 999,078	$ 835,646	$ 1,493,834	$ 1,469,329	$ 629,733	$ 566,849
4	UG Storage - LNG	$ 75,141	$ 44,351	$ 45,826	$ 90,614	$ 75,930	$ 118,983
5		$ 4,632,943					
6	ROR	8.76%	Pre-Tax Rate of 6.64% and Statuatory Tax Rate of 27.08%				
		$ 405,726					
7	Income Tax Gross-up	1.2708					
8	Revenue Requirement	$ 515,609					

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Off Peak 2023 Summer Cost of Gas Filing

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1	**Liberty Utilities (EnergyNorth Natural Gas) Corp.**			Off Peak Summary
2				Page 1 of 1
3	**Off Peak 2023 Summer Cost of Gas Filing**			
4	**Summary**			
5				OP 23
6		Reference		May - Oct
7	(a)	(b)		(c)
8				
9	**Anticipated Direct Cost of Gas**			
10	Purchased Gas:			
11	Demand Costs:	Sch. 5A, col (j), ln 46	$	3,233,514
12	Supply Costs	Sch. 6, col (i), ln 45		11,326,100
13				
14	Storage Gas:			
15	Demand, Capacity:	Sch. 5A, col (j), ln 61	$	-
16	Commodity Costs:	Sch. 6, col (i), ln 48		-
17				
18	Produced Gas:	Sch. 6, col (i), ln 54	$	159,140
19				
20	Hedge Contract (Savings)/Loss		$	-
21				
22				
23	**Total Unadjusted Cost of Gas**		$	14,718,754
24				
25	**Adjustments**			
26				
27	Prior Period (Over)/Under Recovery)	Sch. 3, col (c) ln 28	$	7,499,663
28	Interest 11/01/19 - 10/31/20	Sch. 3, col (q) ln 193		351,995
29	Prior Period Adjustments	Sch. 4, ln 24 col (b)		-
30	Refunds from Suppliers	Sch. 4, ln 24 col (c)		-
31	Broker Revenue	Sch. 4, ln 24 col (d)		-
32	Fuel Financing	Sch. 4, ln 24 col (e)		-
33	Transportation CGA Revenues	Sch. 4, ln 24 col (f)		-
34	Interruptible Sales Margin	Sch. 4, ln 24 col (g)		-
35	Capacity Release and Off System Sales Margins	Sch. 4, ln 24 col (h) + col (i)		-
36	Hedging Costs	Sch. 4, ln 24 col (j)		-
37	FPO Premium - Collection			-
38	Fixed Price Option Administrative Costs	Sch. 4, ln 24 col (k)		-
39				
40	**Total Adjustments**		$	7,851,658
41				
42	**Total Anticipated Direct Costs**	lns 23 + 40	$	22,570,412
43				
44	**Anticipated Indirect Cost of Gas**			
45	**Working Capital**			
46	Total Unadjusted Anticipated Cost of Gas	Ln 23	$	14,718,754
47	Lead Lag Days / 365	DG 20-105, 25.72/ 365		0.0705
48	Prime Rate			5 50%
49	Working Capital Percentage	ln 47 * ln 48		0.388%
50	Working Capital	ln 46 * ln 49		57,044
51	Plus: Working Capital Reconciliation	Sch. 3, col (c), ln 98		69,182
52				
53	**Total Working Capital Allowance**	lns 50 + 51	$	126,227
54				
55	**Bad Debt**			
56	Total Unadjusted Anticipated Cost of Gas	ln 23	$	14,718,754
57	Less Refunds	ln 30		-
58	Plus Working Capital	ln 53		126,227
59	Plus Prior Period (Over) Under Recovery	ln 27		7,499,663
60	Subtotal		$	22,344,644
61	Bad Debt Percentage	per GTC 17(f)		0 86%
62				
63	Bad Debt Allowance	ln 60 * ln 61	$	192,421
64	Prior Period Bad Debt Allowance	Sch. 3, col (c), ln 163		1,016,834
65				
66	**Total Bad Debt Allowance**	lns 63 + 64	$	1,209,255
67				
68	**Production and Storage Capacity**	per GTC17(f)	$	-
69				
70	**Miscellaneous Overhead**	per GTC 17(f)	$	-
71	Sales Volume	Sch. 10B, ln 23/1000		23,649
72	Divided by Total Sales	Sch. 10B, ln 23/1000		116,430
73	Ratio			20 31%
74				
75	**Miscellaneous Overhead**	lns 70 * 73	$	-
76				
77	**Total Anticipated Indirect Cost of Gas**	lns 53 + 66 + 68 + 75	$	1,335,482
78				
79	**Total Cost of Gas**	lns 42 + 77	$	23,905,894
80				
81	**Projected Forecast Sales (Therms)**	Sch. 3, col (q), ln 52		23,648,905

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2
3 **Off Peak 2023 Summer Cost of Gas Filing**
4 **Summary of Supply and Demand Forecas**

Schedule 1
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5										
6										Off Peak Period
7	For Month of:		May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	May - Oct
8	(a)	(b)	(c)	(d)	(e)	(d)	(e)	(f)	(g)	(h)
9	**I. Gas Volumes (Therms)**									
10										
11	**A. Firm Demand Volumes**		106,848	278,583	231,288	234,403	347,400	738,977	427,392	
12	Firm Gas Sales	Sch. 10B, ln 23	1,068,480	2,785,832	2,312,881	2,344,026	3,473,998	7,389,766	4,273,922	23,648,905
13	Lost Gas (Unaccounted for)		127,414	82,682	69,188	75,413	88,009	170,244		612,950
14	Company Use		3,341	2,168	1,814	1,978	2,308	4,464		16,074
15	Unbilled Therms		4,219,447	645,605	558,542	785,768	178,525	(324,333)	(4,273,922)	1,789,632
16										
17	**Total Firm Volumes**	Sch. 6, ln 93	5,418,683	3,516,286	2,942,425	3,207,185	3,742,840	7,240,141		26,067,561
18										
19	**B. Supply Volumes (Therms)**									
20	Pipeline Gas:									
21	Dawn Supply	Sch. 6, ln 63	842,983	655,282	518,079	495,174	712,922	601,154		3,825,595
22	Niagara Supply	Sch. 6, ln 64	667,764	585,319	584,500	583,125	598,573	687,845		3,707,126
23	TGP Supply (Gulf)	Sch. 6, ln 65	29,663	-	-	-	-	327,579		357,242
24	Dracut Supply 1 - Baseload	Sch. 6, ln 66	-	-	-	-	-	-		-
25	Dracut Supply 2 - Swing	Sch. 6, ln 67	-	-	-	-	-	435,588		435,588
26	City Gate Delivered Supply	Sch. 6, ln 68	-	-	-	-	-	-		-
27	LNG Truck	Sch. 6, ln 69	-	-	4,831	10,843	17,887	110,141		143,701
28	Propane Truck	Sch. 6, ln 70	79,331	71,837	69,440	69,276	73,464	81,717		445,066
29	PNGTS	Sch. 6, ln 71	211,780	185,528	182,354	184,937	189,729	218,149		1,172,479
30	Portland Natural Gas	Sch. 6, ln 72	889,892	29,984	-	-	-	522,990		1,442,866
31	TGP Supply (Zone 4)	Sch. 6, ln 73	5,379,362	4,713,785	4,706,794	4,696,924	4,822,444	5,548,240		29,867,549
32	Subtotal Pipeline Volumes		8,100,776	6,241,736	6,065,997	6,040,279	6,415,019	8,533,404		41,397,212
33										
34	Storage Gas:									
35	TGP Storage	Sch. 6, ln 78	-	-	-	-	-	-		-
36										
37	Produced Gas:									
38	LNG Vapor	Sch. 6, ln 81	20,005.32	18,115.53	17,510.84	17,469.64	18,525.75	20,606.94		112,234.02
39	Propane	Sch. 6, ln 82	-	-	-	-	-	-		-
40	Subtotal Produced Gas		20,005.32	18,115.53	17,510.84	17,469.64	18,525.75	20,606.94		112,234.02
41										
42	Less - Gas Refill:									
43	LNG Truck	Sch. 6, ln 87	-	-	(4,830.58)	(10,843.23)	(17,886.93)	(110,140.53)		(143,701.26)
44	Propane	Sch. 6, ln 88	(79,331.45)	(71,837.44)	(69,439.55)	(69,276.17)	(73,464.17)	(81,717.17)		(445,065.94)
45	TGP Storage Refill	Sch. 6, ln 89	(2,622,766.74)	(2,671,727.92)	(3,066,812.74)	(2,770,444.31)	(2,599,354.02)	(1,122,012.26)		(14,853,117.98)
46	Subtotal Refills		(2,702,098.19)	(2,743,565.35)	(3,141,082.87)	(2,850,563.70)	(2,690,705.12)	(1,313,869.96)		(15,441,885.18)
47										
48	Total Firm Sendout Volumes	lns 32 + 35 + 40 + 46	5,418,682.98	3,516,286.29	2,942,425.38	3,207,185.36	3,742,839.81	7,240,141.15		26,067,560.98

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2
3 **Off Peak 2023 Summer Cost of Gas Filing**
4 **Summary of Supply and Demand Forecast**

49										
50	**II. Gas Costs**									
51										
52	**A. Demand Costs**									
53	Supply									
54	Niagara Supply	Sch.5A, ln 12	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
55	Subtotal Supply Demand		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
56	Less Capacity Credit		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
57	Net Pipeline Demand Costs		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
58										
59	Pipeline:									
60	Iroquois Gas Trans Service RTS 470-0	Sch.5A, ln 16	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
61	Tenn Gas Pipeline 95346 Z5-Z6	Sch.5A, ln 17	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
62	Tenn Gas Pipeline 2302 Z5-Z6	Sch.5A, ln 18	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
63	Tenn Gas Pipeline 8587 Z0-Z6	Sch.5A, ln 19	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
64	Tenn Gas Pipeline 8587 Z1-Z6	Sch.5A, ln 20	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
65	Tenn Gas Pipeline 8587 Z4-Z6	Sch.5A, ln 21	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
66	Tenn Gas Pipeline (Dracut) 42076 Z6-Z6	Sch.5A, ln 22	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
67	Tenn Gas Pipeline (Dracut) 358905 Z6-Z7	Sch.5A, ln 23	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
68	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Sch.5A, ln 24	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
69	Portland Natural Gas Trans Service	Sch.5A, ln 25	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
70	ANE (TransCanada via Union to Iroquois)	Sch.5A, ln 27	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
71	Portland Natural Gas	Sch.5A, ln 25	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
72	TransCanada via Union to Portland	Sch.5A, ln 27	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
73	Tenn Gas Pipeline Z4-Z6 stg 632	Sch.5A, ln 29	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
74	Tenn Gas Pipeline Z4-Z6 stg 11234	Sch.5A, ln 30	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
75	Tenn Gas Pipeline Z5-Z6 stg 11234	Sch.5A, ln 31	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
76	National Fuel FST 2358	Sch.5A, ln 32	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
77	Subtotal Pipeline Demand		$ 812,659	$ 815,395	$ 815,395	$ 815,395	$ 815,395	$ 815,395	$ 3,674,232	$ 4,889,632
78	Less Capacity Credit		(275,248)	(276,174)	(276,174)	(276,174)	(276,174)	(276,174)	(1,244,462)	(1,656,118)
79	Net Pipeline Demand Costs		$ 537,411	$ 539,220	$ 539,220	$ 539,220	$ 539,220	$ 539,220	$ 2,429,770	$ 3,233,514
80										
81	Peaking Supply:									
82	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Sch.5A, ln 37	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
83	Granite Ridge Demand	Sch.5A, ln 38	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
84	DOMAC Demand NSB041	Sch.5A, ln 39	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
85	Subtotal Peaking Demand									
86	Less Capacity Credit									
87	Net Peaking Supply Demand Costs									
88										
89	Storage:									
90	Dominion - Demand	Sch.5A, ln 49	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
91	Dominion - Storage	Sch.5A, ln 50	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
92	Honeoye - Demand	Sch.5A, ln 51	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
93	National Fuel - Demand	Sch.5A, ln 52	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
94	National Fuel - Capacity	Sch.5A, ln 53	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
95	Tenn Gas Pipeline - Demand	Sch.5A, ln 54	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
96	Tenn Gas Pipeline - Capacity	Sch.5A, ln 55	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
97	Subtotal Storage Demand		$ -	$ -	$ -	$ -	$ -	$ -		$ -
98	Less Capacity Credit		-	-	-	-	-	-		-
99	Net Storage Demand Costs		$ -	$ -	$ -	$ -	$ -	$ -		$ -
100										
101	Total Demand Charges	lns 55 + 77 + 85 + 97	$ 812,659	$ 815,395	$ 815,395	$ 815,395	$ 815,395	$ 815,395	$ 3,674,232	$ 4,889,632
102	Total Capacity Credit	lns 56 + 78 + 86 + 98	(275,248)	(276,174)	(276,174)	(276,174)	(276,174)	(276,174)	(1,244,462)	(1,656,118)
103	Net Demand Charges		$ 537,411	$ 539,220	$ 539,220	$ 539,220	$ 539,220	$ 539,220	$ 2,429,770	$ 3,233,514

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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2
3 **Off Peak 2023 Summer Cost of Gas Filing**
4 **Summary of Supply and Demand Forecas**

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105									
106									
107	**B. Commodity Costs**								
108	Pipeline:								
109	Dawn Supply	Sch. 6, ln 12	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
110	Niagara Supply	Sch. 6, ln 13	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
111	TGP Supply (Gulf)	Sch. 6, ln 14	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
112	Dracut Supply 1 - Baseload	Sch. 6, ln 15	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
113	Dracut Supply 2 - Swing	Sch. 6, ln 16	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
114	Dracut Supply 3 - Swing	Sch. 6, ln	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
115	City Gate Delivered Supply	Sch. 6, ln 17	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
116	LNG Truck	Sch. 6, ln 18	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
117	Portland Natural Gas	Sch. 6, ln 21	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
118	PNGTS	Sch. 6, ln 20	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
119	TGP Supply (Zone 4)	Sch. 6, ln 22	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
120	Subtotal Pipeline Commodity Costs		$ 4,073,761	$ 3,035,210	$ 2,987,877	$ 2,987,600	$ 2,857,275	$ 3,851,096	$ 19,792,820
121									
122	Storage:								
123	TGP Storage - Withdrawals	Sch. 6, ln 48	$ -	$ -	$ -	$ -	$ -	$ -	$ -
124									
125	Produced Gas Costs:								
126	LNG Vapor	Sch. 6, ln 51	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
127	Propane	Sch. 6, ln 52	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
128	Subtotal Produced Gas Costs		$ 31,982	$ 28,961	$ 27,994	$ 26,265	$ 23,795	$ 20,142	$ 159,140
129									
130	Less Storage Refills:								
131	LNG Truck	Sch. 6, ln 38	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
132	Propane	Sch. 6, ln 39	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
133	TGP Storage Refill	Sch. 6, ln 40	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
134	Storage Refill (Trans.)	Sch. 6, ln 41	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
135	Subtotal Storage Refill		$ (1,579,090)	$ (1,621,330)	$ (1,876,386)	$ (1,698,195)	$ (1,588,793)	$ (691,404)	$ (9,055,198)
136									
137	Total Supply Commodity Costs		$ 2,526,653	$ 1,442,841	$ 1,139,486	$ 1,315,670	$ 1,292,277	$ 3,179,834	$ 10,896,762
138									
139	**C. Supply Volumetric Transportation Costs**								
140	Dawn Supply	Sch. 6, ln 27	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
141	Niagara Supply	Sch. 6, ln 28	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
142	TGP Supply (Zone 4)	Sch. 6, ln 29	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
143	Dracut Supply 1 - Baseload	Sch. 6, ln 30	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
144	Dracut Supply 2 - Swing	Sch. 6, ln 31	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
145	Dracut Supply 3 - Swing	Sch. 6, ln	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
146	Subtotal Pipeline Volumetric Trans. Costs		$ 112,218	$ 95,914	$ 91,728	$ 91,490	$ 92,036	$ 105,092	$ 588,478
147									
148	TGP Storage - Withdrawals	Sch. 6, ln 33	$ -	$ -	$ -	$ -	$ -	$ -	$ -
149									
150	Total Supply Volumetric Trans. Costs	lns 146 + 148	$ 112,218	$ 95,914	$ 91,728	$ 91,490	$ 92,036	$ 105,092	$ 588,478
151									
152	Total Commodity Gas & Trans. Costs	lns 137 + 150	$ 2,638,872	$ 1,538,755	$ 1,231,214	$ 1,407,160	$ 1,384,313	$ 3,284,926	$ 11,485,240
153									

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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2
3 **Off Peak 2023 Summer Cost of Gas Filing**
4 **Summary of Supply and Demand Forecas**

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157	**D. Supply and Demand Costs by Source**								
158									
159									
160	Purchased Gas Demand Costs								
161	Pipeline Gas Demand Costs	lns 55 + 77	$ 812,659	$ 815,395	$ 815,395	$ 815,395	$ 815,395	$ 815,395	$ 4,889,632
162	Peaking Gas Demand Costs	ln 85	-	-	-	-	-	-	-
163	Subtotal Purchased Gas Demand Costs		$ 812,659	$ 815,395	$ 815,395	$ 815,395	$ 815,395	$ 815,395	$ 4,889,632
164	Less Capacity Credit	lns 56 + 78 + 86	(275,248)	(276,174)	(276,174)	(276,174)	(276,174)	(276,174)	(1,656,118)
165	Net Purchased Gas Demand Costs		$ 537,411	$ 539,220	$ 539,220	$ 539,220	$ 539,220	$ 539,220	$ 3,233,514
166									
167	Storage Gas Demand Costs								
168	Storage Demand	ln 97	$ -	$ -	$ -	$ -	$ -	$ -	$ -
169	Less Capacity Credit	ln 98	-	-	-	-	-	-	-
170	Net Storage Demand Costs		$ -	$ -	$ -	$ -	$ -	$ -	$ -
171									
172	**Total Demand Costs**	lns 165 + 170	$ 537,411	$ 539,220	$ 539,220	$ 539,220	$ 539,220	$ 539,220	$ 3,233,514
173									
174	Purchased Gas Supply								
175	Commodity Costs	ln 120	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
176	Less Storage Inj.(TGP Storage)	ln 133	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
177	Less Storage Transportation	ln 134	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
178	Less LNG Truck	ln 131	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
179	Less Propane Truck	ln 132	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
180	Plus Transportation Costs	ln 146	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
181	Subtotal Purchased Gas Supply		$ 2,606,889	$ 1,509,794	$ 1,203,220	$ 1,380,895	$ 1,360,518	$ 3,264,784	$ 11,326,100
182									
183	Storage Commodity Costs								
184	Commodity Costs	ln 123	$ -	$ -	$ -	$ -	$ -	$ -	$ -
185	Transportation Costs	ln 148	-	-	-	-	-	-	-
186	Subtotal Storage Commodity Costs		$ -	$ -	$ -	$ -	$ -	$ -	$ -
187									
188	Produced Gas Commodity Costs	ln 128	$ 31,982	$ 28,961	$ 27,994	$ 26,265	$ 23,795	$ 20,142	$ 159,140
189									
190	**Subtotal Commodity Costs**	lns 181 + 186 + 188	$ 2,638,872	$ 1,538,755	$ 1,231,214	$ 1,407,160	$ 1,384,313	$ 3,284,926	$ 11,485,240
191									
192	Hedge Contract (Savings)/Loss		$ -	$ -	$ -	$ -	$ -	$ -	$ -
193									
194	**Total Commodity Costs**	lns 190 + 192	$ 2,638,872	$ 1,538,755	$ 1,231,214	$ 1,407,160	$ 1,384,313	$ 3,284,926	$ 11,485,240
195									
196	**Total Demand Costs**	ln 103	$ 537,411	$ 539,220	$ 539,220	$ 539,220	$ 539,220	$ 539,220	$ 3,233,514
197	**Total Supply Costs**	ln 194	2,638,872	1,538,755	1,231,214	1,407,160	1,384,313	3,284,926	11,485,240
198									
199	**Total Direct Gas Costs**	lns 196 + 197	$ 3,176,283	$ 2,077,976	$ 1,770,435	$ 1,946,380	$ 1,923,534	$ 3,824,147	$ 14,718,754
200									
201				**THIS PAGE HAS BEEN REDACTED**					

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

2 Schedule 2

3 **Off Peak 2023 Summer Cost of Gas Filing** Page 1 of 1

4 **Contracts Ranked on a per Unit Cost Basis**

Line	Supplier (a)	Contract (b)	Contract Type (c)	Contract Unit (d)	Unit Dth (MDQ/ACQ) (e)	Off Peak Cost per Unit Dth (f)
8						
9	**Demand Costs**					
10						
11						
12	ANE (TransCanada via Union to Iroquois)	Dawn - Parkway to Iroquois	Transportation	MDQ	4,047	[redacted]
13	Dominion - Capacity Reservation	GSS 300076	Storage	ACQ	102,700	[redacted]
14	Tenn Gas Pipeline - Cap. Reservations	FS-MA 523	Storage	ACQ	1,560,391	[redacted]
15	National Fuel - Capacity Reservation	FSS-1 2357	Storage	ACQ	670,800	[redacted]
16	Tenn Gas Pipeline - Demand	FS-MA 523	Storage	MDQ	21,844	[redacted]
17	Dominion - Demand	GSS 300076	Storage	MDQ	934	[redacted]
18	National Fuel - Demand	FSS-1 2357	Storage	MDQ	6,098	[redacted]
19	Tenn Gas Pipeline	42076 FTA Z6-Z6	Transportation	MDQ	20,000	[redacted]
20	Tenn Gas Pipeline	42076 FTA Z6-Z6	Transportation	MDQ	40,000	[redacted]
21	National Fuel	FST N02358	Transportation	MDQ	6,098	[redacted]
22	Iroquois Gas Trans Service	RTS 470-01	Transportation	MDQ	4,047	[redacted]
23	Honeoye - Demand	SS-NY	Storage	MDQ	1,362	[redacted]
24	Tenn Gas Pipeline	2302 Z5-Z6	Transportation	MDQ	3,122	[redacted]
25	Tenn Gas Pipeline (short haul)	11234 Z5-Z6(stg)	Transportation	MDQ	1,957	[redacted]
26	Tenn Gas Pipeline (short haul)	8587 Z4-Z6	Transportation	MDQ	3,811	[redacted]
27	Tenn Gas Pipeline (short haul)	632 Z4-Z6 (stg)	Transportation	MDQ	15,265	[redacted]
28	Tenn Gas Pipeline (short haul)	11234 Z4-Z6(stg)	Transportation	MDQ	7,082	[redacted]
29	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Firm Transportation	Transportation	MDQ	30,000	[redacted]
30	Tenn Gas Pipeline	95346 Z5-Z6	Transportation	MDQ	4,000	[redacted]
31	TransCanada via Union to Portland	Union Parkway to Portland	Transportation	MDQ	5,077	[redacted]
32	Portland Natural Gas Trans Service	FT-1999-001	Transportation	MDQ	1,000	[redacted]
33	Tenn Gas Pipeline (long haul)	8587 Z1-Z6	Transportation	MDQ	14,561	[redacted]
34	Tenn Gas Pipeline (long haul)	8587 Z0-Z6	Transportation	MDQ	7,035	[redacted]
35	Portland Natural Gas	FTN	Transportation	MDQ	5,000	[redacted]
36						
37	**Supply Costs - Commodity**					
38	LNG Truck		Pipeline	Dkt	14,370	[redacted]
39	TGP Supply (Zone 4)		Pipeline	Dkt	2,986,755	[redacted]
40	Niagara Supply		Pipeline	Dkt	370,713	[redacted]
41	Dracut Supply 2 - Swing		Pipeline	Dkt	43,559	[redacted]
42	Dawn Supply		Pipeline	Dkt	382,559	[redacted]
43	TGP Citygate Supply		Pipeline	Dkt	-	[redacted]
44	PNGTS		Pipeline	Dkt	117,248	[redacted]
45	Dracut Supply 1 - Baseload		Pipeline	Dkt	-	[redacted]
46	TGP Supply (Gulf)		Pipeline	Dkt	35,724	[redacted]
47	LNG Vapor		Produced	Dkt	11,223	[redacted]
48	Propane		Pipeline	Dkt	-	[redacted]
49						
50	**Supply Costs - Volumetric Transportation**					
51	Dracut Supply 1 - Baseload		Pipeline	Dkt	-	[redacted]
52	TGP Supply (Zone 4)		Pipeline	Dkt	35,724	[redacted]
53	Dracut Supply 2 - Swing		Pipeline	Dkt	43,559	[redacted]
54	Dawn Supply		Storage	Dkt	382,559	[redacted]
55	Niagara Supply		Pipeline	Dkt	370,713	[redacted]
56						

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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
2
3 **Off Peak 2023 Summer Cost of Gas Filing**
4 **COG (Over)/Under Cumulative Recovery Balances and Interest Calculation**
5
6

7			Prior Period Balance														
8			Plus Nov Collections	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Off Peak Period
9		Days in Month	October 31, 2022	30	31	31	28	31	30	31	30	31	31	30	31	30	Total
10	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
11	**Account 8840 2 0000 10 1920 1741 (formerly, 175.40) COG (Over)/Under Balance Interest Calculation**																
12																	
13	**Beginning Balance**	Account 1920-1741 1/	**$ 7,499,663**	$ 7,499,663	$ 7,533,566	$ 7,568,757	$ 7,604,113	$ 7,636,196	$ 7,671,866	$ 7,706,547	$ 5,909,470	$ 4,801,751	$ 3,924,204	$ 2,968,485	$ 1,478,404	$ (1,421,262)	$ 7,499,663
14	Forecast Direct Gas Costs		-	-	-	-	-	-	-	3,284,652	2,186,344	1,878,803	2,054,749	2,031,902	3,932,515	-	15,368,965
15	Production & Storage & Misc Overhead		-	-	-	-	-	-	-	-	-	-	-	-	-		-
16	Projected Revenues w/o Int.	ln 54 * ln 64	-	-	-	-	-	-	-	(1,033,227)	(2,693,916)	(2,236,569)	(2,266,687)	(3,359,376)	(7,145,947)	(4,132,907)	(22,868,629)
17	Projected Unbilled Revenue	ln 58 * ln 64	-	-	-	-	-	-	-	(4,080,230)	(4,704,533)	(5,244,647)	(6,004,489)	(6,177,124)	(5,863,492)		(32,074,515)
18	Reverse Prior Month Unb lled		-	-	-	-	-	-	-		4,080,230	4,704,533	5,244,647	6,004,489	6,177,124	5,863,492	32,074,515
19	Add Net Adjustments (with TGP Refund)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Gas Cost B lled	Account 1920-1741 2/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	Monthly (Over)/Under Recovery		$ 7,499,663	$ 7,499,663	$ 7,533,566	$ 7,568,757	$ 7,604,113	$ 7,636,196	$ 7,671,866	$ 5,877,742	$ 4,777,595	$ 3,903,871	$ 2,952,424	$ 1,468,376	$ (1,421,395)	$ 309,323	$ -
22	Average Monthly Balance	(ln 13 + 21)/ 2	$ -	$ 7,499,663	$ 7,533,566	$ 7,568,757	$ 7,604,113	$ 7,636,196	$ 7,671,866	$ 6,792,145	$ 5,343,532	$ 4,352,811	$ 3,438,314	$ 2,218,430	$ 28,505	$ (555,970)	
23																	
24	Interest Rate	Prime Rate		5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%		
25																	
26	Interest Applied	ln 22 * ln 24 /365 *Days/Mo.	$ -	$ 33,903	$ 35,191	$ 35,355	$ 32,083	$ 35,670	$ 34,681	$ 31,728	$ 24,156	$ 20,333	$ 16,061	$ 10,029	$ 133	$ -	$ 309,323
27																	
28	**(Over)/Under Balance**	ln 21 + ln 26	$ 7 499 663	$ 7 533 566	$ 7 568 757	$ 7 604 113	$ 7 636 196	$ 7 671 866	$ 7 706 547	$ 5 909 470	$ 4 801 751	$ 3 924 204	$ 2 968 485	$ 1 478 404	$ (1 421 262)	$ 309 323	$ 309 323
29																	
30																	
31	**Calculation of COG with Interest**																
32																	
33	**Beginning Balance**	ln 13	$ 7,499,663	$ 7,499,663	$ 7,533,566	$ 7,568,757	$ 7,604,113	$ 7,636,196	$ 7,671,866	$ 7,706,547	$ 5,865,762	$ 4,729,492	$ 3,827,881	$ 2,845,836	$ 1,324,985	$ (1,633,897)	$ 7,499,663
34	Forecast Direct Gas Costs	ln 14	-	-	-	-	-	-	-	3,284,652	2,186,344	1,878,803	2,054,749	2,031,902	3,932,515	-	15,368,965
35	Prod Storage & Misc Overhead	ln 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	Projected Revenues with int.	ln 54 * 66	-	-	-	-	-	-	-	(1,042,053)	(2,716,927)	(2,255,674)	(2,286,049)	(3,388,072)	(7,206,988)	(4,168,211)	(23,063,975)
37	Projected Unbilled Revenue	ln 58 * 66	-	-	-	-	-	-	-	(4,115,083)	(4,744,720)	(5,289,447)	(6,055,780)	(6,229,890)	(5,913,579)		(32,348,498)
38	Reverse Prior Month Unb lled		-	-	-	-	-	-	-		4,115,083	4,744,720	5,289,447	6,055,780	6,229,890	5,913,579	32,348,498
39	Add Net Adjustments	ln 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	Gas Cost B lled	ln 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	Gas Cost Unb lled																
42	Reverse Prior Month Unb lled																
43	Add Interest	ln 26	-	-	-	-	-	-	-	31,728	24,156	20,333	16,061	10,029	133	-	102,439
44	**(Over)/Under Balance**		$ 7 499 663	$ 7 499 663	$ 7 533 566	$ 7 568 757	$ 7 604 113	$ 7 636 196	$ 7 671 866	$ 5 865 790	$ 4 729 699	$ 3 828 226	$ 2 846 309	$ 1 325 585	$ (1 633 044)	$ 111 471	$ (92 907)
45																	
46	Average Monthly Balance			$ 7,499,663	$ 7,533,566	$ 7,568,757	$ 7,604,113	$ 7,636,196	$ 7,671,866	$ 6,786,169	$ 5,297,730	$ 4,278,859	$ 3,337,095	$ 2,085,710	$ (154,030)		
47																	
48	Interest Applied	ln 24 * ln 46 /365 *Days/Mo.		$ 33,903	$ 35,191	$ 35,355	$ 32,083	$ 35,670	$ 34,681	$ 31,700	$ 23,949	$ 19,988	$ 15,588	$ 9,429	$ (720)	$ -	$ 306,817
49																	
50	**(Over)/Under Balance**	ln 43 +ln 44 + ln 48	$ 7,499,663	$ 7,533,566	$ 7,568,757	$ 7,604,113	$ 7,636,196	$ 7,671,866	$ 7,706,547	$ 5,865,762	$ 4,729,492	$ 3,827,881	$ 2,845,836	$ 1,324,985	$ (1,633,897)	$ 111,471	$ 111,471
51																	
52																	
53	Forecast Sendout Therms	Sch 1								5,418,683	3,516,286	2,942,425	3,207,185	3,742,840	7,240,141		26,067,561
54	Less 'Forecast B lling Therm Sales	Sch. 10B, ln 23 May - Oct								1,068,480	2,785,832	2,312,881	2,344,026	3,473,998	7,389,766	4,273,922	23,648,905
55	Less Forecast Unaccounted For	Sch 1								127,414	82,682	69,188	75,413	88,009	170,244		612,950
56	Less Forecast Company Use	Sch 1								3,341	2,168	1,814	1,978	2,308	4,464		16,074
57	Unbilled Volumes									4,219,447	645,605	558,542	785,768	178,525	(324,333)	(4,273,922)	1,789,632
58	Gross Unbilled									4,219,447	4,865,052	5,423,594	6,209,362	6,387,887	6,063,554	1,789,632	
59																	
60	Beg Balance									-	4,219,447	4,865,052	5,423,594	6,209,362	6,387,887	6,063,554	
61	Incremental									4,219,447	645,605	558,542	785,768	178,525	(324,333)	(4,273,922)	
62	Ending Balance									4,219,447	4,865,052	5,423,594	6,209,362	6,387,887	6,063,554	1,789,632	
63																	
64	COG w/o Interest	Sch. 3, pg. 4, ln 211 col. (c)								$ 0.9670	$ 0.9670	$ 0.9670	$ 0.9670	$ 0.9670	$ 0.9670	$ 0.9670	
65																	
66	COG With Interest	Sch. 3 pg. 4 ln 211 col. (d)								$ 0.9753	$ 0.9753	$ 0.9753	$ 0.9753	$ 0.9753	$ 0.9753	$ 0.9753	
67																	

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
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3 **Off Peak 2023 Summer Cost of Gas Filing**
4 **COG (Over)/Under Cumulative Recovery Balances and Interest Calculation**

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71			Prior Period Balance	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Off Peak Period
72		Days in Month	Plus Nov Collections	30	31	31	28	31	30	31	30	31	31	30	31	30	Total
73			October 31, 2022														
74	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
75																	
76	**Account 8840 2 0000 10 1163 1424 (formerly, 142.40) Working Capital (Over)/Under Balance Interest Calculation**																
77																	
78	**Beginning Balance**	Account 1163-1424 1/	**$ 69,182**	$ 69,182	$ 69,495	$ 69,820	$ 70,146	$ 70,442	$ 70,771	$ 71,091	$ 55,328	$ 45,347	$ 37,189	$ 28,266	$ 16,357	$ (6,844)	$ 69,182
79																	
80	Days Lag									0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	0.0705	
81	Prime Rate									5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	
82	Forecast Working Capital	ln 34 * ln 80 / 365 * ln 81		-	-	-	-	-	-	12,730	8,473	7,282	7,963	7,875	15,241	-	59,564
83																	
84	Projected Revenues w/o Int.	ln 123 * ln 126		-	-	-	-	-	-	(5,817)	(15,166)	(12,592)	(12,761)	(18,913)	(40,230)	(23,268)	(128,746)
85	Projected Unbilled Revenue	ln 124 * ln 126								(22,971)	(26,486)	(29,526)	(33,804)	(34,776)	(33,010)		(180,574)
86	Reverse Prior Month Unbilled										22,971	26,486	29,526	33,804	34,776	33,010	180,574
87																	
88	Add Net Adjustments			-	-		-	-	-	-	-	-	-	-	-	-	-
89																	
90	Working Capital Billed	Account 1163-1424 2/															-
91																	
92	Monthly (Over)/Under Recovery		$ 69 182	$ 69 182	$ 69 495	$ 69 820	$ 70 146	$ 70 442	$ 70 771	$ 55 033	$ 45 120	$ 36 997	$ 28 114	$ 16 256	$ (6 867)	$ 2 899	$ -
93																	
94	Average Monthly Balance	(ln 78 + 92)/ 2		$ 69,182	$ 69,495	$ 69,820	$ 70,146	$ 70,442	$ 70,771	$ 63,062	$ 50,224	$ 41,172	$ 32,651	$ 22,261	$ 4,745		
95																	
96	Interest Rate	Prime Rate		5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%		
97																	
98	Interest Applied	ln 94 * ln 96 / 365 * Days of Month		$ 313	$ 325	$ 326	$ 296	$ 329	$ 320	$ 295	$ 227	$ 192	$ 153	$ 101	$ 22		$ 2,898
99																	
100	**(Over)/Under Balance**	ln 92 + ln 98	$ 69 182	$ 69 495	$ 69 820	$ 70 146	$ 70 442	$ 70 771	**$ 71,091**	$ 55 328	$ 45 347	$ 37 189	$ 28 266	$ 16 357	$ (6 844)	$ 2 899	2 898
101																	
102																	
103	**Calculation of Working Capital with Interest**																
104																	
105	**Beginning Balance**		$ 69,182	$ 69,182	$ 69,495	$ 69,820	$ 70,146	$ 70,442	$ 70,771	$ 71,091	$ 55,285	$ 45,277	$ 37,096	$ 28,147	$ 16,208	$ (7,051)	$ 69,182
106	Forecast Working Capital	ln 82		-	-	-	-	-	-	12,730	8,473	7,282	7,963	7,875	15,241	-	59,564
107	Projected Rev. with interest	ln 123 * ln 128		-	-	-	-	-	-	(5,826)	(15,189)	(12,610)	(12,780)	(18,941)	(40,290)	(23,302)	(128,937)
108	Projected Unbilled Revenue	ln 124 * ln 128								(23,005)	(26,525)	(29,570)	(33,854)	(34,828)	(33,059)		(180,842)
109	Reverse Prior Month Unbilled										23,005	26,525	29,570	33,854	34,828	33,059	180,842
110	Add Net Adjustments	ln 88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
111	Working Capital Billed	ln 90	-			-											-
112	WC Unbilled									-	-	-	-	-	-	-	-
113	Reverse WC Unbilled										-	-	-	-	-	-	-
114	Add Interest	ln 98		-	-	-	-	-	-	295	227	192	153	101	22		989
115	Monthly (Over)/Under Recovery		$ 69,182	$ 69,182	$ 69,495	$ 69,820	$ 70,146	$ 70,442	$ 70,771	$ 55,285	$ 45,277	$ 37,096	$ 28,148	$ 16,209	$ (7,050)	$ 2,706	$ 798
116																	
117	Average Monthly Balance			$ 69,182	$ 69,495	$ 69,820	$ 70,146	$ 70,442	$ 70,771	$ 63,188	$ 50,281	$ 41,187	$ 32,622	$ 22,178	$ 4,579		
118																	
119	Interest Applied	ln 96 * ln 117 / 365 * Days of Month		313	325	326	296	329	320	295	227	192	152	100	21	-	$ 2,897
120																	
121	**(Over)/Under Balance**	-ln 114 +ln 115 + ln 119	$ 69,182	$ 69,495	$ 69,820	$ 70,146	$ 70,442	$ 70,771	$ 71,091	$ 55,285	$ 45,277	$ 37,096	$ 28,147	$ 16,208	$ (7,051)	$ 2,706	$ 2,706
122																	
123	Forecast Therm Sales	ln 53								1,068,480	2,785,832	2,312,881	2,344,026	3,473,998	7,389,766	4,273,922	23,648,905
124	Unbilled Therm	ln 55								4,219,447	4,865,052	5,423,594	6,209,362	6,387,887	6,063,554	1,789,632	
125																	
126	Working Cap. Rate w/out Int.	Sch. 3, pg. 4, ln 228 col. (c)								$0.0054	$0.0054	$0.0054	$0.0054	$0.0054	$0.0054	$0.0054	
127																	
128	Working Capital Rate w/ Int.	Sch. 3, pg. 4, ln 228 col. (d)								$0.0055	$0.0055	$0.0055	$0.0055	$0.0055	$0.0055	$0.0055	

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty**
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3 **Off Peak 2023 Summer Cost of Gas Filing**
4 **COG (Over)/Under Cumulative Recovery Balances and Interest Calculation**
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132			Prior Period Balance													
133			Plus Nov Collections	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Off Peak Period
134		Days in Month	October 31, 2022	30	31	31	28	31	30	31	30	31	31	30	31	30	Total
135	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)
136																	
137	**Account 8840 2 0000 10 1163 1754 (formerly, 175.54) Bad Debt (Over)/Under Balance Interest Calculation**																
138																	
139	Forecast Direct Gas Costs	ln 34		$ -	$ -	$ -	$ -	$ -	$ -	$ 3,284,652	$ 2,186,344	$ 1,878,803	$ 2,054,749	$ 2,031,902	$ 3,932,515	$ -	15,368,965
140	Forecast Working Capital	ln 106 + (May includes prior period)		-	-	-	-	-	-	81,912	8,473	7,282	7,963	7,875	15,241		128,746
141	Prior Period Balance (with Refund)	ln 21 / 6								1,249,944	1,249,944	1,249,944	1,249,944	1,249,944	1,249,944		7,499,663
142	Total Forecast Direct Gas Costs & Working Capital			-	-	-	-	-	-	4,616,508	3,444,762	3,136,029	3,312,656	3,289,721	5,197,700	-	15,497,712
143																	
144	**Beginning Balance**	Account 1163-1754 1/	**$ 1,016,834**	$ 1,016,834	$ 1,021,431	$ 1,026,202	$ 1,030,995	$ 1,035,345	$ 1,040,182	$ 1,044,884	$ 817,330	$ 670,718	$ 553,066	$ 423,086	$ 265,333	$ (52,371)	$ 1,016,834
145		**Oct Collections & Unbilled**															
146	Forecast Bad Debt	ln 142 * 0.00861151933369296		-	-	-	-	-	-	39,755	29,665	27,006	28,527	28,329	44,760		198,042
147																	
148	Projected Revenues w/o int	ln 184 * ln 187		-	-	-	-	-	-	(54,889)	(143,112)	(118,816)	(120,416)	(178,464)	(379,622)	(219,557)	(1,214,876)
149	Projected Unbilled Revenue	ln 185 * ln 187								(216,759)	(249,924)	(278,617)	(318,983)	(328,154)	(311,493)		(1,703,931)
150	Reverse Prior Month Unbilled										216,759	249,924	278,617	318,983	328,154	311,493	1,703,931
151																	-
152	Bad Debt Billed	Account 1163-1754 2/			-		-	-	-								-
153	Add Net Adjustments			-	-	-	-	-	-	-	-	-	-	-	-	-	-
154																	
155	Monthly (Over)/Under Recovery		$ 1 016 834	$ 1 016 834	$ 1 021 431	$ 1 026 202	$ 1 030 995	$ 1 035 345	$ 1 040 182	$ 812 991	$ 670 718	$ 550 215	$ 420 811	$ 263 781	$ (52 868)	$ 39 564	$ -
156																	
157	Average Monthly Balance	(ln 144 + 155)/ 2		$ 1,016,834	$ 1,021,431	$ 1,026,202	$ 1,030,995	$ 1,035,345	$ 1,040,182	$ 928,938	$ 744,024	$ 610,466	$ 486,939	$ 343,433	$ 106,233	$ (6,404)	
158																	
159	Interest Rate	Prime Rate		5.50%	5.50%	5.50%	5.50%	5.50%	5.50% #	5.50%	5.50%	5.50%	5.50%	5.50%	5.50%		
160																	
161	Interest Applied	ln 157 * ln 159 / 365 * Days of Mo.		$ 4,597	$ 4,771	$ 4,794	$ 4,350	$ 4,836	$ 4,702	$ 4,339	$ 3,363	$ 2,852	$ 2,275	$ 1,553	$ 496		$ 42,928
162																	
163	**(Over)/Under Balance**	ln 155 + ln 161	$ 1 016 834	$ 1 021 431	$ 1 026 202	$ 1 030 995	$ 1 035 345	$ 1 040 182	**$ 1,044,884**	$ 817 330	$ 674 081	$ 553 066	$ 423 086	$ 265 333	$ (52 371)	$ (6 404)	42 928
164																	
165																	
166	**Calculation of Bad Debt with Interest**																
167																	
168	**Beginning Balance**		$ 1,016,834	$ 1,016,834	$ 1,021,431	$ 1,026,202	$ 1,030,995	$ 1,035,345	$ 1,040,182	$ 1,044,884	$ 805,478	$ 654,486	$ 530,324	$ 393,222	$ 227,144	$ (106,587)	$ 1,016,834
169	Forecast Bad Debt	ln 146		-	-	-	-	-	-	39,755	29,665	27,006	28,527	28,329	44,760	-	198,042
170	Projected Revenues with int.	ln 184 * 189		-	-	-	-	-	-	(57,281)	(149,347)	(123,992)	(125,662)	(186,239)	(396,161)	(229,122)	(1,267,803)
171	Projected Unbilled Revenue	ln 185 * 189								(226,202)	(260,812)	(290,756)	(332,880)	(342,451)	(325,063)		(1,778,164)
172	Reverse Prior Month Unbilled										226,202	260,812	290,756	332,880	342,451	325,063	1,778,164
173	Bad Debt Billed	ln 152	-		-	-	-	-	-								-
174	Add Interest	ln 161		-	-	-	-	-	-	4,339	3,363	2,852	2,275	1,553	496		14,878
175	Add Net Adjustments	ln 153	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
176	Monthly (Over)/Under Recovery		$ 1 016 834	$ 1 016 834	$ 1 021 431	$ 1 026 202	$ 1 030 995	$ 1 035 345	$ 1 040 182	$ 805 496	$ 654 549	$ 530 408	$ 393 339	$ 227 294	$ (106 373)	$ (10 646)	$ (38 050)
177																	
178	Average Monthly Balance	(ln 168 + 176)/ 2		$ 1,016,834	$ 1,021,431	$ 1,026,202	$ 1,030,995	$ 1,035,345	$ 1,040,182	$ 925,190	$ 730,014	$ 592,447	$ 461,832	$ 310,258	$ 60,386	$ (58,616)	
179																	
180	Interest Applied	ln 159 * ln 178 / 365 * Days of Month		4,597	4,771	4,794	4,350	4,836	4,702	4,322	3,300	2,767	2,157	1,403	282	-	$ 42,281
181																	
182	**(Over)/Under Balance**	-ln 174 +ln 176 + ln 180	$ 1,016,834	$ 1,021,431	$ 1,026,202	$ 1,030,995	$ 1,035,345	$ 1,040,182	$ 1,044,884	$ 805,478	$ 654,486	$ 530,324	$ 393,222	$ 227,144	$ (106,587)	$ (10,646)	$ (10,646)
183																	
184	Forecast Therm Sales	ln 53								1,068,480	2,785,832	2,312,881	2,344,026	3,473,998	7,389,766	4,273,922	23,648,905
185	Unbilled Therm	ln 55								4,219,447	4,865,052	5,423,594	6,209,362	6,387,887	6,063,554		
186																	
187	COG Rate Without Interest	Sch. 3, pg. 4, ln 245 col. (c)								$0.0514	$0.0514	$0.0514	$0.0514	$0.0514	$0.0514	$0.0514	
188																	
189	COG With Interest	Sch. 3 pg. 4 ln 245 col. (d)								$0.0536	$0.0536	$0.0536	$0.0536	$0.0536	$0.0536	$0.0536	
190																	
191																	
192																	
193	**Total Interest**	lns 48 + 119 + 180		$ 38,812	$ 40,287	$ 40,475	$ 36,729	$ 40,836	$ 39,703	$ 36,317	$ 27,476	$ 22,947	$ 17,898	$ 10,931	$ (416)	$ -	$ 351,995

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

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3 **Off Peak 2023 Summer Cost of Gas Filing**
4 **Adjustments to Gas Costs**
5

	Adjustments	**Prior Period Adjustments**	**Refunds from Suppliers / Pipelines**	**Broker Revenue**	**Fuel Financing**	**Transportation CGA Revenues**	**Interruptible Sales Margin**	**Off System Sales Margin**	**Capacity Release Margin**	**Net Option Premiums**	**Fixed Price Option Administrative Costs**	**Total Adjustments**
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(m)
8												
9	Nov-20	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	Dec-20	-	-	-	-	-	-	-	-	-	-	-
11	Jan-21	-	-	-	-	-	-	-	-	-	-	-
12	Feb-21	-	-	-	-	-	-	-	-	-	-	-
13	Mar-21	-	-	-	-	-	-	-	-	-	-	-
14	Apr-21	-	-	-	-	-	-	-	-	-	-	-
15	May-21	-	-	-	-	-	-	-	(165,367)	-	-	(165,367)
16	Jun-21	-	-	-	-	-	-	-	(247,836)	-	-	(247,836)
17	Jul-21	-	-	-	-	-	-	-	(389,505)	-	-	(389,505)
18	Aug-21	-	-	-	-	-	-	-	(298,763)	-	-	(298,763)
19	Sep-21	-	-	-	-	-	-	-	(301,189)	-	-	(301,189)
20	Oct-21	-	-	-	-	-	-	-	(158,109)	-	-	(158,109)
21												
22	Total Off Peak Period	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (1,560,769)	$ -	$ -	$ (1,560,769)

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.** **REDACTED**

2 Schedule 5A

3 **Off Peak 2023 Summer Cost of Gas Filing** Page 1 of 2

4 **Demand Costs**

5											
6										Off Peak	Peak
7										May - Oct	May - Oct
8		Peak	Reference	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Total	Total
9	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
10											
11	**Supply**										
12	Niagara Supply		Sch 5B, ln 9 * Sch 5C ln 9 x days	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
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]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
17	Tenn Gas Pipeline 95346 Z5-Z6		Sch 5B, ln 13 * Sch 5C ln 14 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
18	Tenn Gas Pipeline 2302 Z5-Z6		Sch 5B, ln 14 * Sch 5C ln 16 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
19	Tenn Gas Pipeline 8587 Z0-Z6		Sch 5B, ln 15 * Sch 5C ln 18 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
20	Tenn Gas Pipeline 8587 Z1-Z6		Sch 5B, ln 16 * Sch 5C ln 20 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
21	Tenn Gas Pipeline 8587 Z4-Z6		Sch 5B, ln 17 * Sch 5C ln 22 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
22	Tenn Gas Pipeline (Dracut) 42076 Z6-Z6		Sch 5B, ln 18 * Sch 5C ln 24 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
23	Tenn Gas Pipeline (Dracut) 358905 Z6-Z7		Sch 5B, ln 19 * Sch 5C ln 25 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
24	Tenn Gas Pipeline (Concord Lateral) Z6-Z6		Sch 5B, ln 20 * Sch 5C ln 28 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
25	Portland Natural Gas Trans Service		Sch 5B, ln 21 * Sch 5C ln 30 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
26	Portland Natural Gas		Sch 5B, ln 22 * Sch 5C ln 31 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
27	ANE (TransCanada via Union to Iroquois)		Sch 5B, ln 23 * Sch 5C ln 48 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
28	TransCanada via Union to Portland		Sch 5B, ln 24 * Sch 5C ln 49 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
29	Tenn Gas Pipeline Z4-Z6 stg 632	peak	Sch 5B, ln 25 * Sch 5C ln 34 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
30	Tenn Gas Pipeline Z4-Z6 stg 11234	peak	Sch 5B, ln 26 * Sch 5C ln 36 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
31	Tenn Gas Pipeline Z5-Z6 stg 11234	peak	Sch 5B, ln 27 * Sch 5C ln 38 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
32	National Fuel FST 2358	peak	Sch 5B, ln 28 * Sch 5C ln 40 x days	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
33											
34	Subtotal Pipeline Demand Charges			$ 1,627,734	$ 1,630,470	$ 1,630,470	$ 1,630,470	$ 1,630,470	$ 1,630,470	$ 4,889,632	$ 4,890,452
35											
36	**Peaking Supply**										
37	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	peak	Sch 5B, ln 31 * Sch 5C ln 28 x days	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
38	Granite Ridge Demand	peak	Sch 5B, ln 32 * Sch 5C ln 59 x days	-	-	-	-	-	-	-	-
39	DOMAC Demand NSB041	peak	Per Contract	-	-	-	-	-	-	-	
40	Subtotal Peaking Demand Charges			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
41											
42	**Subtotal Supply, Pipeline & Peaking**		ln 13 + ln 34 + ln 40	$ 1,627,734	$ 1,630,470	$ 1,630,470	$ 1,630,470	$ 1,630,470	$ 1,630,470	$ 4,889,632	$ 4,890,452
43											
44	Less Transportation Capacity Credit			$ (551,314)	$ (552,240)	$ (552,240)	$ (552,240)	$ (552,240)	$ (552,240)	$ (1,656,118)	$ (1,656,396)
45											
46	**Total Supply, Pipeline & Peaking Demand**			$ 1,076,421	$ 1,078,230	$ 1,078,230	$ 1,078,230	$ 1,078,230	$ 1,078,230	$ 3,233,514	$ 3,234,056

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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2
3 **Off Peak 2023 Summer Cost of Gas Filing**
4 **Demand Costs**

47											
48	**Storage**										
49	Dominion - Demand	peak	Sch 5B, ln 36 * Sch 5C ln 63 x days	$ 3,040	$ 3,040	$ 3,040	$ 3,040	$ 3,040	$ 3,040	$ -	$ 18,240
50	Dominion - Storage	peak	Sch 5B, ln 37 * Sch 5C ln 64 x days	3,266	3,266	3,266	3,266	3,266	3,266	-	19,595
51	Honeoye - Demand	peak	Sch 5B, ln 38 * Sch 5C ln 67 x days	8,351	8,351	8,351	8,351	8,351	8,351	-	50,105
52	National Fuel - Demand	peak	Sch 5B, ln 40 * Sch 5C ln 69 x days	16,201	16,201	16,201	16,201	16,201	16,201	-	97,207
53	National Fuel - Capacity	peak	Sch 5B, ln 41 * Sch 5C ln 70 x days	32,198	32,198	32,198	32,198	32,198	32,198	-	193,190
54	Tenn Gas Pipeline - Demand	peak	Sch 5B, ln 42 * Sch 5C ln 73 x days	27,963	27,963	27,963	27,963	27,963	27,963	-	167,775
55	Tenn Gas Pipeline - Capacity	peak	Sch 5B, ln 43 * Sch 5C ln 74 x days	27,307	27,307	27,307	27,307	27,307	27,307	-	163,841
56											
57	**Subtotal Storage Demand Costs**			$ 118,326	$ 118,326	$ 118,326	$ 118,326	$ 118,326	$ 118,326	$ -	$ 709,954
58											
59	Less Transportation Capacity Credit			$ (40,077)	$ (40,077)	$ (40,077)	$ (40,077)	$ (40,077)	$ (40,077)	$ -	$ (240,461)
60											
61	**Total Storage Demand Costs**		ln 57 + ln 59	$ 78,249	$ 78,249	$ 78,249	$ 78,249	$ 78,249	$ 78,249	$ -	$ 469,493
62											
63	**Total Demand Charges**		ln 42 + ln 57	$ 1,746,060	$ 1,748,796	$ 1,748,796	$ 1,748,796	$ 1,748,796	$ 1,748,796	$ 4,889,632	$ 5,600,406
64											
65	Total Transportation Capacity Credit		ln 44 + ln 59	$ (591,391)	$ (592,317)	$ (592,317)	$ (592,317)	$ (592,317)	$ (592,317)	$ (1,656,118)	$ (1,896,857)
66											
67	**Total Demand Charges less Cap. Cr.**		ln 63 + ln 65	$ 1,154,669	$ 1,156,479	$ 1,156,479	$ 1,156,479	$ 1,156,479	$ 1,156,479	$ 3,233,514	$ 3,703,548
68											
69											
70	Monthly Off Peak Demand			$ 976,531	$ 979,267	$ 979,267	$ 979,267	$ 979,267	$ 979,267	$ 4,889,632	$ -
71	Monthly Off Peak Transportation Cap Credit			(330,751)	(331,678)	(331,678)	(331,678)	(331,678)	(331,678)	(1,656,118)	-
72	**Total Off Peak Demand**			$ 645,780	$ 647,589	$ 647,589	$ 647,589	$ 647,589	$ 647,589	$ 3,233,514	$ -
73											
74	Monthly Peak Demand			$ 769,529	$ 769,529	$ 769,529	$ 769,529	$ 769,529	$ 769,529	$ -	$ 5,600,406
75	Monthly Peak Transportation Cap Credit			(260,639)	(260,639)	(260,639)	(260,639)	(260,639)	(260,639)	-	(1,896,857)
76	**Total Peak Demand**			$ 508,889	$ 508,889	$ 508,889	$ 508,889	$ 508,889	$ 508,889	$ -	$ 3,703,548

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Schedule 5B
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Off Peak 2023 Summer Cost of Gas Filing

Demand Volumes

	Peak	Reference	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(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		42076 FTA Z6-Z6	20,000	20,000	20,000	20,000	20,000	20,000
Tenn Gas Pipeline		358905 FTA Z6-Z6	40,000	40,000	40,000	40,000	40,000	40,000
Tenn Gas Pipeline (Concord Lateral)		Firm Transportation	30,000	30,000	30,000	30,000	30,000	30,000
Portland Natural Gas Trans Service		FT-1999-001	1,000	1,000	1,000	1,000	1,000	1,000
Portland Natural Gas		FTN	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		Union 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		-	-	-	-	-	-
Granite Ridge Demand	peak		-	-	-	-	-	-
DOMAC Liquid Demand Charge	peak	NSB041	-	-	-	-	-	-
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-1 2357	6,098	6,098	6,098	6,098	6,098	6,098
National Fuel - Capacity Reservation	peak	FSS-1 2357	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

Schedule 5C
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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2 **d/b/a Liberty Utilities**
3 **Off Peak 2023 Summer Cost of Gas Filing**
4 **Demand Rates**

5					**May-23**	**Jun-23**	**Jul-23**	**Aug-23**	**Sep-23**	**Oct-23**	**Nov-23**	**Nov-23**	**Dec-23**	**Jan-24**	**Feb-24**	**Mar-24**	**Apr-24**
6	**Tariff Rates**				31	30	31	31	30	31	184	30	31	31	28	31	30
7					Unit Rate	Unit Rate	Unit Rate	Unit Rate	Unit Rate	Unit Rate	Avg Rate						
8	**Supply**																
9	Niagara Supply		$ -	Per Contract	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10																	
11	**Pipeline**																
12	Iroquois Gas	RTS 470-01	$ 5.2357	Forth Revised Sheet No. 4	$ 0.1689	$ 0.1745	$ 0.1689	$ 0.1689	$ 0.1745	$ 0.1689	$0.1708	$0.1745	$0.1689	$0.1689	$0.1870	$0.1689	$0.1745
13																	
14	Tenn Gas Pipeline	95346 Z5-Z6	$ 6.1635	19th Rev Sheet No. 14	$ 0.4746	$ 0.4904	$ 0.4746	$ 0.4746	$ 0.4904	$ 0.4746	$0.4799	$0.4904	$0.4746	$0.4746	$0.5254	$0.4746	$0.4904
15																	
16	Tenn Gas Pipeline	2302 Z5-Z6	$ 6.1635	19th Rev Sheet No. 14	$ 0.1988	$ 0.2055	$ 0.1988	$ 0.1988	$ 0.2055	$ 0.1988	$0.2010	$0.2055	$0.1988	$0.1988	$0.2201	$0.1988	$0.2055
17																	
18	Tenn Gas Pipeline	8587 Z0-Z6	$ 19.9267	FT-A (Z0 - Z6)	$ 0.6428	$ 0.6642	$ 0.6428	$ 0.6428	$ 0.6642	$ 0.6428	$0.6499	$0.6642	$0.6428	$0.6428	$0.7117	$0.6428	$0.6642
19																	
20	Tenn Gas Pipeline	8587 Z1-Z6	$ 17.6917	FT-A (Z1 - Z6)	$ 0.5707	$ 0.5897	$ 0.5707	$ 0.5707	$ 0.5897	$ 0.5707	$0.5770	$0.5897	$0.5707	$0.5707	$0.6318	$0.5707	$0.5897
21																	
22	Tenn Gas Pipeline	8587 Z4-Z6	$ 7.1720	FT-A (Z4 - Z6)	$ 0.2314	$ 0.2391	$ 0.2314	$ 0.2314	$ 0.2391	$ 0.2314	$0.2339	$0.2391	$0.2314	$0.2314	$0.2561	$0.2314	$0.2391
23																	
24	TGP Dracut	42076 FTA Z6-Z6	$ 4.0968	19th Rev Sheet No. 14	$ 0.1322	$ 0.1366	$ 0.1322	$ 0.1322	$ 0.1366	$ 0.1322	$0.1336	$0.1366	$0.1322	$0.1322	$0.1463	$0.1322	$0.1366
25																	
26	TGP Dracut	358905 FTA Z6-Z6	$ 4.0968	19th Rev Sheet No. 14	$ 0.1322	$ 0.1366	$ 0.1322	$ 0.1322	$ 0.1366	$ 0.1322	$0.0223	$0.1366	$0.1322	$0.1322	$0.1463	$0.1322	$0.1366
27																	
28	TGP Concord Lateral	Firm Transportatior	$ 12.2188	Per contract	$ 0.3942	$ 0.4073	$ 0.3942	$ 0.3942	$ 0.4073	$ 0.3942	$0.3985	$0.4073	$0.3942	$0.3942	$0.4364	$0.3942	$0.4073
29																	
30	Portland Natural Gas	FT-1999-001	$ 18.2633	Negot Dmd /CMDY=Part 4.1 V8	$ 0.5891	$ 0.6088	$ 0.5891	$ 0.5891	$ 0.6088	$ 0.5891	$0.5957	$0.6088	$0.5891	$0.5891	$0.6523	$0.5891	$0.6088
31																	
32	Portland Natural Gas	FTN	$ 22.7943	Negot Dmd /CMDY=Part 4.1 V8	$ 0.7353	$ 0.7598	$ 0.7353	$ 0.7353	$ 0.7598	$ 0.7353	$0.7435	$0.7598	$0.7353	$0.7353	$0.8141	$0.7353	$0.7598
33																	
34	Tenn Gas Pipeline	632 Z4-Z6 (stg)	$ 7.1720	19th Rev Sheet No. 14	$ 0.2314	$ 0.2391	$ 0.2314	$ 0.2314	$ 0.2391	$ 0.2314	$0.2339	$0.2391	$0.2314	$0.2314	$0.2561	$0.2314	$0.2391
35																	
36	Tenn Gas Pipeline	11234 Z4-Z6(stg)	$ 7.1720	19th Rev Sheet No. 14	$ 0.2314	$ 0.2391	$ 0.2314	$ 0.2314	$ 0.2391	$ 0.2314	$0.2339	$0.2391	$0.2314	$0.2314	$0.2561	$0.2314	$0.2391
37																	
38	Tenn Gas Pipeline	11234 Z5-Z6(stg)	$ 6.1635	19th Rev Sheet No. 14	$ 0.1988	$ 0.2055	$ 0.1988	$ 0.1988	$ 0.2055	$ 0.1988	$0.2010	$0.2055	$0.1988	$0.1988	$0.2201	$0.1988	$0.2055
39																	
40	National Fuel	FST N02358	$ 4.9801	4.020 Version 28.0.0 Pg 1	$ 0.1606	$ 0.1660	$ 0.1606	$ 0.1606	$ 0.1660	$ 0.1606	$0.1624	$0.1660	$0.1606	$0.1606	$0.1779	$0.1606	$0.1660
41																	
42	ANE Union Gas		$ 3.6890														
43	TransCanada Pipelines Limited		$ 11.9690	Union Parkway to Iroquois													
44	Delivery Pressure Demand Charge		0.6083	Union Parkway to Iroquois													
45	Sub Total Demand Charges		16.2663														
46	Conversion rate GJ to MMBTU		1.0551														
47	Conversion rate to US$		1.2706	1/0/1900													
48	Demand Rate/US$		$ 13.5069		$ 0.4357	$ 0.4502	$ 0.4357	$ 0.4357	$ 0.4502	$ 0.4357	$0.4405	$0.4502	$0.4357	$0.4357	$0.4824	$0.4357	$0.4502
49																	
50	Union Gas		$ 3.6890														
51	TransCanada Pipelines Limited		$ 20.3913														
52	Delivery Pressure Demand Charge		$ 0.6083														
53	Sub Total Demand Charges		$ 24.6887														
54	Conversion rate GJ to MMBTU		$ 1.0551														
55	Conversion rate to US$		$ 1.2706	$0.0000													
56	Demand Rate/US$		$ 20.5005		$ 0.6613	$ 0.6833	$ 0.6613	$ 0.6613	$ 0.6833	$ 0.6613	$0.6687	$0.6833	$0.6613	$0.6613	$0.7322	$0.6613	$0.6833
57																	
58	**Peaking**																
59	Granite Ridge Demand		$ -	Per Contract	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
60	DOMAC Demand NSB041		$ -	Per Contract	$ -	$ -	$ -	$ -	$ -	$ -	$ -						
61																	
62	**Storage**																
63	Dominion - Demand	GSS 300076	$ 3.2548	GSS Settled,Tariff Rec #10.30 \	$0.1050	$0.1085	$0.1050	$0.1050	$0.1085	$0.1050	$0.1064	$0.1085	$0.1050	$0.1050	$0.1162	$0.1050	$0.1085
64	Dominion - Capacity	GSS 300076	$ 0.0318	GSS Settled,Tariff Rec #10.30 \	$0.0010	$0.0011	$0.0010	$0.0010	$0.0011	$0.0010	$0.0010	$0.0011	$0.0010	$0.0010	$0.0011	$0.0010	$0.0011
65			$ 3.2866		$ 0.1060	$ 0.1096	$ 0.1060	$ 0.1060	$ 0.1096	$ 0.1060	$0.1074	$0.1096	$0.1060	$0.1060	$0.1174	$0.1060	$0.1096
66																	
67	Honeoye - Demand	SS-NY	$ 6.1299	Sub 1st Rev Sheet No. 5	$0.1977	$0.2043	$0.1977	$0.1977	$0.2043	$0.1977	$0.2004	$0.2043	$0.1977	$0.1977	$0.2189	$0.1977	$0.2043
68																	
69	National Fuel - Demand	FSS-1 2357	$ 2.6568	4.020 Version 28.0.0 Pg 1	$0.0857	$0.0886	$0.0857	$0.0857	$0.0886	$0.0857	$0.0868	$0.0886	$0.0857	$0.0857	$0.0949	$0.0857	$0.0886
70	National Fuel - Capacity	FSS-1 2357	$ 0.0480	4.020 Version 28.0.0 Pg 1	$0.0015	$0.0016	$0.0015	$0.0015	$0.0016	$0.0015	$0.0016	$0.0016	$0.0015	$0.0015	$0.0017	$0.0015	$0.0016
71			$ 2.7048		$ 0.0873	$ 0.0902	$ 0.0873	$ 0.0873	$ 0.0902	$ 0.0873	$0.0884	$0.0902	$0.0873	$0.0873	$0.0966	$0.0873	$0.0902
72																	
73	Tenn Gas Pipeline	FS-MA 523	$ 1.2801	22nd Rev Sheet No.61	$0.0413	$0.0427	$0.0413	$0.0413	$0.0427	$0.0413	$0.0418	$0.0427	$0.0413	$0.0413	$0.0457	$0.0413	$0.0427

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2
3 **Off Peak 2023 Summer Cost of Gas Filing**
4 **Supply and Commodity Costs, Volumes and Rates**

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5									Off-Peak
6	For Month of:	Reference	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	May - Oct
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
8									
9	**Supply and Commodity Costs**								
10									
11	**Pipeline Gas:**								
12	Dawn Supply	ln 63 * ln 104	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
13	Niagara Supply	ln 64 * ln 109	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
14	TGP Supply (Gulf)	ln 65 * ln 129	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
15	Dracut Supply 1 - Baseload	ln 66 * ln 114	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
16	Dracut Supply 2 - Swing	ln 67 * ln 119	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	Dracut Supply 3 - Swing		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
17	City Gate Delivered Supply	ln 68 * ln 135	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
18	LNG Truck	ln 69 * ln 137	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
19	Propane Truck	ln 70 * ln 139	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
20	PNGTS	ln 71 * ln 144	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
21	Portland Natural Gas		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
22	TGP Supply (Zone 4)	ln 73 * ln 154	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
23									
24	Subtotal Pipeline Gas Costs		$ 4,073,761	$ 3,035,210	$ 2,987,877	$ 2,987,600	$ 2,857,275	$ 3,851,096	$ 19,811,121
25									
26	**Volumetric Transportation Costs**								
27	Dawn Supply	ln 63 * ln 202	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
28	Niagara Supply	ln 64 * ln 213	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
29	TGP Supply (Zone 4)	ln 73 * ln 251	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
30	Dracut Supply 1 - Baseload	ln 66 * ln 262	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
31	Dracut Supply 2 - Swing	ln 67 * ln 262	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
	Dracut Supply 3 - Swing		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
32	City Gate Delivered Supply	ln 68 * ln 262	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
33	TGP Storage - Withdrawals	ln 78 * ln 177	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
34									
35	**Total Volumetric Transportation Costs**		$ 112,218	$ 95,914	$ 91,728	$ 91,490	$ 92,036	$ 105,092	$ 588,478
36									
37	**Less - Gas Refill:**								
38	LNG Truck	ln 87 * ln 161	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
39	Propane	ln 88 * ln 162	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
40	TGP Storage Refill	ln 89 * ln 127	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
41	Storage Refill (Trans.)	ln 89 * ln 241	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
42									
43	Subtotal Refills		$ (1,579,090)	$ (1,621,330)	$ (1,876,386)	$ (1,698,195)	$ (1,588,793)	$ (691,404)	$ (9,055,198)
44									
45	**Total Supply & Pipeline Commodity Costs**	ln 24 + ln 35 + ln 43	$ 2,606,889	$ 1,509,794	$ 1,203,220	$ 1,380,895	$ 1,360,518	$ 3,264,784	$ 11,326,100
46									
47	**Storage Gas:**								
48	TGP Storage - Withdrawals	ln 78 * ln 169	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49									
50	**Produced Gas:**								
51	LNG Vapor	ln 81 * ln 156	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
52	Propane	ln 82 * ln 158	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
53									
54	**Total Produced Gas**	ln 51 + ln 52	$ 31,982	$ 28,961	$ 27,994	$ 26,265	$ 23,795	$ 20,142	$ 159,140
55									
56									
57	**Total Commodity Gas & Trans. Costs**	ln 45 + ln 48 + ln 54	$ 2,638,872	$ 1,538,755	$ 1,231,214	$ 1,407,160	$ 1,384,313	$ 3,284,926	$ 11,485,240
58			**THIS PAGE HAS BEEN REDACTED**						

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**

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3 **Off Peak 2023 Summer Cost of Gas Filing**

4 **Supply and Commodity Costs, Volumes and Rates**

59									
60	**Volumes (Therms)**								
61									
62	**Pipeline Gas:**	See Schedule 11A							
63	Dawn Supply		842,983	655,282	518,079	495,174	712,922	601,154	3,825,595
64	Niagara Supply		667,764	585,319	584,500	583,125	598,573	687,845	3,707,126
65	TGP Supply (Gulf)		29,663	-	-	-	-	327,579	357,242
66	Dracut Supply 1 - Baseload		-	-	-	-	-	-	-
67	Dracut Supply 2 - Swing		-	-	-	-	-	435,588	435,588
	Dracut Supply 3 - Swing								
68	City Gate Delivered Supply		-	-	-	-	-	-	-
69	LNG Truck		-	-	4,831	10,843	17,887	110,141	143,701
70	Propane Truck		79,331	71,837	69,440	69,276	73,464	81,717	445,066
71	PNGTS		211,780	185,528	182,354	184,937	189,729	218,149	1,172,479
72	Portland Natural Gas		889,892	29,984	-	-	-	522,990	1,442,866
73	TGP Supply (Zone 4)		5,379,362	4,713,785	4,706,794	4,696,924	4,822,444	5,548,240	29,867,549
74									
75	Subtotal Pipeline Volumes		8,100,776	6,241,736	6,065,997	6,040,279	6,415,019	8,533,404	41,397,212
76									
77	**Storage Gas:**								
78	TGP Storage		-	-	-	-	-	-	-
79									
80	**Produced Gas:**								
81	LNG Vapor		20,005	18,116	17,511	17,470	18,526	20,607	112,234
82	Propane		-	-	-	-	-	-	-
83									
84	Subtotal Produced Gas		20,005	18,116	17,511	17,470	18,526	20,607	112,234
85									
86	**Less - Gas Refill:**								
87	LNG Truck		-	-	(4,831)	(10,843)	(17,887)	(110,141)	(143,701)
88	Propane		(79,331)	(71,837)	(69,440)	(69,276)	(73,464)	(81,717)	(445,066)
89	TGP Storage Refill		(2,622,767)	(2,671,728)	(3,066,813)	(2,770,444)	(2,599,354)	(1,122,012)	(14,853,118)
90									
91	Subtotal Refills		(2,702,098)	(2,743,565)	(3,141,083)	(2,850,564)	(2,690,705)	(1,313,870)	(15,441,885)
92									
93	**Total Sendout Volumes**		5,418,683	3,516,286	2,942,425	3,207,185	3,742,840	7,240,141	26,067,561
94									
95									
96									

1	**Liberty Utilities (EnergyNorth Natural Gas) Corp.**								
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3	**Off Peak 2023 Summer Cost of Gas Filing**								
4	**Supply and Commodity Costs, Volumes and Rates**								
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98	**Gas Costs and Volumetric Transportation Rates**								Schedule 6
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100	**Pipeline Gas:**								
101	**Dawn Supply**								Average Rate
102	NYMEX Price	Sch 7, ln 10/10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
103	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
104	**Net Commodity Costs**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
105									
106	**Niagara Supply**								
107	NYMEX Price	Sch 7, ln 10/10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
108	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
109	**Net Commodity Costs**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
110									
111	**Dracut Supply 1 - Baseload**								
112	Commodity Costs - NYMEX Price	Sch 7, ln 10 / 10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
113	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
114	**Net Commodity Costs**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
115									
116	**Dracut Supply 2 - Swing**								
117	Commodity Costs - NYMEX Price	Sch 7, ln 10 / 10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
118	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
119	**Net Commodity Costs**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
120									
121	**Dracut Supply 3 - Swing**	Sch 7, ln 10 / 10							
122	Commodity Costs - NYMEX Price		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
123	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
124	**Net Commodity Costs**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
125									
126	**TGP Supply (Gulf)**								
127	NYMEX Price	Sch 7, ln 10/10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
128	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
129	**Net Commodity Costs**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
130									
131									
132	**TGP Citygate Supply**								
133	NYMEX Price	Sch 7, ln 10/10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
134	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
135	**Net Commodity Costs**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
136									
137	**LNG Truck**	Sch 7, ln 10/10	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**
138									
139	**Propane Truck**	NYMEX - Propane	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**
140									
141	**PNGTS**								
142	NYMEX Price	Sch 7, ln 10/10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
143	Additional Cost		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
144	**Net Commodity Cost**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
145									
146	**PNGTS EXP**								
147	NYMEX Price	Sch 7, ln 10/10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
148	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
149	**Net Commodity Cost**		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
150									
151	**TGP Supply (Zone 4)**								
152	NYMEX Price	Sch 7, ln 10/10	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
153	Basis Differential		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
154	**Net Commodity Cost**		**$0.4954**	**$0.4797**	**$0.4867**	**$0.4899**	**$0.4284**	**$0.4309**	**$0.4685**
155									
156	**LNG Vapor (Storage)**	Sch 13, ln 97 /10	**$1.5987**	**$1.5987**	**$1.5987**	**$1.5035**	**$1.2844**	**$0.9775**	**$1.4269**
157									
158	**Propane**	Sch 13, ln 67 /10	**$1.6351**	**$1.4401**	**$1.2997**	**$1.1878**	**$1.0939**	**$1.0092**	**$1.2776**
159									
160	**Storage Refill:**								
161	**LNG Truck**	ln 137	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**
162	**Propane**	ln 139	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**	**$0.0000**
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1	**Liberty Utilities (EnergyNorth Natural Gas) Corp.**								
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3	**Off Peak 2023 Summer Cost of Gas Filing**								
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183	**Dawn Supply Volumetric Transportation Charge**								Average Rate
184	**Commodity Costs**	ln 104	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
185									
186	TransCanada - Commodity Rate/GJ	Dawn - Parkway to Iroquois	$0.00040	$0.00040	$0.00040	$0.00040	$0.00040	$0.00040	$0.00040
187	Conversion Rate GL to MMBTU		1.0551	1.0551	1.0551	1.0551	1.0551	1.0551	1.0551
188	Conversion Rate to US$	1/0/1900	1.2706	1.2706	1.2706	1.2706	1.2706	1.2706	1.2706
189	Commodity Rate/US$	ln 186 x ln 187 x ln 188	$0.00054	$0.00054	$0.00054	$0.00054	$0.00054	$0.00054	$0.00054
190	TransCanada Fuel %	Dawn - Parkway to Iroquois	0.82%	0.82%	0.00%	0.00%	0.00%	0.00%	0.27%
191	TransCanada Fuel * Percentage	ln 184 x ln 190	$0.00438	$0.00440	$0.00000	$0.00000	$0.00000	$0.00000	$0.00146
192	Subtotal TransCanada		**$0.00491**	**$0.00493**	**$0.00054**	**$0.00054**	**$0.00054**	**$0.00054**	**$0.00200**
193	IGTS - Z1 RTS Commodity	Forth Revised Sheet No. 4	$0.00034	$0.00034	$0.00034	$0.00034	$0.00034	$0.00034	$0.00034
194	IGTS - Z1 RTS ACA Rate Commodity	Forth Revised Sheet No. 4	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015
195	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
196	Subtotal IGTS - Trans Charge - Z1 RTS Commodity		**$0.00049**	**$0.00049**	**$0.00049**	**$0.00049**	**$0.00049**	**$0.00049**	**$0.00049**
197	TGP NET-NE - Comm. Segments 3 & 4	21st Rev Sheet No. 15	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015
198	IGTS -Fuel Use Factor - Percentage	Forth Revised Sheet No. 4	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
199	IGTS -Fuel Use Factor - Fuel * Percentage	ln 184 x ln 198	**$0.00535**	**$0.00538**	**$0.00540**	**$0.00540**	**$0.00539**	**$0.00542**	**$0.00539**
200	TGP FTA Fuel Charge % Z 5-6	18th Rev Sheet No. 32	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%
201	TGP FTA Fuel * Percentage	ln 184 x ln 200	**$0.00583**	**$0.00586**	**$0.00588**	**$0.00589**	**$0.00587**	**$0.00591**	**$0.00587**
202	**Total Volumetric Transportation Charge - Dawn Supply**		**$0.01673**	**$0.01681**	**$0.01246**	**$0.01246**	**$0.01244**	**$0.01251**	**$0.01390**
203									
204									
205	**Niagara Supply Volumetric Transportation Charge**								
206	**Commodity Costs**	Ln 109	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
207									
208	TGP FTA - FTA Z 5-6 Comm. Rate	21st Rev Sheet No. 15	$0.00693	$0.00693	$0.00693	$0.00693	$0.00693	$0.00693	$0.00693
209	TGP FTA - FTA Z 5-6 - ACA Rate	21st Rev Sheet No. 15	$0.00015	$0.0002	$0.0002	$0.0002	$0.0002	$0.0002	$0.0002
210	Subtotal TGP FTA - FTA Z 5-6 Commodity Rate		**$0.00708**	**$0.0071**	**$0.0071**	**$0.0071**	**$0.0071**	**$0.0071**	**$0.0071**
211	TGP FTA Fuel Charge % Z 5-6	18th Rev Sheet No. 32	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%	1.09%
212	TGP FTA Fuel * Percentage	ln 206 x ln 211	**$0.00580**	**$0.00583**	**$0.00585**	**$0.00585**	**$0.00584**	**$0.00588**	**$0.00584**
213	**Total Volumetric Transportation Rate - Niagara Supply**		**$0.01288**	**$0.01291**	**$0.01293**	**$0.01293**	**$0.01292**	**$0.01296**	**$0.01292**
214									
215									
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1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2
3 **Off Peak 2023 Summer Cost of Gas Filing**
4 **Supply and Commodity Costs, Volumes and Rates**

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220	**TGP Direct Volumetric Transportation Charge**								Average Rate
221	**Commodity Costs**	Ln 127	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
222									
223	TGP - Max Comm. Base Rate - Z 0-6	21st Rev Sheet No. 15	$0.02616	$0.02616	$0.02616	$0.02616	$0.02616	$0.02616	$0.02616
224	TGP - Max Commodity ACA Rate - Z 0-6	21st Rev Sheet No. 15	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015
225	Subtotal TGP - Max Comm. Rate Z 0-6		$0.02631	$0.02631	$0.02631	$0.02631	$0.02631	$0.02631	$0.02631
226	Prorated Percentage		32.60%	32.60%	32.60%	32.60%	32.60%	32.60%	32.60%
227	Prorated TGP - Max Commodity Rate - Z 0-6		**$0.00858**	**$0.00858**	**$0.00858**	**$0.00858**	**$0.00858**	**$0.00858**	**$0.00858**
228	TGP - Max Comm. Base Rate - Z 1-6	21st Rev Sheet No. 15	$0.02283	$0.02283	$0.02283	$0.02283	$0.02283	$0.02283	$0.02283
229	TGP - Max Commodity ACA Rate - Z 1-6	21st Rev Sheet No. 15	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015
230	Subtotal TGP - Max Commodity Rate - Z 1-6		$0.02298	$0.02298	$0.02298	$0.02298	$0.02298	$0.02298	$0.02298
231	Prorated Percentage		67.40%	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
232	Prorated TGP - Trans Charge - Max Commodity Rate - Z 1-6		**$0.01549**	**$0.01549**	**$0.01549**	**$0.01549**	**$0.01549**	**$0.01549**	**$0.01549**
233	TGP - Fuel Charge % - Z 0 -6	18th Rev Sheet No. 32	5.31%	5.31%	5.31%	5.31%	5.31%	5.31%	5.31%
234	Prorated Percentage		32.6%	32.6%	32.6%	32.6%	32.6%	32.6%	32.6%
235	Prorated TGP Fuel Charge % - Z 0-6		1.73%	1.73%	1.73%	1.73%	1.73%	1.73%	1.73%
236	TGP - Fuel Charge % - Z 1 -6	18th Rev Sheet No. 32	4.64%	4.64%	4.64%	4.64%	4.64%	4.64%	4.64%
237	Prorated Percentage		67.40%	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
238	Prorated TGP Fuel Charge - Fuel Charge % - Z 1-6		3.13%	3.13%	3.13%	3.13%	3.13%	3.13%	3.13%
239	TGP - Fuel Charge % - Z 0-6	ln 221 x ln 235	**$0.00941**	**$0.00947**	**$0.00957**	**$0.00955**	**$0.00946**	**$0.00953**	**$0.00950**
240	TGP - Fuel Charge % - Z 1-6	ln 221 x ln 238	**$0.01700**	**$0.01711**	**$0.01730**	**$0.01725**	**$0.01710**	**$0.01722**	**$0.01716**
241	**Total Volumetric Transportation Rate - TGP (Direct)**		**$0.05047**	**$0.05065**	**$0.05094**	**$0.05087**	**$0.05063**	**$0.05082**	**$0.05073**
242									
243	**TGP (Zone 4 Purchase) Volumetric Transportation Charge**								
244	**Commodity Costs**	Ln 127	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
245									
246	TGP - Max Comm. Base Rate - Z 4-6	21st Rev Sheet No. 15	$0.00911	$0.00911	$0.00911	$0.00911	$0.00911	$0.00911	$0.00911
247	TGP - Max Commodity ACA Rate - Z 4-6	21st Rev Sheet No. 15	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015
248	Subtotal TGP - Max Commodity Rate - Z 4-6		**$0.00926**	**$0.00926**	**$0.00926**	**$0.00926**	**$0.00926**	**$0.00926**	**$0.00926**
249	TGP - Fuel Charge % - Z 4-6	18th Rev Sheet No. 32	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%
250	TGP - Fuel Charge	ln 244 x ln 249	**$0.00738**	**$0.00715**	**$0.00725**	**$0.00730**	**$0.00638**	**$0.00642**	**$0.00698**
251	**Total Vol. Trans. Rate - TGP (Zone 6)**		**$0.01664**	**$0.01641**	**$0.01651**	**$0.01656**	**$0.01564**	**$0.01568**	**$0.01624**
252									
253									
254	**TGP Dracut**								
255	**Commodity Costs - NYMEX Price**	Ln 114	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
256									
257	TGP - Trans Charge - Comm. - Z 6-6	21st Rev Sheet No. 15	$0.00296	$0.00296	$0.00296	$0.00296	$0.00296	$0.00296	$0.00296
258	TGP - Trans Charge - ACA Rate - Z6-6	21st Rev Sheet No. 15	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015	$0.00015
259	Subtotal TGP - Trans Charge - Max Commodity Rate - Z 6-6		**$0.00311**	**$0.00311**	**$0.00311**	**$0.00311**	**$0.00311**	**$0.00311**	**$0.00311**
260	TGP - Fuel Charge % - Z 6-6	18th Rev Sheet No. 32	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%	0.13%
261	TGP - Fuel Charge	ln 255 x ln 260	**$0.00069**	**$0.00074**	**$0.00075**	**$0.00072**	**$0.00068**	**$0.00071**	**$0.00071**
262	**Total Volumetric Transportation Rate - TGP Dracut**		**$0.00380**	**$0.00385**	**$0.00386**	**$0.00383**	**$0.00379**	**$0.00382**	**$0.00382**
263									
264			**THIS PAGE HAS BEEN REDACTED**						

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.** Schedule 7
2 Page 1 of 1
3 **Off Peak 2023 Summer Cost of Gas Filing**

4	**NYMEX Futures @ Henry Hub**										May - Oct
5											Off Peak
6	For Month of:	8/23/2022	Reference		May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Strip Average
7		(a)	(b)		(c)	(d)	(e)	(f)	(g)	(h)	(i)
8	**I. NYMEX Opening Prices as of:**										
9		Opening Prices		Line 206	$5.5160	$5.5620	$5.6090	$5.6210	$5.6060	$5.6540	$ 5.5947
10					$5.5160	$5.5620	$5.6090	$5.6210	$5.6060	$5.6540	$ 5.5947

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Off Peak 2023 Summer Cost of Gas Filing

Schedule 8
Off-Peak
Page 1 of 5

Annual Bill Comparisons, May 22 Oct 22 Filing vs May 23 Oct
1 **23 Residential Heating Rate R 3**

				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
2	**November 2022 October 2023**																	
3	**Residential Heating (R3)**			**November 1, 2022 April 30, 2023**							**May 1, 2023 October 31, 2023**							
4										**Winter**							**Summer**	**Total**
5				**Nov 22**	**Dec 22**	**Jan 23**	**Feb 23**	**Mar 23**	**Apr 23**	**Nov Apr**	**May 23**	**Jun 23**	**Jul 23**	**Aug 23**	**Sep 23**	**Oct 23**	**May Oct**	**Nov Oct**
6	**Typical Usage (Therms)**			45	92	117	148	130	88	621	55	24	15	14	13	19	141	762
7		8/1/2021 - 7/31/2022	8/1/2022 - Current															
8	**Winter:**																	
9	Cust. Chg	$ 15.39	$ 15.39	$ 15.39	$ 15.39	$ 15.39	$ 15.39	$ 15.39	$ 15.39	$ 92.34								
10	Headblock	$ 0.5632	$ 0.6337	$ -	$ -	$ -	$ -	$ -	$ -	$ -								
11	Tai block	$ 0.5632	$ 0.6337	$ 28.41	$ 58.57	$ 74.27	$ 93.79	$ 82.64	$ 55.68	$ 393.36								
12	HB Threshold	-	-															
13																		
14	**Summer:**	8/1/2021 - 7/31/2022	8/1/2022 - Current															
15	Cust. Chg	$ 15.39	$ 15.39								$ 15.39	$ 15.39	$ 15.39	$ 15.39	$ 15.39	$ 15.39	$ 92.34	$ 184.68
16	Headblock	$ 0.5632	$ 0.6337								$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	Tai block	$ 0.5632	$ 0.6337								$ 34.81	$ 15.26	$ 9.79	$ 8.89	$ 8.50	$ 12.00	$ 89.24	$ 482.60
18	HB Threshold	-	-															
19																		
20	Total Base Rate Amount			$ 43.80	$ 73.96	$ 89.66	$ 109.18	$ 98.03	$ 71.07	$ 485.70	$ 50.20	$ 30.65	$ 25.18	$ 24.28	$ 23.89	$ 27.39	$ 181.58	$ 667.28
21																		
22	COG Rate - (Seasonal)			$ 1.7335	$ 1.7335	$ 1.7335	$ 1.7335	$ 1.7335	$ 1.7335	$ 1.7335	$ 1.0109	$ 1.0109	$ 1.0109	$ 1.0109	$ 1.0109	$ 1.0109	$ 1.0109	$ 1.5999
23	COG amount			$ 77.71	$ 160.21	$ 203.17	$ 256.57	$ 226.07	$ 152.30	$ 1,076.04	$ 55.53	$ 24.34	$ 15.62	$ 14.19	$ 13.55	$ 19.14	$ 142.37	$ 1,218.40
24																		
25	LDAC			$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508	$ 0.1508
26	LDAC amount			$ 6.76	$ 13.94	$ 17.67	$ 22.32	$ 19.67	$ 13.25	$ 93.61	$ 8.28	$ 3.63	$ 2.33	$ 2.12	$ 2.02	$ 2.85	$ 21.24	$ 114.84
27																		
28	**Total Bill**			**$ 128.27**	**$ 248.10**	**$ 310.51**	**$ 388.07**	**$ 343.77**	**$ 236.62**	**$ 1,655.34**	**$ 114.01**	**$ 58.62**	**$ 43.13**	**$ 40.59**	**$ 39.46**	**$ 49.38**	**$ 345.19**	**$ 2,000.53**
29																		
30	**November 2021 October 2022**																	
31	**Residential Heating (R3)**			**November 1, 2022 April 30, 2023**							**May 1, 2023 October 31, 2023**							
32										**Winter**							**Summer**	**Total**
33				**Nov 21**	**Dec 21**	**Jan 22**	**Feb 22**	**Mar 22**	**Apr 22**	**Nov Apr**	**May 22**	**Jun 22**	**Jul 22**	**Aug 22**	**Sep 22**	**Oct 22**	**May Oct**	**Nov Oct**
34	**Typical Usage (Therms)**			45	92	117	148	130	88	621	55	24	15	14	13	19	141	762
35																		
36	**Winter:**	8/1/2021 - 7/31/2022	8/1/2022 - Current															
37	Cust. Chg	$ 15.39	$ 15.39	$ 15.39	$ 15.39	$ 15.39	$ 15.39	$ 15.39	$ 15.39	$ 92.34								
38	Headblock	$ 0.5632	$ 0.6337	$ -	$ -	$ -	$ -	$ -	$ -	$ -								
39	Tai block	$ 0.5632	$ 0.6337	$ 25.25	$ 52.05	$ 66.01	$ 83.36	$ 73.45	$ 49.48	$ 349.60								
40	HB Threshold	-	-	$ 24.97														
41																		
42	**Summer:**	8/1/2021 - 7/31/2022	8/1/2022 - Current															
43	Cust. Chg	$ 15.39	$ 15.39								$15.39	$15.39	$15.39	$15.39	$15.39	$15.39	$ 92.34	$ 184.68
44	Headblock	$ 0.5632	$ 0.6337								$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
45	Tai block	$ 0.5632	$ 0.6337								$ 30.94	$ 13.56	$ 8.70	$ 8.89	$ 8.50	$ 12.00	$ 82.58	$ 432.18
46	HB Threshold	-	-															
47																		
48	Total Base Rate Amount			$ 40.64	$ 67.44	$ 81.40	$ 98.75	$ 88.84	$ 64.87	$ 441.94	$ 46.33	$ 28.95	$ 24.09	$ 24.28	$ 23.89	$ 27.39	$ 174.92	$ 616.86
49																		
50	COG Rate - (Seasonal)			$ 1.1339	$ 1.0173	$ 0.7246	$ 0.5956	$ 0.7743	$ 1.1747	$ 0.8411	$ 0.3935	$ 0.3935	$ 0.3935	$ 0.3935	$ 0.3935	$ 0.3935	$ 0.3935	$ 0.7584
51	COG amount			$ 50.83	$ 94.02	$ 84.93	$ 88.15	$ 100.98	$ 103.21	$ 522.12	$ 21.62	$ 9.48	$ 6.08	$ 5.52	$ 5.28	$ 7.45	$ 55.42	$ 577.53
52																		
53	LDAC			$ 0.1397	$ 0.1012	$ 0.1154	$ 0.1154	$ 0.1318	$ 0.1318	$ 0.1208	$ 0.1318	$ 0.1318	$ 0.1318	$ 0.1318	$ 0.1318	$ 0.1318	$ 0.1318	$ 0.1228
54	LDAC amount			$ 6.26	$ 9.35	$ 13.53	$ 17.08	$ 17.19	$ 11.58	$ 74.99	$ 7.24	$ 3.17	$ 2.04	$ 1.85	$ 1.77	$ 2.50	$ 18.56	$ 93.55
55																		
56	**Total Bill**			**$ 97.73**	**$ 170.81**	**$ 179.85**	**$ 203.98**	**$ 207.01**	**$ 179.66**	**$ 1,039.04**	**$ 75.18**	**$ 41.60**	**$ 32.21**	**$ 31.66**	**$ 30.93**	**$ 37.33**	**$ 248.90**	**$ 1,287.94**
57																		
58	**DIFFERENCE:**																	
59	**Total Bill**			**$ 30.54**	**$ 77.29**	**$ 130.66**	**$ 184.09**	**$ 136.77**	**$ 56.96**	**$ 616.30**	**$ 38.83**	**$ 17.02**	**$ 10.92**	**$ 8.93**	**$ 8.53**	**$ 12.05**	**$ 96.28**	**$ 712.58**
60	% Change			**31.25%**	**45.25%**	**72.65%**	**90.25%**	**66.07%**	**31.70%**	**59.31%**	**51.65%**	**40.92%**	**33.91%**	**28.21%**	**27.59%**	**32.27%**	**38.68%**	**55.33%**
61																		
62	**Base Rate**			$ 3.16	$ 6.52	$ 8.26	$ 10.43	$ 9.19	$ 6.19	$ 43.76	$ 3.87	$ 1.70	$ 1.09	$ -	$ -	$ -	$ 6.66	$ 50.42
63	% Change			7.78%	9.66%	10.15%	10.57%	10.35%	9.55%	9.90%	8.36%	5.86%	4.52%	0.00%	0.00%	0.00%	3.81%	8.17%
64																		
65	**COG & LDAC**			$ 27.38	$ 70.78	$ 122.40	$ 173.65	$ 127.57	$ 50.76	$ 572.54	$ 34.96	$ 15.32	$ 9.83	$ 8.93	$ 8.53	$ 12.05	$ 89.62	$ 662.16
66	% Change			47.95%	68.47%	124.32%	165.02%	107.96%	44.23%	95.89%	121.15%	121.15%	121.15%	121.15%	121.15%	121.15%	121.15%	98.67%

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Off Peak 2023 Summer Cost of Gas Filing

Annual Bill Comparisons, May 22 Oct 22 Filing vs May 23 Oct
1 **23 Commercial Rate (G 41)**

				(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1	**November 2022 October 2023**																	
2	**Commercial Rate (G 41)**			**November 1, 2022 April 30, 2023**							**May 1, 2023 October 31, 2023**							
3										**Winter**							**Summer**	**Total**
4				**Nov 22**	**Dec 22**	**Jan 23**	**Feb 23**	**Mar 23**	**Apr 23**	**Nov Apr**	**May 23**	**Jun 23**	**Jul 23**	**Aug 23**	**Sep 23**	**Oct 23**	**May Oct**	**Nov Oct**
5	**Typical Usage (Therms)**			111	274	376	483	425	270	1,939	154	55	24	21	13	44	310	2,249
6																		
7	**Winter:**	8/1/2021 - 7/31/2022	8/1/2022 - Current															
8	Cust. Chg	57.06	$ 62.03	$ 62.03	$ 62.03	$ 62.03	$ 62.03	$ 62.03	$ 62.03	$ 372.18								
9	Headblock	0.4688	$ 0.5007	$ 50.07	$ 50.07	$ 50.07	$ 50.07	$ 50.07	$ 50.07	$ 300.42								
10	Tai block	0.3149	$ 0.3469	$ 3.97	$ 60.34	$ 95.65	$ 133.01	$ 112.57	$ 58.95	$ 464.49								
11	HB Threshold	100	100	$52.50	$50.07	$50.07	$50.07	$50.07	$50.07									
12																		
13	**Summer:**	8/1/2021 - 7/31/2022	8/1/2022 - Current															
14	Cust. Chg	57.06	$ 62.03								$ 62.03	$ 62.03	$ 62.03	$ 62.03	$ 62.03	$ 62.03	$ 372.18	$ 744.36
15	Headblock	0.4688	$ 0.5007								$ 10.01	$ 10.01	$ 10.01	$ 10.01	$ 6.44	$ 10.01	$ 56.51	$ 356.93
16	Tai block	0.3149	$ 0.3469								$ 46.48	$ 12.07	$ 1.49	$ 0.18	$ -	$ 8.21	$ 68.43	$ 532.92
17	HB Threshold	20	20															
18																		
19	Total Base Rate Amount			$ 116.07	$ 172.44	$ 207.75	$ 245.11	$ 224.67	$ 171.05	$ 1,137.09	$ 118.52	$ 84.11	$ 73.54	$ 72.22	$ 68.47	$ 80.25	$ 497.12	$ 1,634.21
20																		
21	COG Rate - (Seasonal)			$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336	$ 1.0111	$ 1.0111	$ 1.0111	$ 1.0111	$ 1.0111	$ 1.0111	$ 1.0111	$ 1.6340
22	COG amount			$ 193.20	$ 474.89	$ 651.37	$ 838.08	$ 735.92	$ 467.96	$ 3,361.42	$ 155.70	$ 55.40	$ 24.58	$ 20.74	$ 13.01	$ 44.14	$ 313.56	$ 3,674.98
23																		
24	LDAC			$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915
25	LDAC amount			$ 10.20	$ 25.06	$ 34.38	$ 44.23	$ 38.84	$ 24.70	$ 177.42	$ 14.09	$ 5.01	$ 2.22	$ 1.88	$ 1.18	$ 3.99	$ 28.38	$ 205.79
26																		
27	**Total Bill**			**$ 319.47**	**$ 672.39**	**$ 893.50**	**$ 1,127.42**	**$ 999.43**	**$ 663.71**	**$ 4,675.92**	**$ 288.31**	**$ 144.52**	**$ 100.34**	**$ 94.84**	**$ 82.66**	**$ 128.39**	**$ 839.06**	**$ 5,514.98**
28																		
29	**November 2021 October 2022**																	
30	**Commercial Rate (G 41)**			**November 1, 2022 April 30, 2023**							**May 1, 2023 October 31, 2023**							
31										**Winter**							**Summer**	**Total**
32				**Nov 21**	**Dec 21**	**Jan 22**	**Feb 22**	**Mar 22**	**Apr 22**	**Nov Apr**	**May 22**	**Jun 22**	**Jul 22**	**Aug 22**	**Sep 22**	**Oct 22**	**May Oct**	**Nov Oct**
33	**Typical Usage (Therms)**			111	274	376	483	425	270	1,939	154	55	24	21	13	44	310	2,249
34																		
35	**Winter:**	8/1/2021 - 7/31/2022	8/1/2022 - Current															
36	Cust. Chg	$ 57.06	$ 62.03	$ 57.06	$ 57.06	$ 57.06	$ 57.06	$ 57.06	$ 57.06	$ 342.36								
37	Headblock	$ 0.4688	$ 0.5007	$ -	$ 46.88	$ 46.88	$ 46.88	$ 46.88	$ 46.88	$ 234.40								
38	Tai block	$ 0.3149	$ 0.3469	$ 3.60	$ 54.77	$ 86.83	$ 120.74	$ 102.19	$ 53.51	$ 421.64								
39	HB Threshold	100	100															
40																		
41	**Summer:**	8/1/2021 - 7/31/2022	8/1/2022 - Current															
42	Cust. Chg	$ 57.06	$ 62.03								$57.06	$ 57.06	$ 57.06	$ 62.03	$ 62.03	$ 62.03	$ 357.27	$ 699.63
43	Headblock	$ 0.4688	$ 0.5007								$ 9.38	$ 9.38	$ 9.38	$ 10.01	$ 6.44	$ 10.01	$ 54.60	$ 289.00
44	Tai block	$ 0.3149	$ 0.3469								$ 42.19	$ 10.95	$ 1.36	$ 0.18	$ -	$ 8.21	$ 62.89	$ 484.53
45	HB Threshold	20	20															
46																		
47	Total Base Rate Amount			$ 60.66	$ 158.71	$ 190.77	$ 224.68	$ 206.13	$ 157.45	$ 998.40	$ 108.63	$ 77.39	$ 67.79	$ 72.22	$ 68.47	$ 80.25	$ 474.76	$ 1,473.16
48																		
49	COG Rate - (Seasonal)			$ 1.1341	$ 1.0175	$ 0.7248	$ 0.5958	$ 0.7745	$ 1.1749	$ 0.8311	$ 0.3886	$ 0.3886	$ 0.3886	$ 0.3886	$ 0.3886	$ 0.3886	$ 0.3886	$ 0.7700
50	COG amount			$ 126.39	$ 278.73	$ 272.33	$ 288.03	$ 328.78	$ 317.15	$ 1,611.40	$ 59.84	$ 21.29	$ 9.45	$ 7.97	$ 5.00	$ 16.97	$ 120.51	$ 1,731.91
51																		
52	LDAC			$ 0.0831	$ 0.0749	$ 0.0891	$ 0.0891	$ 0.0991	$ 0.0991	$ 0.0903	$ 0.0991	$ 0.0991	$ 0.0991	$ 0.0991	$ 0.0991	$ 0.0991	$ 0.0991	$ 0.0915
53	LDAC amount			$ 9.26	$ 20.52	$ 33.48	$ 43.07	$ 42.07	$ 26.75	$ 175.15	$ 15.26	$ 5.43	$ 2.41	$ 2.03	$ 1.28	$ 4.33	$ 30.73	$ 205.88
54																		
55	**Total Bill**			**$ 196.31**	**$ 457.96**	**$ 496.58**	**$ 555.79**	**$ 576.97**	**$ 501.35**	**$ 2,784.95**	**$ 183.73**	**$ 104.11**	**$ 79.65**	**$ 82.23**	**$ 74.75**	**$ 101.54**	**$ 626.00**	**$ 3,410.96**
56																		
57	**DIFFERENCE:**																	
58	**Total Bill**			**$ 123.15**	**$ 214.44**	**$ 396.92**	**$ 571.64**	**$ 422.46**	**$ 162.36**	**$ 1,890.97**	**$ 104.58**	**$ 40.41**	**$ 20.69**	**$ 12.61**	**$ 7.91**	**$ 26.85**	**$ 213.06**	**$ 2,104.03**
59	% Change			**62.73%**	**46.82%**	**79.93%**	**102.85%**	**73.22%**	**32.38%**	**67.90%**	**56.92%**	**38.81%**	**25.98%**	**15.34%**	**10.59%**	**26.44%**	**34.03%**	**61.68%**
60																		
61	**Base Rate**			$ 55.41	$ 13.73	$ 16.98	$ 20.43	$ 18.54	$ 13.60	$ 138.69	$ 9.90	$ 6.72	$ 5.75	$ -	$ -	$ -	$ 22.36	$ 161.05
62	% Change			91.33%	8.65%	8.90%	9.09%	9.00%	8.64%	13.89%	9.11%	8.68%	8.48%	0.00%	0.00%	0.00%	4.71%	10.93%
63																		
64	**COG & LDAC**			$ 67.75	$ 200.71	$ 379.94	$ 551.21	$ 403.91	$ 148.76	$ 1,752.28	$ 94.69	$ 33.69	$ 14.95	$ 12.61	$ 7.91	$ 26.85	$ 190.69	$ 1,942.98
65	% Change			49.94%	67.07%	124.24%	166.48%	108.92%	43.26%	98.08%	126.08%	126.08%	126.08%	126.08%	126.08%	126.08%	126.08%	100.27%

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1	**Annual Bill Comparisons, May 22 Oct 22 Filing vs May 23 Oct 23 Commercial Rate G 42**																	
2	**November 2022 October 2023**			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
3	**C&I High Winter Use Medium G 42**			**November 1, 2022 April 30, 2023**							**May 1, 2023 October 31, 2023**							
4										**Winter**							**Summer**	**Total**
5				**Nov 22**	**Dec 22**	**Jan 23**	**Feb 23**	**Mar 23**	**Apr 23**	**Nov Apr**	**May 23**	**Jun 23**	**Jul 23**	**Aug 23**	**Sep 23**	**Oct 23**	**May Oct**	**Nov Oct**
6	**Typical Usage (Therms)**			1,369	2,729	3,456	4,165	3,658	2,463	17,839	1,201	1,412	257	100	(1,437)	978	2,510	20,349
7																		
8	**Winter:**	8/1/2021 - 7/31/2022	8/1/2022 - Current															
9	Cust. Chg	$ 171.19	$ 186.03	$ 186.03	$ 186.03	$ 186.03	$ 186.03	$ 186.03	$ 186.03	$ 1,116.18								
10	Headblock	$ 0.4261	$ 0.4558	$ 455.80	$ 455.80	$ 455.80	$ 455.80	$ 455.80	$ 455.80	$ 2,734.80								
11	Tai block	$ 0.2839	$ 0.3136	$ 115.68	$ 542.10	$ 770.21	$ 992.39	$ 833.43	$ 458.89	$ 3,712.70								
12	HB Threshold	1,000	1,000															
13		-																
14	**Summer:**	8/1/2021 - 7/31/2022	8/1/2022 - Current															
15	Cust. Chg	$ 171.19	$ 186.03								$ 186.03	$ 186.03	$ 186.03	$ 186.03	$ 186.03	$ 186.03	$ 1,116.18	$ 2,232.36
16	Headblock	$ 0.4261	$ 0.4558								$ 182.32	$ 182.32	$ 116.92	$ 45.39	$ (655.11)	$ 182.32	$ 54.16	$ 2,788.96
17	Tai block	$ 0.2839	$ 0.3136								$ 251.13	$ 317.37	$ -	$ -	$ -	$ 181.26	$ 749.77	$ 4,462.47
18	HB Threshold	400	400															
19																		
20	Total Base Rate Amount			$ 757.51	$ 1,183.93	$ 1,412.04	$ 1,634.22	$ 1,475.26	$ 1,100.72	$ 7,563.68	$ 619.48	$ 685.72	$ 302.95	$ 231.42	$ (469.08)	$ 549.61	$ 1,920.12	$ 9,483.80
21																		
22	COG Rate - (Seasonal)			$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336	$ 1.7336	$ 1.0111	$ 1.0111	$ 1.0111	$ 1.0111	$ 1.0111	$ 1.0111	$ 1.0111	$ 1.6445
23	COG amount			$ 2,373.07	$ 4,730.38	$ 5,991.35	$ 7,219.62	$ 6,340.86	$ 4,270.35	$ 30,925.63	$ 1,214.14	$ 1,427.71	$ 259.36	$ 100.69	$ (1,453.22)	$ 988.87	$ 2,537.55	$ 33,463.18
24																		
25	LDAC			$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915
26	LDAC amount			$ 125.25	$ 249.67	$ 316.23	$ 381.05	$ 334.67	$ 225.39	$ 1,632.27	$ 109.87	$ 129.20	$ 23.47	$ 9.11	$ (131.51)	$ 89.49	$ 229.64	$ 1,861.90
27																		
28	**Total Bill**			**$ 3,255.83**	**$ 6,163.99**	**$ 7,719.61**	**$ 9,234.90**	**$ 8,150.79**	**$ 5,596.45**	**$ 40,121.57**	**$ 1,943.50**	**$ 2,242.63**	**$ 585.78**	**$ 341.22**	**$ (2,053.81)**	**$ 1,627.97**	**$ 4,687.30**	**$ 44,808.87**
29																		
30	**November 2021 October 2022**																	
31	**C&I High Winter Use Medium G 42**			**November 1, 2022 April 30, 2023**							**May 1, 2023 October 31, 2023**							
32										**Winter**							**Summer**	**Total**
33				**Nov 21**	**Dec 21**	**Jan 22**	**Feb 22**	**Mar 22**	**Apr 22**	**Nov Apr**	**May 22**	**Jun 22**	**Jul 22**	**Aug 22**	**Sep 22**	**Oct 22**	**May Oct**	**Nov Oct**
34	**Typical Usage (Therms)**			1,369	2,729	3,456	4,165	3,658	2,463	17,839	1,201	1,412	257	100	-1,437	978	2,510	20,349
35																		
36	**Winter:**	8/1/2021 - 7/31/2022	8/1/2022 - Current															
37	Cust. Chg	$ 171.19	$ 186.03	$ 171.19	$ 171.19	$ 171.19	$ 171.19	$ 171.19	$ 171.19	$ 1,027.14								
38	Headblock	$ 0.4261	$ 0.4558	$ 426.10	$ 426.10	$ 426.10	$ 426.10	$ 426.10	$ 426.10	$ 2,556.60								
39	Tai block	$ 0.2839	$ 0.3136	$ 104.72	$ 490.76	$ 697.26	$ 898.41	$ 754.50	$ 415.43	$ 3,361.08								
40	HB Threshold	1,000	1,000															
41		-	-															
42	**Summer:**	8/1/2021 - 7/31/2022	8/1/2022 - Current															
43	Cust. Chg	$ 171.19	$ 186.03								$ 171.19	$ 171.19	$ 171.19	$ 186.03	$ 186.03	$ 186.03	$ 1,071.66	$ 2,098.80
44	Headblock	$ 0.4261	$ 0.4558								$ 170.44	$ 170.44	$ 109.30	$ 45.39	$ (655.11)	$ 182.32	$ 22.78	$ 2,579.38
45	Tai block	$ 0.2839	$ 0.3136								$ 227.35	$ 287.32	$ -	$ -	$ -	$ -	$ 514.67	$ 3,875.75
46	HB Threshold	400	400															
47																		
48	Total Base Rate Amount			$ 702.01	$ 1,088.05	$ 1,294.55	$ 1,495.70	$ 1,351.79	$ 1,012.72	$ 6,944.82	$ 568.98	$ 628.95	$ 280.49	$ 231.42	$ (469.08)	$ 368.35	$ 1,609.11	$ 8,553.93
49																		
50	COG Rate - (Seasonal)			$ 1.1341	$ 1.0175	$ 0.7248	$ 0.5958	$ 0.7745	$ 1.1749	$ 0.8432	$ 0.3886	$ 0.3886	$ 0.3886	$ 0.3886	$ 0.3886	$ 0.3886	$ 0.3886	$ 0.7871
51	COG amount			$ 1,552.43	$ 2,776.40	$ 2,504.92	$ 2,481.22	$ 2,832.83	$ 2,894.11	$ 15,041.92	$ 466.64	$ 548.72	$ 99.68	$ 38.70	$ (558.52)	$ 380.06	$ 975.26	$ 16,017.18
52																		
53	LDAC			$ 0.0831	$ 0.0831	$ 0.0831	$ 0.0831	$ 0.0831	$ 0.0831	$ 0.0831	$ 0.0991	$ 0.0991	$ 0.0991	$ 0.0991	$ 0.0991	$ 0.0991	$ 0.0991	$ 0.0851
54	LDAC amount			$ 113.75	$ 226.75	$ 287.19	$ 346.07	$ 303.95	$ 204.70	$ 1,482.42	$ 119.00	$ 139.93	$ 25.42	$ 9.87	$ (142.43)	$ 96.92	$ 248.71	$ 1,731.13
55																		
56	**Total Bill**			**$ 2,368.20**	**$ 4,091.20**	**$ 4,086.67**	**$ 4,322.99**	**$ 4,488.57**	**$ 4,111.53**	**$ 23,469.16**	**$ 1,154.62**	**$ 1,317.59**	**$ 405.59**	**$ 279.98**	**$ (1,170.03)**	**$ 845.33**	**$ 2,833.09**	**$ 26,302.25**
57																		
58	**DIFFERENCE:**																	
59	**Total Bill**			**$ 887.63**	**$ 2,072.79**	**$ 3,632.94**	**$ 4,911.90**	**$ 3,662.22**	**$ 1,484.93**	**$ 16,652.42**	**$ 788.88**	**$ 925.04**	**$ 180.19**	**$ 61.23**	**$ (883.77)**	**$ 782.64**	**$ 1,854.21**	**$ 18,506.63**
60	% Change			**37.48%**	**50.66%**	**88.90%**	**113.62%**	**81.59%**	**36.12%**	**70.95%**	**68.32%**	**70.21%**	**44.43%**	**21.87%**	**75.53%**	**92.58%**	**65.45%**	**70.36%**
61																		
62	**Base Rate**			$ 55.50	$ 95.88	$ 117.48	$ 138.53	$ 123.47	$ 88.00	$ 618.86	$ 50.50	$ 56.78	$ 22.46	$ -	$ -	$ 181.26	$ 311.00	$ 929.86
63	% Change			7.91%	8.81%	9.08%	9.26%	9.13%	8.69%	8.91%	8.88%	9.03%	8.01%	0.00%	0.00%	49.21%	19.33%	10.87%
64																		
65	**COG & LDAC**			$ 832.14	$ 1,976.91	$ 3,515.46	$ 4,773.38	$ 3,538.75	$ 1,396.93	$ 16,033.56	$ 738.38	$ 868.26	$ 157.73	$ 61.23	$ (883.77)	$ 601.38	$ 1,543.21	$ 17,576.77
66	% Change			49.94%	65.83%	125.91%	168.83%	112.81%	45.08%	97.03%	126.08%	126.08%	126.08%	126.08%	126.08%	126.08%	126.08%	99.03%

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Annual Bill Comparisons, May 22 Oct 22 Filing vs May 23 Oct
1 **23 Commercial Rate G 52**

2	**November 2022 October 2023**			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
3	**Commercial Rate (G 52)**			**November 1, 2022 April 30, 2023**							**May 1, 2023 October 31, 2023**							
4										**Winter**							**Summer**	**Total**
5				**Nov 22**	**Dec 22**	**Jan 23**	**Feb 23**	**Mar 23**	**Apr 23**	**Nov Apr**	**May 23**	**Jun 23**	**Jul 23**	**Aug 23**	**Sep 23**	**Oct 23**	**May Oct**	**Nov Oct**
6	**Typical Usage (Therms)**			1,340	1,718	1,891	2,207	1,964	1,672	10,793	1,339	1,123	1,070	1,088	8,875	1,097	14,592	25,385
7																		
8	**Winter:**	8/1/2021 - 7/31/2022	8/1/2022 - Current															
9	Cust. Chg	171.19	$ 185.80	$ 185.80	$ 185.80	$ 185.80	$ 185.80	$ 185.80	$ 185.80	$ 1,114.80								
10	Headblock	0.2428	$ 0.2602	$ 260.20	$ 260.20	$ 260.20	$ 260.20	$ 260.20	$ 260.20	$ 1,561.20								
11	Tai block	0.1617	$ 0.1791	$ 60.88	$ 128.67	$ 159.64	$ 216.18	$ 172.66	$ 120.40	$ 858.44								
12	HB Threshold	1000	1,000															
13																		
14	**Summer:**	8/1/2021 - 7/31/2022	8/1/2022 - Current															
15	Cust. Chg	171.19	$ 185.80								$ 185.80	$ 185.80	$ 185.80	$ 185.80	$ 185.80	$ 185.80	$ 1,114.80	$ 2,229.60
16	Headblock	0.1759	$ 0.1933								$ 193.30	$ 193.30	$ 193.30	$ 193.30	$ 193.30	$ 193.30	$ 1,159.80	$ 2,721.00
17	Tai block	0.1000	$ 0.1174								$ 39.83	$ 14.40	$ 8.26	$ 10.32	$ 924.56	$ 11.33	$ 1,008.71	$ 1,867.15
18	HB Threshold	1000	1,000															
19																		
20	Total Base Rate Amount			$ 506.88	$ 574.67	$ 605.64	$ 662.18	$ 618.66	$ 566.40	$ 3,534.44	$ 418.93	$ 393.50	$ 387.36	$ 389.42	$ 1,303.66	$ 390.43	$ 3,283.31	$ 6,817.75
21																		
22	COG Rate - (Seasonal)			$ 1.7331	$ 1.7331	$ 1.7331	$ 1.7331	$ 1.7331	$ 1.7331	$ 1.7331	$ 1.0106	$ 1.0106	$ 1.0106	$ 1.0106	$ 1.0106	$ 1.0106	$ 1.0106	$ 1.3178
23	COG amount			$ 2,322.25	$ 2,978.23	$ 3,277.91	$ 3,825.06	$ 3,403.89	$ 2,898.15	$ 18,705.50	$ 1,353.48	$ 1,134.52	$ 1,081.74	$ 1,099.43	$ 8,969.42	$ 1,108.16	$ 14,746.74	$ 33,452.24
24																		
25	LDAC			$ 0.0915	$ 2.0848	$ -	$ 0.1933	$ 1.0106	$ 0.0915	$ 0.5809	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.0915	$ 0.2996
26	LDAC amount			$ 122.60	$ 3,582.61	$ -	$ 426.62	$ 1,984.87	$ 153.01	$ 6,269.72	$ 122.54	$ 102.72	$ 97.94	$ 99.54	$ 812.09	$ 100.33	$ 1,335.17	$ 7,604.89
27																		
28	**Total Bill**			**$ 2,951.74**	**$ 7,135.51**	**$ 3,883.55**	**$ 4,913.87**	**$ 6,007.42**	**$ 3,617.56**	**$ 28,509.66**	**$ 1,894.95**	**$ 1,630.73**	**$ 1,567.04**	**$ 1,588.40**	**$ 11,085.17**	**$ 1,598.93**	**$ 19,365.22**	**$ 47,874.88**
29																		
30	**November 2021 October 2022**																	
31	**Commercial Rate (G 52)**			**November 1, 2022 April 30, 2023**							**May 1, 2023 October 31, 2023**							
32										**Winter**							**Summer**	**Total**
33				**Nov 21**	**Dec 21**	**Jan 22**	**Feb 22**	**Mar 22**	**Apr 22**	**Nov Apr**	**May 22**	**Jun 22**	**Jul 22**	**Aug 22**	**Sep 22**	**Oct 22**	**May Oct**	**Nov Oct**
34	**Typical Usage (Therms)**			1,340	1,718	1,891	2,207	1,964	1,672	10,793	1,339	1,123	1,070	1,088	8,875	1,097	14,592	25,385
35																		
36	**Winter:**	8/1/2021 - 7/31/2022	8/1/2022 - Current															
37	Cust. Chg	$ 171.19	$ 185.80	$ 171.19	$ 171.19	$ 171.19	$ 171.19	$ 171.19	$ 171.19	$ 1,027.14								
38	Headblock	$ 0.2428	$ 0.2602	$ 242.80	$ 242.80	$ 242.80	$ 242.80	$ 242.80	$ 242.80	$ 1,456.80								
39	Tai block	$ 0.1617	$ 0.1791	$ 54.97	$ 116.17	$ 144.13	$ 195.18	$ 155.89	$ 108.70	$ 775.04								
40	HB Threshold	1,000	1,000															
41		-	-															
42	**Summer:**	8/1/2021 - 7/31/2022	8/1/2022 - Current															
43	Cust. Chg	$ 171.19	$ 185.80								$ 171.19	$ 171.19	$ 171.19	$ 185.80	$ 185.80	$ 185.80	$ 1,070.97	$ 2,098.11
44	Headblock	$ 0.1759	$ 0.1933								$ 175.90	$ 175.90	$ 175.90	$ 193.30	$ 193.30	$ 193.30	$ 1,107.60	$ 2,564.40
45	Tai block	$ 0.1000	$ 0.1174								$ 33.93	$ 12.26	$ 7.04	$ 10.32	$ 924.56	$ 11.33	$ 999.45	$ 1,774.49
46	HB Threshold	1,000	1,000															
47																		
48	Total Base Rate Amount			$ 468.96	$ 530.16	$ 558.12	$ 609.17	$ 569.88	$ 522.69	$ 3,258.98	$ 381.02	$ 359.35	$ 354.13	$ 389.42	$ 1,303.66	$ 390.43	$ 3,178.02	$ 6,437.00
49																		
50	COG Rate - (Seasonal)			$ 1.1324	$ 1.0158	$ 0.7231	$ 0.5941	$ 0.7728	$ 1.1732	$ 0.8729	$ 0.3999	$ 0.3999	$ 0.3999	$ 0.3999	$ 0.3999	$ 0.3999	$ 0.3999	$ 0.6010
51	COG amount			$ 1,517.35	$ 1,745.59	$ 1,367.64	$ 1,311.22	$ 1,517.82	$ 1,961.87	$ 9,421.48	$ 535.58	$ 448.93	$ 428.05	$ 435.05	$ 3,549.25	$ 438.50	$ 5,835.37	$ 15,256.85
52																		
53	LDAC			$ 0.0831	$ 0.0749	$ 0.0891	$ 0.0891	$ 0.0991	$ 0.0991	$ 0.0895	$ 0.0991	$ 0.0991	$ 0.0991	$ 0.0991	$ 0.0991	$ 0.0991	$ 0.0991	$ 0.0950
54	LDAC amount			$ 111.35	$ 128.71	$ 168.52	$ 196.65	$ 194.64	$ 165.72	$ 965.59	$ 132.72	$ 111.25	$ 106.08	$ 107.81	$ 879.55	$ 108.67	$ 1,446.07	$ 2,411.66
55																		
56	**Total Bill**			**$ 2,097.66**	**$ 2,404.47**	**$ 2,094.28**	**$ 2,117.04**	**$ 2,282.33**	**$ 2,650.28**	**$ 13,646.05**	**$ 1,049.32**	**$ 919.54**	**$ 888.25**	**$ 932.28**	**$ 5,732.46**	**$ 937.60**	**$ 10,459.46**	**$ 24,105.51**
57																		
58	**DIFFERENCE:**																	
59	**Total Bill**			**$ 854.08**	**$ 4,731.05**	**$ 1,789.27**	**$ 2,796.83**	**$ 3,725.09**	**$ 967.28**	**$ 14,863.61**	**$ 845.63**	**$ 711.19**	**$ 678.79**	**$ 656.11**	**$ 5,352.72**	**$ 661.32**	**$ 8,905.77**	**$ 23,769.37**
60	% Change			**40.72%**	**196.76%**	**85.44%**	**132.11%**	**163.21%**	**36.50%**	**108.92%**	**80.59%**	**77.34%**	**76.42%**	**70.38%**	**93.38%**	**70.53%**	**85.15%**	**98.61%**
61																		
62	**Base Rate**			$ 37.93	$ 44.51	$ 47.52	$ 53.01	$ 48.78	$ 43.71	$ 275.46	$ 37.91	$ 34.14	$ 33.23	$ -	$ -	$ -	$ 105.29	$ 380.75
63	% Change			8.09%	8.40%	8.51%	8.70%	8.56%	8.36%	8.45%	9.95%	9.50%	9.38%	0.00%	0.00%	0.00%	3.31%	5.92%
64																		
65	**COG & LDAC**			$ 816.16	$ 4,686.54	$ 1,741.75	$ 2,743.82	$ 3,676.31	$ 923.58	$ 14,588.15	$ 807.72	$ 677.05	$ 645.55	$ 656.11	$ 5,352.72	$ 661.32	$ 8,800.47	$ 23,388.62
66	% Change			50.11%	250.04%	113.38%	181.97%	214.68%	43.41%	140.45%	120.86%	120.86%	120.86%	120.86%	120.86%	120.86%	120.86%	132.37%

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1 **Residential Heating**

		Summer 2022	Summer 2023
2		Summer 2022	Summer 2023
3	Customer Charge	$ 15.39	$ 15.39
4	First 20 Therms	$ 0.5632	$ 0.6337
5	Excess 20 Therms	$ 0.5632	$ 0.6337
6	LDAC	$ 0.1318	$ 0.1508
7	COG	$ 1.0109	$ 1.0109
8	Total Adjust	$ 1.1427	$ 1.1617
9			
10			
11			

12					Total		Base Rate		COG		LDAC	
13			Summer 2022 COG @	Summer 2023 Cog @	$ Impact	% Impact	$ Impact	% In	$ Impact	% Impact	$ Impact	% Impact
14			$ 1.1427	$ 1.1617	$ 0.02	2%						
15												
16	Cooking alone	5	$ 23.92	$ 24.37	$ 0.45	2%	$ 0.35	1%	$ -	0%	$ 0.10	0%
17												
18		10	$ 32.45	$ 33.34	$ 0.89	3%	$ 0.70	2%	$ -	0%	$ 0.19	1%
19												
20		20	$ 49.51	$ 51.30	$ 1.79	4%	$ 1.41	3%	$ -	0%	$ 0.38	1%
21												
22	Water Heating alone	30	$ 66.57	$ 69.25	$ 2.69	4%	$ 2.12	3%	$ -	0%	$ 0.57	1%
23												
24		45	$ 92.16	$ 96.18	$ 4.03	4%	$ 3.17	3%	$ -	0%	$ 0.86	1%
25												
26		50	$ 100.69	$ 105.16	$ 4.47	4%	$ 3.53	4%	$ -	0%	$ 0.95	1%
27												
28	Heating Alone	80	$ 143.33	$ 150.05	$ 6.71	5%	$ 5.29	4%	$ -	0%	$ 1.43	1%
29												
30		125	$ 242.27	$ 254.18	$ 11.90	5%	$ 9.38	4%	$ -	0%	$ 2.53	1%
31												
32		150	$ 271.28	$ 284.70	$ 13.43	5%	$ 10.58	4%	$ -	0%	$ 2.85	1%
33												
34		200	$ 356.57	$ 374.47	$ 17.90	5%	$ 14.10	4%	$ -	0%	$ 3.80	1%
35												

Liberty Utilities (EnergyNorth Natural Gas) Corp.

2023 Summer Cost of Gas Filing
Capacity Assignment Calculations 2020-2021
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. Dekatherm	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			639	641	0.4%		97	544
2	RATE R-3-Resi Htg			71,962	72,211	43.6%		3,484	68,728
3	RATE G-41 (T)			30,001	30,106	18.2%		968	29,139
4	RATE G-51 (S)			2,639	2,646	1.6%		742	1,904
5	RATE G-42 (V)			38,016	38,148	23.0%		1,839	36,309
6	RATE G-52			5,466	5,480	3.3%		1,742	3,738
7	RATE G-43			9,590	9,623	5.8%		645	8,977
8	RATE G-53			5,350	5,363	3.2%		1,871	3,492
9	RATE G-54			1,417	1,421	0.9%		419	1,001
10									
11	Total			165,079	165,638	100 0%		11,806	153,832
12									-
13	Residential Total			72,601	72,852	**43.983%**		3,581	69,272
14	LLF Total			77,606	77,877	**47.016%**		3,452	74,425
15	HLF Total			14,872	14,909	**9.001%**		4,774	10,135
16	Total			165,079	165,638	100 0%		11,806	153,832
17									
18	C&I Breakdown								
19	LLF Total							3,452	74,425
20	HLF Total							4,774	10,135
21	Total							8,226	84,560
22									
23	C&I Breakdown Percentage								
24	LLF Total							41.961%	88 014%
25	HLF Total							58.039%	11 986%
26	Total							**100.0%**	**100.0%**
27									
28				Capacity Cost	MDQ, Dt	$/Dt-Mo.			
29	Pipeline			$16,149,021	119,718	$11.2410			
30	Storage			$4,130,365	28,115	$12.2425			
31									
32	Peaking			$2,370,511					
33	Peaking Additional Costs (Concord Lateral Peaking x Differential)			$0					
34	Subtotal Peaking Costs			$2 370 511	17,805	$11.0948			
35	Total			$22,649,897	165,638	$11.3953			
36									
37				Capacity Cost	MDQ, Dt	$/Dt-Mo.			
38	Pipeline - Baseload			1,592,596	11,806	$11.2410			
39	Pipeline - Remaining			14,556,425	107,912	$11.2410			
40	Storage			4,130,365	28,115	$12.2425			
41	Peaking			2 370 511	17 805	$11.0948			
42	Total			22,649,897	165,638	$11.3953			
43									
44									
45	Residential Allocation			Capacity Cost	MDQ, Dt	$/Dt-Mo.			
46	Pipeline - Base	Line 38 * Line 13 Col C	**43.983%**	700,471	5,193	$11.2410			
47	Pipeline - Remaining	Line 39 * Line 13 Col C	**43.983%**	6,402,344	47,463	$11.2410			
48	Storage	Line 40 * Line 13 Col C	**43.983%**	1,816,663	12,366	$12.2425			
49	Peaking	Line 41 * Line 13 Col C	**43.983%**	1,042,601	7,831	$11.0948			
50	Total		**43.983%**	9,962,098	72,852	$11.3953			
51									

52 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
53

54 **2022 Summer Cost of Gas Filing**
55 **Capacity Assignment Calculations 2020-2021**
56 **Derivation of Class Assignments and Weightings**
57

58							**Ratios for COG**
59	C&I Allocation			Capacity Cost	MDQ, Dt	$/Dt-Mo.	
60	Pipeline - Base	Line 38 - Line 46		892,125	6,614	$11.2410	
61	Pipeline - Remaining	Line 39 - Line 47		8,154,081	60,449	$11.2410	
62	Storage	Line 40 - Line 48		2,313,702	15,749	$12.2424	
63	Peaking	Line 41 - Line 49		1,327,910	9,974	$11.0948	
64	Total		**56.017%**	12,687,818	92,786	$11.3953	**1.0000**
65							
66							
67	LLF - C&I Allocation			Capacity Cost	MDQ, Dt	$/Dt-Mo.	
68	Pipeline - Base	Line 60 * Line 24 Col E		374,343	2,775	$11.2415	
69	Pipeline - Remaining	Line 61 * Line 24 Col F		7,176,761	53,204	$11.2409	
70	Storage	Line 62 * Line 24 Col F		2,036,390	13,862	$12.2420	
71	Peaking	Line 63 * Line 24 Col F		1,168,752	8,779	$11.0942	
72	Total		**47.4892%**	10,756,246	78,620	$11.4011	**1.0005**
73			41.961%	85%			(Line 72 / Line 64)
74							
75	HLF - C&I Allocation			Capacity Cost	MDQ, Dt	$/Dt-Mo.	
76	Pipeline - Base	Line 60 - Line 68		517,782	3,839	$11.2395	
77	Pipeline - Remaining	Line 61 - Line 69		977,320	7,245	$11.2413	
78	Storage	Line 62 - Line 70		277,312	1,887	$12.2466	
79	Peaking	Line 63 - Line 71		159,158	1,195	$11.0989	
80	Total		**8.5280%**	1,931,572	14,166	$11.3627	**0.9971**
81							(Line 80 / Line 64)
82							
83	Unit Cost			Residential	LLF C&I	HLF C&I	
84							
85	Pipeline			$ 11 2410	$ 11 2410	$ 11 2410	
86	Storage			$ 12 2425	$ 12 2425	$ 12 2425	
87	Peaking			$ -	$ -	$ -	
88	Total			$ 11 3953	$ 11.4011	$ 11 3627	
89							
90							
91	Load Makeup			Residential	**LLF C&I**	**HLF C&I**	
92							
93	Pipeline			72.28%	**71.20%**	**78.24%**	
94	Storage			16.97%	**17.63%**	**13.32%**	
95	Peaking			10.75%	**11.17%**	**8.44%**	
96	Total			100.00%	**100.00%**	**100.00%**	
97							
98							
99	Supply Makeup			Residential	LLF C&I	HLF C&I	Total
100							
101	Pipeline			43.98%	46.76%	9.26%	100 00%
102	Storage			43.98%	49.30%	6.71%	100 00%
103	Peaking			43.98%	49.31%	6.71%	100 00%

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2
3 **2023 Summer Cost of Gas Filing**
4 **Correction Factor Calculation**
5
6

7		d	e	f	g	h	i	
8	Data Source: Schedule 10B							Total
9		May	June	July	Aug	Sep	Oct	Sales
10								
11	G-41	747,050	280,900	206,300	208,340	367,080	958,770	2,768,440
12	G-42	699,850	303,310	225,260	233,780	406,410	879,510	2,748,120
13	G-43	182,490	74,810	59,600	60,370	102,490	207,170	686,930
14	High Winter Use	1,629,390	659,020	491,160	502,490	875,980	2,045,450	6,203,490
15								
16	G-51	204,580	181,150	182,590	182,770	188,450	244,780	1,184,320
17	G-52	226,060	205,490	216,980	216,330	215,810	260,610	1,341,280
18	G-53	309,892	269,892	270,211	265,876	271,048	323,306	1,710,225
19	G-54	15,380	19,010	22,810	24,340	22,210	24,280	128,030
21	Low Winter Use	755,912	675,542	692,591	689,316	697,518	852,976	4,363,855
22								
23	Gross Total	2,385,302	1,334,562	1,183,751	1,191,806	1,573,498	2,898,426	10,567,345

24
25

26	Total Sales	10,567,345	
27	Low Winter Use	4,363,855	
28	Summer Ratio for Low Winter Use	**0.9971**	**Schedule 10A p 2, ln 80**
29	High Winter Use	6,203,490	
30	Summer Ratio for High Winter Use	**1.0005**	**Schedule 10A p 2, ln 72**

31
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 = **100.0905%**
34
35
36 **Allocation Calculation for Miscellaneous Overhead**
37

38	Projected Winter Sales Volume	11/1/22- 4/30/23	92,780,984	Sch.10B, ln 23
39	Projected Annual Sales Volume	11/1/22 - 10/31/23	116,429,889	Sch.10B, ln 23
40	Percentage of Winter Sales to Annual Sales		79.69%	

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**
2 **d/b/a Liberty Utilities**
3 **Off Peak 2023 Summer Cost of Gas Filing**
4 **2022 Summer Cost of Gas Filing**
5
6 **Dry Therms**

7	**Firm Sales**							**Subtotal**							**Subtotal**	
8		**Nov-22**	**Dec-22**	**Jan-23**	**Feb-23**	**Mar-23**	**Apr-23**	**PK 22-23**	**May-23**	**Jun-23**	**Jul-23**	**Aug-23**	**Sep-23**	**Oct-23**	**OP 23**	**Total**
9	R-1	68,950	88,860	102,240	87,330	87,040	65,450	499,870	52,140	39,450	34,490	34,700	38,650	52,460	251,890	751,760
10	R-3	6,285,460	9,460,770	11,083,750	9,374,930	7,887,130	4,769,830	48,861,870	2,698,720	1,310,080	1,017,330	1,041,040	1,740,970	4,150,980	11,959,120	60,820,990
11	R-4	456,240	673,650	788,260	669,350	566,410	365,300	3,519,210	206,240	101,740	77,310	76,480	120,880	287,900	870,550	4,389,760
12	Total Residential.	6,810,650	10,223,280	11,974,250	10,131,610	8,540,580	5,200,580	52,880,950	2,957,100	1,451,270	1,129,130	1,152,220	1,900,500	4,491,340	13,081,560	65,962,510
13																
14	G-41	2,024,090	3,305,230	3,990,080	3,360,930	2,728,610	1,602,400	17,011,340	747,050	280,900	206,300	208,340	367,080	958,770	2,768,440	19,779,780
15	G-42	1,638,690	2,577,550	3,049,640	2,578,010	2,207,610	1,222,890	13,274,390	699,850	303,310	225,260	233,780	406,410	879,510	2,748,120	16,022,510
16	G-43	356,550	540,700	658,270	547,120	495,700	292,490	2,890,830	182,490	74,810	59,600	60,370	102,490	207,170	686,930	3,577,760
17	G-51	279,050	363,480	398,180	331,040	342,590	216,120	1,930,460	204,580	181,150	182,590	182,770	188,450	244,780	1,184,320	3,114,780
18	G-52	328,800	421,730	457,600	372,490	381,360	245,600	2,207,580	226,060	205,490	216,980	216,330	215,810	260,610	1,341,280	3,548,860
19	G-53	364,036	444,039	483,757	396,097	410,759	345,126	2,443,814	309,892	269,892	270,211	265,876	271,048	323,306	1,710,225	4,154,039
20	G-54	36,310	41,220	17,430	15,680	16,970	14,010	141,620	15,380	19,010	22,810	24,340	22,210	24,280	128,030	269,650
21	Total C/I	5,027,526	7,693,949	9,054,957	7,601,367	6,583,599	3,938,636	39,900,034	2,385,302	1,334,562	1,183,751	1,191,806	1,573,498	2,898,426	10,567,345	50,467,379
22																
23	**Sales Volume**	**11,838,176**	**17,917,229**	**21,029,207**	**17,732,977**	**15,124,179**	**9,139,216**	**92,780,984**	**5,342,402**	**2,785,832**	**2,312,881**	**2,344,026**	**3,473,998**	**7,389,766**	**23,648,905**	**116,429,889**
24																
25	Transportation Sales															
26																
27	G-41	582,770	880,040	1,055,350	869,770	774,950	457,900	4,620,780	265,850	143,190	108,120	97,250	159,240	331,950	1,105,600	5,726,380
28	G-42	1,997,440	2,956,400	3,441,830	2,872,700	2,552,380	1,546,030	15,366,780	919,290	503,450	400,550	403,990	669,630	1,280,150	4,177,060	19,543,840
29	G-43	778,960	1,055,230	1,249,450	1,050,480	981,780	544,520	5,660,420	369,150	239,600	215,710	243,220	342,610	535,700	1,945,990	7,606,410
30	G-51	87,610	108,870	116,400	96,830	101,020	83,010	593,740	78,680	65,660	61,970	61,670	64,120	76,290	408,390	1,002,130
31	G-52	515,770	638,420	695,870	577,050	589,970	437,350	3,454,430	396,040	365,860	371,740	366,710	375,870	444,530	2,320,750	5,775,180
32	G-53	871,410	1,003,760	1,096,490	926,310	943,320	847,150	5,688,440	731,010	625,610	627,450	662,150	677,440	792,690	4,116,350	9,804,790
33	G-54	1,589,640	1,297,120	1,272,510	1,056,470	1,163,130	1,359,460	7,738,330	1,562,310	1,567,620	1,631,390	1,738,910	1,681,980	1,754,440	9,936,650	17,674,980
34																
35	Total Trans. Sales	**6,423,600**	**7,939,840**	**8,927,900**	**7,449,610**	**7,106,550**	**5,275,420**	**43,122,920**	**4,322,330**	**3,510,990**	**3,416,930**	**3,573,900**	**3,970,890**	**5,215,750**	**24,010,790**	**67,133,710**
36																
37	Total All Sales	**18,261,776**	**25,857,069**	**29,957,107**	**25,182,587**	**22,230,729**	**14,414,636**	**135,903,904**	**9,664,732**	**6,296,822**	**5,729,811**	**5,917,926**	**7,444,888**	**12,605,516**	**47,659,695**	**183,563,599**

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.** **Schedule 11A**
2 **Page 1 of 1**
3 **Off Peak 2023 Summer Cost of Gas Filing**
4 **Normal and Design Year Volumes**
5
6
7 **Volumes (Therms)** **Normal Year**
8
9 **For the Months of May 22 -October 22**
10

11								**Off Peak**
12		**May-23**	**Jun-23**	**Jul-23**	**Aug-23**	**Sep-23**	**Oct-23**	**May - Oct**
13	Pipeline Gas:							
14	Dawn Supply	842,983	655,282	518,079	495,174	712,922	601,154	3,825,595
15	Niagara Supply	667,764	585,319	584,500	583,125	598,573	687,845	3,707,126
16	TGP Supply (Gulf)	29,663	-	-	-	-	327,579	357,242
17	Dracut Supply 1 - Baseload	-	-	-	-	-	-	0
18	Dracut Supply 2 - Swing	-	-	-	-	-	435,588	435,588
19	Dracut Supply 3 - Swing	-	-	-	-	-	-	-
20	Constellation Combo	-	-	-	-	-	-	0
21	LNG Truck	-	-	4,831	10,843	17,887	110,141	143,701
22	Propane Truck	79,331	71,837	69,440	69,276	73,464	81,717	445,066
23	PNGTS	211,780	185,528	182,354	184,937	189,729	218,149	1,172,479
24	Portland Natural Gas	889,892	29,984	-	-	-	522,990	1,442,866
25	TGP Supply (Z4)	5,379,362	4,713,785	4,706,794	4,696,924	4,822,444	5,548,240	29,867,549
26		8,100,776	6,241,736	6,065,997	6,040,279	6,415,019	8,533,404	41,397,212
27								
28	Storage Gas:							
29		-	-	-	-	-	-	0
30								
31	Produced Gas:							
32	LNG Vapor	20,005	18,116	17,511	17,470	18,526	20,607	112,234
33	Propane	-	-	-	-	-	-	0
34		20,005	18,116	17,511	17,470	18,526	20,607	112,234
35								
36	Less - Gas Refills:							
37	LNG Truck	-	-	(4,831)	(10,843)	(17,887)	(110,141)	(143,701)
38	Propane	(79,331)	(71,837)	(69,440)	(69,276)	(73,464)	(81,717)	(445,066)
39	TGP Storage Refill	(2,622,767)	(2,671,728)	(3,066,813)	(2,770,444)	(2,599,354)	(1,122,012)	(14,853,118)
40		(2,702,098)	(2,743,565)	(3,141,083)	(2,850,564)	(2,690,705)	(1,313,870)	(15,441,885)
41								
42	Total Sendout Volumes	5,418,683	3,516,286	2,942,425	3,207,185	3,742,840	7,240,141	26,067,561

43

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.** **Schedule 11B**

2 **Page 1 of 1**

3 **Off Peak 2023 Summer Cost of Gas Filing**

44 **Normal and Design Year Volumes**

45

46

47 **Volumes (Therms)** **Design Year**

48

49 **For the Months of May 22 -October 22**

50

51								**Off Peak**
52		**May-23**	**Jun-23**	**Jul-23**	**Aug-23**	**Sep-23**	**Oct-23**	**May - Oct**
53	Pipeline Gas:							
54	Dawn Supply	842,293	650,910	512,645	413,850	711,005	595,469	3,726,172
55	Niagara Supply	667,764	585,319	584,500	583,125	598,573	687,845	3,707,126
56	TGP Supply (Gulf)	26,904	-	-	-	-	321,895	348,798
57	Dracut Supply 1 - Baseload	-	-	-	-	-	-	0
58	Dracut Supply 2 - Swing	-	-	-	-	-	-	-
	Dracut Supply 3 - Swing	-	-	-	-	-	-	-
59	Constellation Combo	-	-	-	-	-	-	0
60	LNG Truck	-	-	1,811	18,674	19,165	103,035	142,685
61	Propane Truck	53,118	71,837	69,440	69,276	73,464	81,717	418,852
62	PNGTS	211,780	185,528	180,543	184,937	189,729	218,149	1,170,667
63	Portland Natural Gas	-	-	-	515,884	-	546,389	1,062,273
64	TGP Supply (Z4)	5,381,432	4,713,785	4,708,001	4,696,322	4,819,888	5,548,240	29,867,669
65	Subtotal Pipeline Volumes	7,183,290	6,207,379	6,056,940	6,482,068	6,411,825	8,102,740	40,444,243
66								
67	Storage Gas:							
68	TGP Storage	-	-	-	-	-	-	0
69								
70	Produced Gas:							
71	LNG Vapor	20,005	18,116	17,511	17,470	18,526	20,607	112,234
72	Propane	-	-	-	-	-	-	-
73	Subtotal Produced Gas	20,005	18,116	17,511	17,470	18,526	20,607	112,234
74								
75	Less - Gas Refills:							
76	LNG Truck	-	-	(1,811)	(18,674)	(19,165)	(103,035)	(142,685)
77	Propane	(53,118)	(71,837)	(69,440)	(69,276)	(73,464)	(81,717)	(418,852)
78	TGP Storage Refill	(2,646,221)	(2,685,471)	(3,076,474)	(2,705,987)	(2,615,324)	(1,128,408)	(14,857,885)
79	Subtotal Refills	(2,699,339)	(2,757,308)	(3,147,725)	(2,793,938)	(2,707,953)	(1,313,159)	(15,419,422)
80								
81	Total Sendout Volumes	4,503,957	3,468,186	2,926,726	3,705,600	3,722,398	6,810,188	25,137,055

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**

Schedule 11C
Page 1 of 1

3 **Off Peak 2023 Summer Cost of Gas Filing**
4 **Capacity Utilization**
5 **Volumes (Therms)**

Line		Off-Peak Period Normal Year Use (Therms)	MDQ (MMBtu/day)	Seasonal Quantity (Therms)	Utilization Rate	Off-Peak Period Design Year Use (Therms)	MDQ (MMBtu/day)	Seasonal Quantity (Therms)	Utilization Rate
11	**Pipeline Gas:**								
12	Dawn Supply	3,825,595	4,000	7,360,000	52%	3,726,172	4,000	7,360,000	51%
13	Niagara Supply	3,707,126	3,122	5,744,480	65%	3,707,126	3,122	5,744,480	65%
14	TGP Supply (Gulf)	357,242	21,596	39,736,640	1%	348,798	21,596	39,736,640	1%
15	Dracut Supply 1 & 2 & 3	435,588	90,000	165,600,000	0%	-	90,000	165,600,000	0%
16	LNG Truck	143,701	-	-	-	142,685	-	-	-
17	Propane Truck	445,066	-	-	-	418,852	-	-	-
18	PNGTS	1,172,479	1,000	1,840,000	64%	1,170,667	1,000	1,840,000	64%
	Portland Natural Gas	1,442,866	5,000	9,200,000	16%	1,062,273	5,000	9,200,000	12%
19	TGP Supply (Z4)	29,867,549	21,596	39,736,640	75%	29,867,669	21,596	39,736,640	75%
20	Other Purchased Resources	-		-		-		-	
22	Subtotal Pipeline Volumes	41,397,212				40,444,243			
24	**Storage Gas:**								
25	0	0		25,792,710	0%	-		25,792,710	0%
27	**Produced Gas:**								
28	LNG Vapor	112,234				112,234			
29	Propane	-				-			
31	Subtotal Produced Gas	112,234				112,234			
33	**Less - Gas Refills:**								
34	LNG Truck	(143,701)				(142,685)			
35	Propane	(445,066)				(418,852)			
36	TGP Storage Refill	(14,853,118)				(14,857,885)			
38	Subtotal Refills	(15,441,885)				(15,419,422)			
40	Total Sendout Volumes	26,067,561				25,137,055			

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Off Peak 2023 Summer Cost of Gas Filing
Transportation Available for Pipeline Supply and Storage
(MMBtu)

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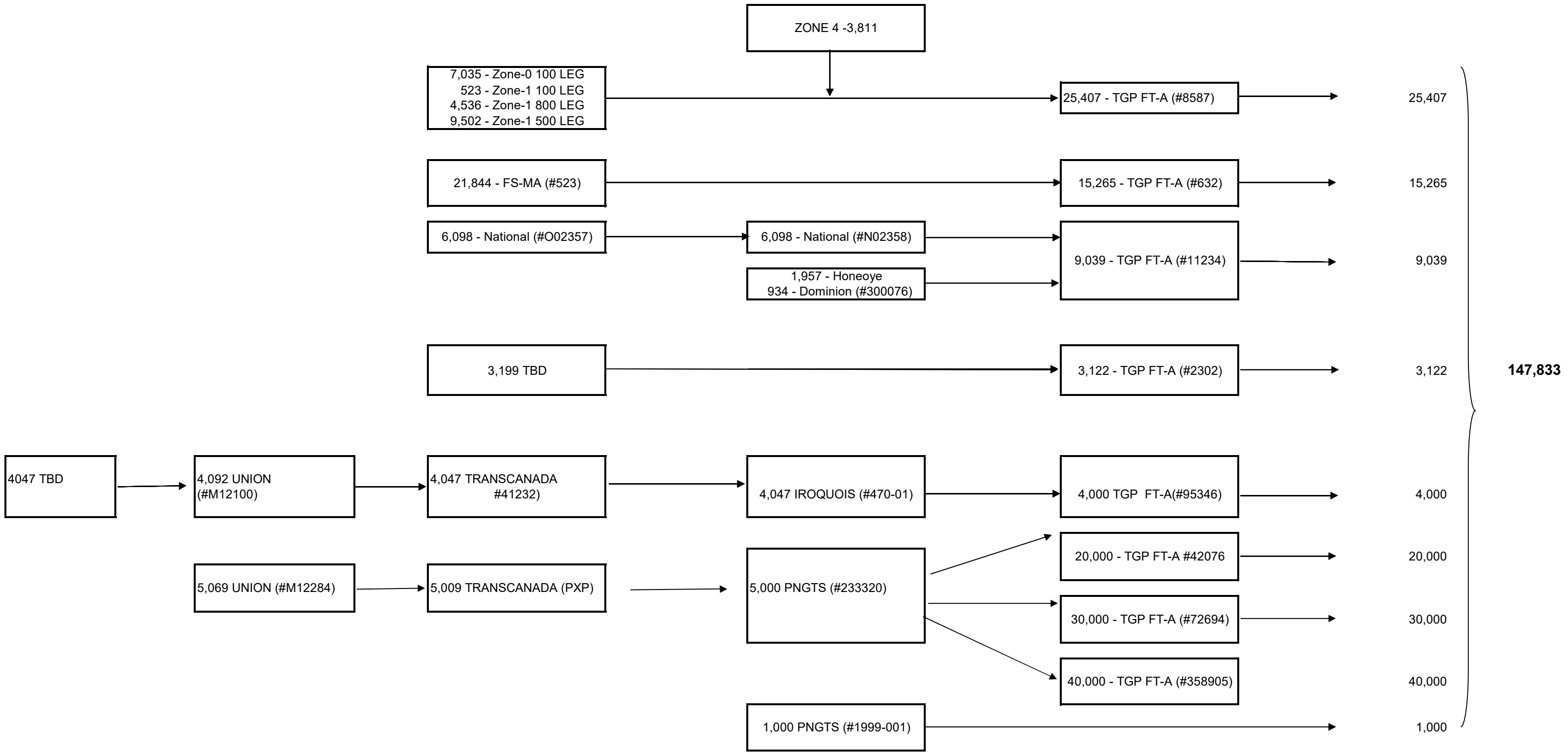

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Off Peak 2023 Summer Cost of Gas Filing

Agreements for Gas Supply and Transportation

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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 7 trucks	630,000	3/31/2022 Peak Only	N/A	Terminates
Dracut or Z6	NA	NA	Supply	Up to 20,000 / day	1,412,000	2/28/2022	N/A	Terminates
TGP Long-Haul	NA	NA	Supply	21,596	3,908,876	4/30/2022	N/A	Terminates
Northern Transport	NA	NA	Trucking	28,500 Gallons	900,000 Gallons	3/31/2023	N/A	Terminates
Dominion Transmission Incorporated	GSS	300076	Storage	934	102,700	3/31/2024	3/31/2022	Mutually agreed upon
Honeoye Storage Corporation	SS-NY	11234	Storage	1,957	245,380	3/31/2023	12 months notice	Evergreen Provision
National Fuel Gas Supply Corporation	FSS	O02358	Storage	6,098	670,800	3/31/2023	3/31/2022	Evergreen Provision
National Fuel Gas Supply Corporation	FSST	N02358	Transportation	6,098	670,800	3/31/2023	3/31/2022	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 1999-01	1999-001	Transportation	1,000	365,000	11/30/2032	11/31/2031	Evergreen Provision
Portland Natural Gas Transmission System	FT	PXP	Transportation	4,432	1,617,680	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	11/30/2022	11/30/2021	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	42076	Transportation	20,000	7,300,000	10/31/2025	10/31/2024	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	358905	Transportation	40,000	14,600,000	10/31/2041	10/31/2040	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	4,432	1,617,680	10/31/2040		Precedent Agreement
Union Gas Limited	M12	M12200	Transportation	4,092	1,493,580	10/31/2023	10/31/2021	Evergreen Provision
Union Gas Limited	M12	PXP	Transportation	4,432	1,617,680	10/31/2040		Precedent Agreement

* MAQ is calculated on a 365 day calendar year.

1 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**

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3 **Off Peak 2023 Summer Cost of Gas Filing**

4 **Storage Inventory**

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6 **Underground Storage Gas**

			May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Total
7			May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Total
8			(Actual)	(Actual)	(Estimate)	(Estimate)	(Es imate)	(Estimate)	
9	Beginning Balance (MMBtu)		1,895,479	1,901,645	1,929,241	1,929,241	1,929,241	2,113,358	1,951,935
10									
11	Injections (MMBtu)	Sch 11A ln 39 /10	11,436	27,746	-	-	184,117	184,117	1,977,164
12									
13	Subtotal		1,906,915	1,929,391	1,929,241	1,929,241	2,113,358	2,297,475	
14									
15	Storage Sale		-	-	-	-	-	-	
16									
17	Withdrawals (MMBtu)	Sch 11A ln 29 /10	(5,270)	(150)	-	-	-	-	(1,368,064)
18									
19	Ending Balance (MMBtu)		1,901,645	1,929,241	1,929,241	1,929,241	2,113,358	2,297,475	2,561,035
20									
21									
22	Beginning Balance		$ 9,092,272	$ 9,085,950	$ 9,164,894	$ 9,164,894	$ 9,164,894	$ 9,790,084	$ 3,609,668
23									
24	Injections	ln 11 * ln 36	18,859	78,943	-	-	625,191	630,003	8,909,718
25									
26	Subtotal		$ 9,111,130	$ 9,164,894	$ 9,164,894	$ 9,164,894	$ 9,790,084	$ 10,420,087	
27									
28	Storage Sale		$ -	$ -	$ -	$ -	$ -	$ -	
29									
30	Withdrawals	ln 17 * ln 34	$ (25,180)	$ -	$ -	$ -	$ -	$ -	$ (2,634,626)
31									
32	Ending Balance		$ 9,085,950	$ 9,164,894	$ 9,164,894	$ 9,164,894	$ 9,790,084	$ 10,420,087	$ 9,884,760
33									
34	Average Rate For Withdrawals	ln 22 /ln 9	$ 4.7779	$ 4.7501	$ 4.7505	$ 4.7505	$ 4.6325	$ 4.5355	
35									
36	TGP Storage Rate for Injec ions	Actual or NYMEX plus TGP Transportation	$ 1.6490	$ 2.8452	$ -	$ -	$ 3 3956	$ 3.4218	

37 **Liberty Utilities (EnergyNorth Natural Gas) Corp.**

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39 **Off Peak 2023 Summer Cost of Gas Filing**

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41 **Liquid Propane Gas (LPG)**

42			May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Total
43			(Actual)	(Actual)	(Estimate)	(Estimate)	(Es imate)	(Estimate)	
44	Beginning Balance		93,824	93,828	94,844	94,844	94,844	94,844	96,655
45									
46	Injections	Sch 11A ln 38 /10	72	1,016	-	-	-	-	49,415
47									
48	Subtotal		93,896	94,844	94,844	94,844	94,844	94,844	
49									
50	Withdrawals	Sch 11A ln 33 /10	(68)	-	-	-	-	-	(61,632)
51									
52	Adjustment for change in temperature		-	-	-	-	-	-	-
53	Adjustment for Transfer		-	-	-	-	-	-	-
54	Ending Balance		93,828	94,844	94,844	94,844	94,844	94,844	84,438
55									
56									
57	Beginning Balance		$ 1,382,938	$ 1,382,997	$ 1,396,098	$ 1,406,774	$ 1,406,774	$ 1,406,774	$ 1,193,497
58									
59	Injections	ln 46 * ln 69	1,061	13,101	-	-	-	-	168,840
60									
61	Subtotal		$ 1,384,000	$ 1,396,098	$ 1,396,098	$ 1,406,774	$ 1,406,774	$ 1,406,774	
62									
63	Withdrawals	ln 52 * ln 67	(1,002)	-	10,676	-	-	-	(763,126)
64									
65	Ending Balance		$ 1,382,997	$ 1,396,098	$ 1,406,774	$ 1,406,774	$ 1,406,774	$ 1,406,774	$ 599,211
66									
67	Average Rate For Withdrawals		$ 14.7397	$ 14.7199	$ 14.7199	$ 14.8325	$ 14 8325	$ 14.8325	
68									
69	Propane Rate for Injections	Actual or Sch. 6, ln 162 * 10	$ -	$ -	$ -	$ -	$ -	$ -	

70 **Liberty Utilities (EnergyNorth Natural Gas) Corp.** Schedule 13
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72 **Off Peak 2023 Summer Cost of Gas Filing**
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74	**Liquid Natural Gas (LNG)**		May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Total
75			(Actual)	(Actual)	(Estimate)	(Estimate)	(Es imate)	(Estimate)	
76	Beginning Balance		7,885	5,928	10,583	10,583	10,583	10,583	12,057
77									
78	Injections	Sch 11A ln 37 /10	797	6,395	-	-	-	-	128,304
79									
80	Subtotal		8,682	12,323	10,583	10,583	10,583	10,583	
81									
82	Withdrawals	Sch 11A ln 32 /10	(2,754)	(1,740)	-	-	-	-	(132,644)
83									
84	Ending Balance		5,928	10,583	10,583	10,583	10,583	10,583	7,718
85									
86									
87	Beginning Balance		$ 34,430	$ 25,885	$ 42,850	$ 42,850	$ 42,850	$ 42,850	$ 135,659
88									
89	Injections	ln 78 * ln 99	3,480	24,011	-	-	-	-	653,097
90									
91	Subtotal		$ 37,910	$ 49,896	$ 42,850	$ 42,850	$ 42,850	$ 42,850	
92									
93	Withdrawals	ln 82 * ln 97	(12,025)	(7,045)	-	-	-	-	(903,905)
94									
95	Ending Balance		$ 25,885	$ 42,850	$ 42,850	$ 42,850	$ 42,850	$ 42,850	$ (115,148)
96									
97	Average Rate For Withdrawals		$ 4.3665	$ 4.0490	$ 4.0490	$ 4.0490	$ 4 0490	$ 4.0490	
98									
99	LNG Rate for Injections	Actual or Sch. 6, ln 161 * 10	$ 4.3665	$ 3.7546	$ 34.3475	$ 33.6050	$ -	$ -	