

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.

Summary  
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3 Off Peak 2020 Summer Cost of Gas Filing

4 Summary

	Reference	OP 20 May - Oct
(a)	(b)	(c)
<b>9 Anticipated Direct Cost of Gas</b>		
Purchased Gas:		
Demand Costs:	Sch. 5A, col (j), In 45	\$ 4,548,346
Supply Costs	Sch. 6, col (i), In 45	3,114,165
Storage Gas:		
Demand, Capacity:	Sch. 5A, col (j), In 60	\$ -
Commodity Costs:	Sch. 6, col (i), In 48	-
Produced Gas:	Sch. 6, col (i), In 54	\$ 22,682
Hedge Contract (Savings)/Loss		\$ -
<b>Total Unadjusted Cost of Gas</b>		<b>\$ 7,685,193</b>
<b>25 Adjustments:</b>		
Prior Period (Over)/Under Recovery	Sch. 3, col (c) In 28	\$ 1,885,446
Interest 11/01/19 - 10/31/20	Sch. 3, col (q) In 193	82,742
Prior Period Adjustments	Sch. 4, In 24 col (b)	-
Refunds from Suppliers	Sch. 4, In 24 col (c)	-
Broker Revenue	Sch. 4, In 24 col (d)	-
Fuel Financing	Sch. 4, In 24 col (e)	-
Transportation CGA Revenues	Sch. 4, In 24 col (f)	-
Interruptible Sales Margin	Sch. 4, In 24 col (g)	-
Capacity Release and Off System Sales Margins	Sch. 4, In 24 col (h) + col (i)	-
Hedging Costs	Sch. 4, In 24 col (j)	-
FPO Premium - Collection		-
Fixed Price Option Administrative Costs	Sch. 4, In 24 col (k)	-
<b>Total Adjustments</b>		<b>\$ 1,968,188</b>
<b>42 Total Anticipated Direct Costs</b>	Ins 23 + 40	<b>\$ 9,653,380</b>
<b>44 Anticipated Indirect Cost of Gas</b>		
<b>45 Working Capital</b>		
Total Unadjusted Anticipated Cost of Gas	Ln 23	\$ 7,685,193
Lead Lag Days / 365	DG 10-017, 14.27 / 365	0.0391
Prime Rate		5.25%
Working Capital Percentage	In 47 * In 48	0.205%
Working Capital	In 46 * In 49	15,777
Plus: Working Capital Reconciliation	Sch. 3, col (c), In 98	(18,982)
<b>Total Working Capital Allowance</b>	Ins 50 + 51	<b>\$ (3,204)</b>
<b>55 Bad Debt</b>		
Total Unadjusted Anticipated Cost of Gas	In 23	\$ 7,685,193
Less Refunds	In 30	-
Plus Working Capital	In 53	(3,204)
Plus Prior Period (Over) Under Recovery	In 27	1,885,446
Subtotal		\$ 9,567,434
Bad Debt Percentage	per GTC 17(f)	1.11%
Bad Debt Allowance	In 60 * In 61	\$ 106,199
Prior Period Bad Debt Allowance	Sch. 3, col (c), In 163	(280,167)
<b>Total Bad Debt Allowance</b>	Ins 63 + 64	<b>\$ (173,969)</b>
<b>68 Production and Storage Capacity</b>		
	per GTC17(f)	\$ -
<b>70 Miscellaneous Overhead</b>		
	per GTC 17(f)	\$ 13,170
Sales Volume	Sch. 10B, In 23/1000	20,910
Divided by Total Sales	Sch. 10B, In 23/1000	109,235
Ratio		19.14%
<b>Miscellaneous Overhead</b>	Ins 70 * 73	<b>\$ 2,521</b>
<b>Total Anticipated Indirect Cost of Gas</b>	Ins 53 + 66 + 68 + 75	<b>\$ (174,652)</b>
<b>Total Cost of Gas</b>	Ins 42 + 77	<b>\$ 9,478,729</b>
<b>81 Projected Forecast Sales (Therms)</b>	Sch. 3, col (q), In 52	<b>20,973,031</b>

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4 Summary of Supply and Demand Forecast

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7 For Month of:

8 (a)

(b)

May-20 Jun-20 Jul-20 Aug-20 Sep-20 Oct-20 Nov-20 Off Peak Period  
(c) (d) (e) (d) (e) (f) (g) (h)

9 I. Gas Volumes (Therms)

10

11 A. Firm Demand Volumes

12 Firm Gas Sales	Sch. 10B, In 23	1,299,823	3,438,776	2,028,346	1,786,464	2,358,217	4,203,645	5,857,761	20,973,031
13 Lost Gas (Unaccounted for)		87,326	45,257	31,963	30,832	38,750	79,686		313,813
14 Company Use		3,059	1,585	1,120	1,080	1,357	2,791		10,993
15 Unbilled Therms		3,570,678	(914,614)	(245,661)	(66,865)	(197,002)	240,746	(5,857,761)	(3,470,479)
16									
17 Total Firm Volumes	Sch. 6, In 93	4,960,886	2,571,004	1,815,767	1,751,511	2,201,322	4,526,868		17,827,358

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19 B. Supply Volumes (Therms)

20 Pipeline Gas:

21 Dawn Supply	Sch. 6, In 63	667,277	310,612	-	-	10,229	265,425		1,253,543
22 Niagara Supply	Sch. 6, In 64	640,798	521,582	283,949	-	421,954	567,177		2,435,460
23 TGP Supply (Gulf)	Sch. 6, In 65	-	-	-	-	-	-		-
24 Dracut Supply 1 - Baseload	Sch. 6, In 66	-	-	-	-	-	-		-
25 Dracut Supply 2 - Swing	Sch. 6, In 67	89,367	-	-	-	-	57,421		146,788
26 City Gate Delivered Supply	Sch. 6, In 68	-	-	-	-	-	-		-
27 LNG Truck	Sch. 6, In 69	47,001	17,837	15,625	-	29,665	13,476		123,604
28 Propane Truck	Sch. 6, In 70	76,128	70,733	61,962	61,447	58,818	67,382		396,470
29 PNGTS	Sch. 6, In 71	203,228	182,677	145,477	153,351	150,369	179,879		1,014,981
30 Portland Natural Gas	Sch. 6, In 72	167,481	-	-	-	-	120,701		288,182
31 TGP Supply (Zone 4)	Sch. 6, In 73	5,168,086	4,640,724	4,192,967	4,158,635	3,859,985	4,576,086		26,596,484
32 Subtotal Pipeline Volumes		7,059,366	5,744,165	4,699,981	4,373,433	4,531,019	5,847,547		32,255,511

33

34 Storage Gas:

35 TGP Storage	Sch. 6, In 78	-	-	-	-	-	-		-
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36

37 Produced Gas:

38 LNG Vapor	Sch. 6, In 81	19,197.45	17,837.11	15,625.30	15,495.37	14,320.87	16,991.87		99,467.96
39 Propane	Sch. 6, In 82	-	-	-	-	-	-		-
40 Subtotal Produced Gas		19,197.45	17,837.11	15,625.30	15,495.37	14,320.87	16,991.87		99,467.96

41

42 Less - Gas Refill:

43 LNG Truck	Sch. 6, In 87	(47,000.65)	(17,837.11)	(15,625.30)	-	(29,664.65)	(13,476.31)		(123,604.02)
44 Propane	Sch. 6, In 88	(76,127.82)	(70,733.37)	(61,962.38)	(61,447.14)	(58,817.84)	(67,381.55)		(396,470.10)
45 TGP Storage Refill	Sch. 6, In 89	(1,994,548.90)	(3,102,427.26)	(2,822,251.76)	(2,575,970.91)	(2,255,536.24)	(1,256,812.36)		(14,007,547.42)
46 Subtotal Refills		(2,117,677.37)	(3,190,997.75)	(2,899,839.44)	(2,637,418.05)	(2,344,018.73)	(1,337,670.21)		(14,527,621.54)

47

48 Total Firm Sendout Volumes	Ins 32 + 35 + 40 + 46	4,960,885.97	2,571,004.35	1,815,767.17	1,751,510.61	2,201,321.54	4,526,868.19		17,827,357.82
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4 Summary of Supply and Demand Forecast

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50 II. Gas Costs

51  
52 A. Demand Costs

53 Supply

54	Niagara Supply	Sch.5A, In 12	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
55	Subtotal Supply Demand		\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
56	Less Capacity Credit			-		-		-		-		-		-		-		-
57	Net Pipeline Demand Costs		\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-

58  
59 Pipeline:

60	Iroquois Gas Trans Service RTS 470-0	Sch.5A, In 16																
61	Tenn Gas Pipeline 95346 Z5-Z6	Sch.5A, In 17																
62	Tenn Gas Pipeline 2302 Z5-Z6	Sch.5A, In 18																
63	Tenn Gas Pipeline 8587 Z0-Z6	Sch.5A, In 19																
64	Tenn Gas Pipeline 8587 Z1-Z6	Sch.5A, In 20																
65	Tenn Gas Pipeline 8587 Z4-Z6	Sch.5A, In 21																
66	Tenn Gas Pipeline (Dracut) 42076 Z6-Z6	Sch.5A, In 22																
67	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Sch.5A, In 23																
68	Portland Natural Gas Trans Service	Sch.5A, In 24																
69	ANE (TransCanada via Union to Iroquois)	Sch.5A, In 26																
70	Portland Natural Gas	Sch.5A, In 25																
71	TransCanada via Union to Portland	Sch.5A, In 27																
72	Tenn Gas Pipeline Z4-Z6 stg 632	Sch.5A, In 28																
73	Tenn Gas Pipeline Z4-Z6 stg 11234	Sch.5A, In 29																
74	Tenn Gas Pipeline Z5-Z6 stg 11234	Sch.5A, In 30																
75	National Fuel FST 2358	Sch.5A, In 31																
76	Subtotal Pipeline Demand		\$	1,275,601	\$	1,280,964	\$	1,280,964	\$	1,280,964	\$	1,280,964	\$	1,280,964	\$	1,280,964	\$	7,680,422
77	Less Capacity Credit			(520,190)		(522,377)		(522,377)		(522,377)		(522,377)		(522,377)		(522,377)		(3,132,076)
78	Net Pipeline Demand Costs		\$	755,411	\$	758,587	\$	758,587	\$	758,587	\$	758,587	\$	758,587	\$	758,587	\$	4,548,346

79  
80 Peaking Supply:

81	Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Sch.5A, In 36	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
82	Granite Ridge Demand	Sch.5A, In 37		-		-		-		-		-		-		-		-
83	DOMAC Demand NSB041	Sch.5A, In 38		-		-		-		-		-		-		-		-
84	Subtotal Peaking Demand		\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
85	Less Capacity Credit			-		-		-		-		-		-		-		-
86	Net Peaking Supply Demand Costs		\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-

87  
88 Storage:

89	Dominion - Demand	Sch.5A, In 48	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
90	Dominion - Storage	Sch.5A, In 49		-		-		-		-		-		-		-		-
91	Honeoye - Demand	Sch.5A, In 50		-		-		-		-		-		-		-		-
92	National Fuel - Demand	Sch.5A, In 51		-		-		-		-		-		-		-		-
93	National Fuel - Capacity	Sch.5A, In 52		-		-		-		-		-		-		-		-
94	Tenn Gas Pipeline - Demand	Sch.5A, In 53		-		-		-		-		-		-		-		-
95	Tenn Gas Pipeline - Capacity	Sch.5A, In 54		-		-		-		-		-		-		-		-
96	Subtotal Storage Demand		\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
97	Less Capacity Credit			-		-		-		-		-		-		-		-
98	Net Storage Demand Costs		\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-

99																		
100	Total Demand Charges	Ins 55 + 76 + 84 + 96	\$	1,275,601	\$	1,280,964	\$	1,280,964	\$	1,280,964	\$	1,280,964	\$	1,280,964	\$	1,280,964	\$	7,680,422
101	Total Capacity Credit	Ins 56 + 77 + 85 + 97		(520,190)		(522,377)		(522,377)		(522,377)		(522,377)		(522,377)		(522,377)		(3,132,076)
102	Net Demand Charges		\$	755,411	\$	758,587	\$	758,587	\$	758,587	\$	758,587	\$	758,587	\$	758,587	\$	4,548,346

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106 B. Commodity Costs

107 Pipeline:

108	Dawn Supply	Sch. 6, In 12
109	Niagara Supply	Sch. 6, In 13
110	TGP Supply (Gulf)	Sch. 6, In 14
111	Dracut Supply 1 - Baseload	Sch. 6, In 15
112	Dracut Supply 2 - Swing	Sch. 6, In 16
113	City Gate Delivered Supply	Sch. 6, In 17
114	LNG Truck	Sch. 6, In 18
115	Portland Natural Gas	Sch. 6, In 21
116	PNGTS	Sch. 6, In 20
117	TGP Supply (Zone 4)	Sch. 6, In 22

118	Subtotal Pipeline Commodity Costs		\$ 1,438,268	\$ 1,171,270	\$ 974,777	\$ 905,522	\$ 876,009	\$ 1,167,449	\$ 6,533,295

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120 Storage:

121	TGP Storage - Withdrawals	Sch. 6, In 48
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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123 Produced Gas Costs:

124	LNG Vapor	Sch. 6, In 51
125	Propane	Sch. 6, In 52

	\$ 7,377	\$ 4,318	\$ 3,245	\$ 2,811	\$ 2,598	\$ 2,333	\$ 22,682
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128 Less Storage Refills:

129	LNG Truck	Sch. 6, In 38
130	Propane	Sch. 6, In 39
131	TGP Storage Refill	Sch. 6, In 40
132	Storage Refill (Trans.)	Sch. 6, In 41

	\$ (527,780)	\$ (834,166)	\$ (771,840)	\$ (707,107)	\$ (615,075)	\$ (346,157)	\$ (3,802,125)
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135 Total Supply Commodity Costs

	\$ 917,865	\$ 341,421	\$ 206,183	\$ 201,226	\$ 263,532	\$ 823,625	\$ 2,753,851
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137 C. Supply Volumetric Transportation Costs:

138	Dawn Supply	Sch. 6, In 27
139	Niagara Supply	Sch. 6, In 28
140	TGP Supply (Zone 4)	Sch. 6, In 29
141	Dracut Supply 1 - Baseload	Sch. 6, In 30
142	Dracut Supply 2 - Swing	Sch. 6, In 31

	\$ 79,904	\$ 68,780	\$ 58,174	\$ 54,861	\$ 54,419	\$ 66,857	\$ 382,995
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145 TGP Storage - Withdrawals

Sch. 6, In 33

	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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147 Total Supply Volumetric Trans. Costs

Ins 143 + 145

	\$ 79,904	\$ 68,780	\$ 58,174	\$ 54,861	\$ 54,419	\$ 66,857	\$ 382,995
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149 Total Commodity Gas & Trans. Costs

Ins 135 + 147

	\$ 997,769	\$ 410,202	\$ 264,357	\$ 256,086	\$ 317,951	\$ 890,482	\$ 3,136,847
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154 D. Supply and Demand Costs by Source

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156									
157	<u>Purchased Gas Demand Costs</u>								
158	Pipeline Gas Demand Costs	Ins 55 + 76	\$ 1,275,601	\$ 1,280,964	\$ 1,280,964	\$ 1,280,964	\$ 1,280,964	\$ 1,280,964	\$ 7,680,422
159	Peaking Gas Demand Costs	In 84	-	-	-	-	-	-	-
160	Subtotal Purchased Gas Demand Costs		\$ 1,275,601	\$ 1,280,964	\$ 1,280,964	\$ 1,280,964	\$ 1,280,964	\$ 1,280,964	\$ 7,680,422
161	Less Capacity Credit	Ins 56 + 77 + 85	(520,190)	(522,377)	(522,377)	(522,377)	(522,377)	(522,377)	(3,132,076)
162	Net Purchased Gas Demand Costs		\$ 755,411	\$ 758,587	\$ 758,587	\$ 758,587	\$ 758,587	\$ 758,587	\$ 4,548,346
163									
164	<u>Storage Gas Demand Costs</u>								
165	Storage Demand	In 96	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
166	Less Capacity Credit	In 97	-	-	-	-	-	-	-
167	Net Storage Demand Costs		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
168									
169	<b>Total Demand Costs</b>	Ins 162 + 167	\$ 755,411	\$ 758,587	\$ 758,587	\$ 758,587	\$ 758,587	\$ 758,587	\$ 4,548,346
170									
171	<u>Purchased Gas Supply</u>								
172	Commodity Costs	In 118	\$ 1,438,268	\$ 1,171,270	\$ 974,777	\$ 905,522	\$ 876,009	\$ 1,167,449	\$ 6,533,295
173	Less Storage Inj.(TGP Storage)	In 131	-	-	-	-	-	-	-
174	Less Storage Transportation	In 132	-	-	-	-	-	-	-
175	Less LNG Truck	In 129	-	-	-	-	-	-	-
176	Less Propane Truck	In 130	-	-	-	-	-	-	-
177	Plus Transportation Costs	In 143	-	-	-	-	-	-	-
178	Subtotal Purchased Gas Supply		\$ 990,392	\$ 405,884	\$ 261,111	\$ 253,275	\$ 315,353	\$ 888,149	\$ 3,114,165
179									
180	<u>Storage Commodity Costs</u>								
181	Commodity Costs	In 121	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
182	Transportation Costs	In 145	-	-	-	-	-	-	-
183	Subtotal Storage Commodity Costs		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
184									
185	<u>Produced Gas Commodity Costs</u>	In 126	\$ 7,377	\$ 4,318	\$ 3,245	\$ 2,811	\$ 2,598	\$ 2,333	\$ 22,682
186									
187	<b>Subtotal Commodity Costs</b>	Ins 178 + 183 + 185	\$ 997,769	\$ 410,202	\$ 264,357	\$ 256,086	\$ 317,951	\$ 890,482	\$ 3,136,847
188									
189	Hedge Contract (Savings)/Loss		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
190									
191	<b>Total Commodity Costs</b>	Ins 187 + 189	\$ 997,769	\$ 410,202	\$ 264,357	\$ 256,086	\$ 317,951	\$ 890,482	\$ 3,136,847
192									
193	<b>Total Demand Costs</b>	In 102	\$ 755,411	\$ 758,587	\$ 758,587	\$ 758,587	\$ 758,587	\$ 758,587	\$ 4,548,346
194	<b>Total Supply Costs</b>	In 191	997,769	410,202	264,357	256,086	317,951	890,482	3,136,847
195									
196	<b>Total Direct Gas Costs</b>	Ins 193 + 194	\$ 1,753,180	\$ 1,168,789	\$ 1,022,944	\$ 1,014,673	\$ 1,076,538	\$ 1,649,069	\$ 7,685,193
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4 Contracts Ranked on a per Unit Cost Basis

Off Peak

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Supplier

(a)

Contract

(b)

Contract Type

(c)

Contract

Unit

(d)

Unit Dth

(MDQ/ACQ)

(e)

Cost per

Unit Dth

(f)

9 Demand Costs

Supplier (a)	Contract (b)	Contract Type (c)	Contract Unit (d)	Unit Dth (MDQ/ACQ) (e)	Cost per Unit Dth (f)
Dominion - Capacity Reservation	GSS 300076	Storage	ACQ	102,700	
Tenn Gas Pipeline - Cap. Reservations	FS-MA 523	Storage	ACQ	1,560,391	
National Fuel - Capacity Reservation	FSS-1 2357	Storage	ACQ	670,800	
Tenn Gas Pipeline - Demand	FS-MA 523	Storage	MDQ	21,844	
Dominion - Demand	GSS 300076	Storage	MDQ	934	
National Fuel - Demand	FSS-1 2357	Storage	MDQ	6,098	
National Fuel	FST N02358	Transportation	MDQ	6,098	
Tenn Gas Pipeline	42076 FTA Z6-Z6	Transportation	MDQ	20,000	
Iroquois Gas Trans Service	RTS 470-01	Transportation	MDQ	4,047	
Honeoye - Demand	SS-NY	Storage	MDQ	1,362	
Tenn Gas Pipeline	2302 Z5-Z6	Transportation	MDQ	3,122	
Tenn Gas Pipeline (short haul)	11234 Z5-Z6(stg)	Transportation	MDQ	1,957	
Tenn Gas Pipeline (short haul)	8587 Z4-Z6	Transportation	MDQ	3,811	
Tenn Gas Pipeline (short haul)	632 Z4-Z6 (stg)	Transportation	MDQ	15,265	
Tenn Gas Pipeline (short haul)	11234 Z4-Z6(stg)	Transportation	MDQ	7,082	
Tenn Gas Pipeline (Concord Lateral) Z6-Z6	Firm Transportation	Transportation	MDQ	30,000	
Tenn Gas Pipeline	95346 Z5-Z6	Transportation	MDQ	4,000	
ANE (TransCanada via Union to Iroquois)	Union Parkway to Iroquois	Transportation	MDQ	4,047	
TransCanada via Union to Portland	Union Parkway to Portland	Transportation	MDQ	4,432	
Tenn Gas Pipeline (long haul)	8587 Z1-Z6	Transportation	MDQ	14,561	
Tenn Gas Pipeline (long haul)	8587 Z0-Z6	Transportation	MDQ	7,035	
Portland Natural Gas Trans Service	FT-1999-001	Transportation	MDQ	1,000	
Portland Natural Gas	FTN	Transportation	MDQ	4,432	

36 Supply Costs - Commodity

Supplier	Contract	Contract Type	Contract Unit	Unit Dth (MDQ/ACQ)	Cost per Unit Dth
LNG Truck		Pipeline	Dkt	12,360	
TGP Supply (Zone 4)		Pipeline	Dkt	2,659,648	
Niagara Supply		Pipeline	Dkt	243,546	
Dracut Supply 2 - Swing		Pipeline	Dkt	14,679	
TGP Citygate Supply		Pipeline	Dkt	-	
Dracut Supply 1 - Baseload		Pipeline	Dkt	-	
TGP Supply (Gulf)		Pipeline	Dkt	-	
Dawn Supply		Pipeline	Dkt	125,354	
PNGTS		Pipeline	Dkt	101,498	
Propane		Pipeline	Dkt	-	
LNG Vapor (Storage)		Produced	Dkt	9,947	

49 Supply Costs - Volumetric Transportation

Supplier	Contract	Contract Type	Contract Unit	Unit Dth (MDQ/ACQ)	Cost per Unit Dth
Dracut Supply 1 - Baseload		Pipeline	Dkt	-	
Dracut Supply 2 - Swing		Pipeline	Dkt	14,679	
Dawn Supply		Storage	Dkt	125,354	
Niagara Supply		Pipeline	Dkt	243,546	
TGP Supply (Zone 4)		Pipeline	Dkt	-	

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		Prior Period Balance Plus Nov Collections October 31, 2019	Nov-19 30	Dec-19 31	Jan-20 31	Feb-20 28	Mar-20 31	Apr-20 30	May-20 31	Jun-20 30	Jul-20 31	Aug-20 31	Sep-20 30	Oct-20 31	Nov-20 30	Off Peak Period Total		
(a)	Days in Month (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	Beginning Balance	Account 1920-1741 1/	\$ 1,885,446	\$ 1,885,446	\$ 1,893,582	\$ 1,902,025	\$ 1,910,506	\$ 1,918,200	\$ 1,926,753	\$ 1,935,067	\$ 1,607,958	\$ 1,681,355	\$ 1,921,333	\$ 2,180,655	\$ 2,316,876	\$ 2,066,534	\$ 1,885,446	
13	Forecast Direct Gas Costs		-	-	-	-	-	-	-	1,710,687	1,126,295	980,450	972,180	1,034,044	1,606,576	-	7,430,233	
14	Production & Storage & Misc Overhead		-	-	-	-	-	-	-	420	420	420	420	420	420	-	2,521	
15	Projected Revenues w/o Int.	In 54 * In 64	-	-	-	-	-	-	-	(546,056)	(1,444,630)	(852,108)	(750,494)	(990,687)	(1,765,951)	(2,460,845)	(8,810,770)	
16	Projected Unbilled Revenue	In 58 * In 64	-	-	-	-	-	-	-	(1,500,042)	(1,115,813)	(1,012,610)	(984,520)	(901,760)	(1,002,897)	-	(6,517,642)	
17	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	1,500,042	1,115,813	1,012,610	984,520	901,760	1,002,897	-	6,517,642	
18	Add Net Adjustments (with TGP Refund)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
19	Gas Cost Billed	Account 1920-1741 2/	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20	Monthly (Over)/Under Recovery		\$ 1,885,446	\$ 1,885,446	\$ 1,893,582	\$ 1,902,025	\$ 1,910,506	\$ 1,918,200	\$ 1,926,753	\$ 1,600,077	\$ 1,674,273	\$ 1,913,319	\$ 2,171,530	\$ 2,307,193	\$ 2,056,783	\$ 608,586	\$ 507,429	
21	Average Monthly Balance	(In 13 + 21)/ 2	\$ -	\$ 1,885,446	\$ 1,893,582	\$ 1,902,025	\$ 1,910,506	\$ 1,918,200	\$ 1,926,753	\$ 1,767,572	\$ 1,641,116	\$ 1,797,337	\$ 2,046,432	\$ 2,243,924	\$ 2,186,830	\$ 1,337,560	-	
22	Interest Rate	Prime Rate		5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	-	-	
23	Interest Applied	In 22 * In 24 /365 *Days/Mo.	\$ -	\$ 8,136	\$ 8,443	\$ 8,481	\$ 7,694	\$ 8,553	\$ 8,314	\$ 7,881	\$ 7,082	\$ 8,014	\$ 9,125	\$ 9,683	\$ 9,751	\$ -	\$ 101,157	
24	(Over)/Under Balance	In 21 + In 26	\$ 1,885,446	\$ 1,893,582	\$ 1,902,025	\$ 1,910,506	\$ 1,918,200	\$ 1,926,753	\$ 1,935,067	\$ 1,607,958	\$ 1,681,355	\$ 1,921,333	\$ 2,180,655	\$ 2,316,876	\$ 2,066,534	\$ 608,586	\$ 608,586	
31 Calculation of COG with Interest																		
32	Beginning Balance	In 13	\$ 1,885,446	\$ 1,885,446	\$ 1,893,582	\$ 1,902,025	\$ 1,910,506	\$ 1,918,200	\$ 1,926,753	\$ 1,935,067	\$ 1,609,440	\$ 1,683,617	\$ 1,924,160	\$ 2,184,031	\$ 2,320,938	\$ 2,071,972	\$ 1,885,446	
33	Forecast Direct Gas Costs	In 14	-	-	-	-	-	-	-	1,710,687	1,126,295	980,450	972,180	1,034,044	1,606,576	-	7,430,233	
34	Prod Storage & Misc Overhead	In 15	-	-	-	-	-	-	-	420	420	420	420	420	420	-	2,521	
35	Projected Revenues with int.	In 54 * 66	-	-	-	-	-	-	-	(545,696)	(1,443,598)	(851,498)	(748,958)	(989,979)	(1,764,690)	(2,459,088)	(8,804,479)	
36	Projected Unbilled Revenue	In 58 * 66	-	-	-	-	-	-	-	(1,498,971)	(1,115,016)	(1,011,887)	(983,817)	(901,116)	(1,002,181)	-	(6,512,988)	
37	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	1,498,971	1,115,016	1,011,887	983,817	901,116	1,002,181	-	6,512,988	
38	Add Net Adjustments	In 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
39	Gas Cost Billed	In 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
40	Gas Cost Unbilled		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
41	Reverse Prior Month Unbilled		-	-	-	-	-	-	-	7,881	7,082	8,014	9,125	9,683	9,751	-	51,536	
42	Add Interest	In 26	-	-	-	-	-	-	-	7,881	7,082	8,014	9,125	9,683	9,751	-	51,536	
43	(Over)/Under Balance		\$ 1,885,446	\$ 1,885,446	\$ 1,893,582	\$ 1,902,025	\$ 1,910,506	\$ 1,918,200	\$ 1,926,753	\$ 1,609,419	\$ 1,683,594	\$ 1,924,131	\$ 2,183,997	\$ 2,320,901	\$ 2,071,929	\$ 615,065	\$ 565,256	
44	Average Monthly Balance		\$ -	\$ 1,885,446	\$ 1,893,582	\$ 1,902,025	\$ 1,910,506	\$ 1,918,200	\$ 1,926,753	\$ 1,772,243	\$ 1,646,517	\$ 1,803,874	\$ 2,054,079	\$ 2,252,466	\$ 2,196,434	-	-	
45	Interest Applied	In 24 * In 46 /365 *Days/Mo.	\$ -	\$ 8,136	\$ 8,443	\$ 8,481	\$ 7,694	\$ 8,553	\$ 8,314	\$ 7,902	\$ 7,105	\$ 8,043	\$ 9,159	\$ 9,720	\$ 9,794	\$ -	\$ 101,344	
46	(Over)/Under Balance	In 43 + In 44 + In 48	\$ 1,885,446	\$ 1,893,582	\$ 1,902,025	\$ 1,910,506	\$ 1,918,200	\$ 1,926,753	\$ 1,935,067	\$ 1,609,440	\$ 1,683,617	\$ 1,924,160	\$ 2,184,031	\$ 2,320,938	\$ 2,071,972	\$ 615,065	\$ 615,065	
47	Forecast Sendout Therms	Sch 1								4,960,886	2,571,004	1,815,767	1,751,511	2,201,322	4,526,868		17,827,358	
48	Less Forecast Billing Therm Sales	Sch. 10B, In 23 May - Oct								1,299,823	3,438,776	2,028,346	1,786,464	2,358,217	4,203,645	5,857,761		20,973,031
49	Less Forecast Unaccounted For	Sch 1								87,326	45,257	31,963	30,832	38,750	79,686		313,813	
50	Less Forecast Company Use	Sch 1								3,059	1,585	1,120	1,080	1,357	2,791		10,993	
51	Unbilled Volumes									3,570,678	(914,614)	(245,661)	(66,865)	(197,002)	240,746	(5,857,761)	(3,470,479)	
52	Gross Unbilled									3,570,678	2,656,064	2,410,403	2,343,538	2,146,536	2,387,282		(3,470,479)	
53	Beg Balance									-	3,570,678	2,656,064	2,410,403	2,343,538	2,146,536	2,387,282		
54	Incremental									3,570,678	(914,614)	(245,661)	(66,865)	(197,002)	240,746	(5,857,761)		
55	Ending Balance									3,570,678	2,656,064	2,410,403	2,343,538	2,146,536	2,387,282			
56	COG w/o Interest	Sch. 3, pg. 4, In 211 col. (c)								\$ 0.4201	\$ 0.4201	\$ 0.4201	\$ 0.4201	\$ 0.4201	\$ 0.4201	\$ 0.4201		
57	COG With Interest	Sch. 3, pg. 4, In 211 col. (d)								\$ 0.4198	\$ 0.4198	\$ 0.4198	\$ 0.4198	\$ 0.4198	\$ 0.4198	\$ 0.4198		

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Days in Month	Prior Period Balance Plus Nov Collections October 31, 2019	Nov-19 30	Dec-19 31	Jan-20 31	Feb-20 28	Mar-20 31	Apr-20 30	May-20 31	Jun-20 30	Jul-20 31	Aug-20 31	Sep-20 30	Oct-20 31	Nov-20 30	Off Peak Period Total	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	
<b>Account 8840-2-0000-10-1163-1424 (formerly, 142.40) Working Capital (Over)/Under Balance - Interest Calculation</b>																
Beginning Balance	Account 1163-1424 1/	\$ (18,982)	\$ (18,982)	\$ (19,063)	\$ (19,148)	\$ (19,234)	\$ (19,311)	\$ (19,397)	\$ (19,481)	\$ (20,929)	\$ (21,232)	\$ (21,096)	\$ (20,913)	\$ (21,042)	\$ (22,284)	\$ (18,982)
Days Lag									0.0391	0.0391	0.0391	0.0391	0.0391	0.0391	0.0391	0.0391
Prime Rate									5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%
Forecast Working Capital	In 34 * In 80 / 365 * In 81								3,512	2,312	2,013	1,986	2,123	3,298		15,254
Projected Revenues w/o Int.	In 123 * In 126								(1,300)	(3,438)	(2,028)	(1,786)	(2,358)	(4,204)	(5,858)	(20,973)
Projected Unbilled Revenue	In 124 * In 126								(3,571)	(2,656)	(2,410)	(2,344)	(2,147)	(2,387)	(15,515)	(15,515)
Reverse Prior Month Unbilled										3,571	2,656	2,410	2,344	2,147	2,387	15,515
Add Net Adjustments																
Working Capital Billed	Account 1163-1424 2/															
Monthly (Over)/Under Recovery		\$ (18,982)	\$ (18,982)	\$ (19,063)	\$ (19,148)	\$ (19,234)	\$ (19,311)	\$ (19,397)	\$ (20,839)	\$ (21,141)	\$ (21,002)	\$ (20,820)	\$ (20,951)	\$ (22,188)	\$ (25,754)	\$ (24,701)
Average Monthly Balance	(In 78 + 92) / 2	\$ (18,982)	\$ (19,063)	\$ (19,148)	\$ (19,234)	\$ (19,311)	\$ (19,397)	\$ (20,160)	\$ (21,035)	\$ (21,117)	\$ (20,958)	\$ (20,932)	\$ (21,615)			
Interest Rate	Prime Rate		5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%			
Interest Applied	In 94 * In 96 / 365 * Days of Month	\$ (82)	\$ (85)	\$ (85)	\$ (77)	\$ (86)	\$ (84)	\$ (90)	\$ (91)	\$ (94)	\$ (93)	\$ (90)	\$ (96)			\$ (1,055)
(Over)/Under Balance	In 92 + In 98	\$ (18,982)	\$ (19,063)	\$ (19,148)	\$ (19,234)	\$ (19,311)	\$ (19,397)	\$ (19,481)	\$ (20,929)	\$ (21,232)	\$ (21,096)	\$ (20,913)	\$ (21,042)	\$ (22,284)	\$ (25,754)	\$ (25,755)
<b>Calculation of Working Capital with Interest</b>																
Beginning Balance		\$ (18,982)	\$ (18,982)	\$ (19,063)	\$ (19,148)	\$ (19,234)	\$ (19,311)	\$ (19,397)	\$ (19,481)	\$ (20,930)	\$ (21,233)	\$ (21,097)	\$ (20,914)	\$ (21,043)	\$ (22,286)	\$ (18,982)
Forecast Working Capital	In 82								3,512	2,312	2,013	1,986	2,123	3,298		15,254
Projected Rev. with Interest	In 123 * In 128								(1,300)	(3,438)	(2,028)	(1,786)	(2,358)	(4,204)	(5,858)	(20,973)
Projected Unbilled Revenue	In 124 * In 128								(3,571)	(2,656)	(2,410)	(2,344)	(2,147)	(2,387)	(15,515)	(15,515)
Reverse Prior Month Unbilled										3,571	2,656	2,410	2,344	2,147	2,387	15,515
Add Net Adjustments	In 88															
Working Capital Billed	In 90															
WC Unbilled																
Reverse WC Unbilled																
Add Interest	In 98								(90)	(91)	(94)	(93)	(90)	(96)		(555)
Monthly (Over)/Under Recovery		\$ (18,982)	\$ (18,982)	\$ (19,063)	\$ (19,148)	\$ (19,234)	\$ (19,311)	\$ (19,397)	\$ (20,929)	\$ (21,232)	\$ (21,097)	\$ (20,914)	\$ (21,043)	\$ (22,286)	\$ (25,756)	\$ (25,255)
Average Monthly Balance		\$ (18,982)	\$ (19,063)	\$ (19,148)	\$ (19,234)	\$ (19,311)	\$ (19,397)	\$ (20,205)	\$ (21,081)	\$ (21,165)	\$ (21,005)	\$ (20,979)	\$ (21,664)			
Interest Applied	In 96 * In 117 / 365 * Days of Month	(82)	(85)	(85)	(77)	(86)	(84)	(90)	(91)	(94)	(94)	(91)	(97)			\$ (1,056)
(Over)/Under Balance	-In 114 + In 115 + In 119	\$ (18,982)	\$ (19,063)	\$ (19,148)	\$ (19,234)	\$ (19,311)	\$ (19,397)	\$ (19,481)	\$ (20,930)	\$ (21,233)	\$ (21,097)	\$ (20,914)	\$ (21,043)	\$ (22,286)	\$ (25,756)	\$ (25,757)
Forecast Therm Sales Unbilled Therm	In 53 In 55								1,298,823	3,438,776	2,028,346	1,786,464	2,358,217	4,203,645	5,857,761	20,973,031
Working Cap. Rate w/out Int.	Sch. 3, pg. 4, In 228 col. (c)								3,570,678	2,656,064	2,410,403	2,343,538	2,146,536	2,387,282	(3,470,479)	
Working Capital Rate w/ Int.	Sch. 3, pg. 4, In 228 col. (d)								\$0.0010	\$0.0010	\$0.0010	\$0.0010	\$0.0010	\$0.0010	\$0.0010	\$0.0010



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		Prior Period Balance Plus Nov Collections October 31, 2019	Nov-19 30	Dec-19 31	Jan-20 31	Feb-20 28	Mar-20 31	Apr-20 30	May-20 31	Jun-20 30	Jul-20 31	Aug-20 31	Sep-20 30	Oct-20 31	Nov-20 30	Off Peak Period Total
(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	In 34 In 106 + (May includes prior period)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,710,687	\$ 1,126,295	\$ 980,450	\$ 972,180	\$ 1,034,044	\$ 1,606,576	\$ -	7,430,233
140	Forecast Working Capital	In 21 / 6	-	-	-	-	-	-	(15,470)	2,312	2,013	1,996	2,123	3,298	-	(3,727)
141	Prior Period Balance (with Refund)	In 21 / 6	-	-	-	-	-	-	314,241	314,241	314,241	314,241	314,241	314,241	-	1,885,446
142	Total Forecast Direct Gas Costs & Working Capital		-	-	-	-	-	-	2,009,458	1,442,848	1,296,704	1,288,417	1,350,408	1,924,115	-	7,426,505
143	Beginning Balance	Account 1163-1754 1/ Oct Collections & Unbilled	\$ (280,167)	\$ (280,167)	\$ (281,376)	\$ (282,631)	\$ (283,891)	\$ (285,034)	\$ (287,541)	\$ (344,570)	\$ (368,941)	\$ (384,747)	\$ (399,704)	\$ (421,061)	\$ (472,802)	\$ (280,167)
144	Forecast Bad Debt	In 142 * 0.0111	-	-	-	-	-	-	22,305	16,016	14,393	14,301	14,990	21,358	-	103,363
147	Projected Revenues w/o int	In 184 * In 187	-	-	-	-	-	-	(20,797)	(55,020)	(32,454)	(28,583)	(37,731)	(67,258)	(93,724)	(335,569)
149	Projected Unbilled Revenue	In 185 * In 187	-	-	-	-	-	-	(57,131)	(42,497)	(38,566)	(37,497)	(34,345)	(38,197)	-	(248,232)
150	Reverse Prior Month Unbilled		-	-	-	-	-	-	57,131	42,497	38,566	37,497	34,345	38,197	-	248,232
151	Bad Debt Billed	Account 1163-1754 2/	-	-	-	-	-	-	-	-	-	-	-	-	-	-
152	Add Net Adjustments		-	-	-	-	-	-	-	-	-	-	-	-	-	-
153	Monthly (Over)/Under Recovery		\$ (280,167)	\$ (280,167)	\$ (281,376)	\$ (282,631)	\$ (283,891)	\$ (285,034)	\$ (343,164)	\$ (368,941)	\$ (383,070)	\$ (397,959)	\$ (419,294)	\$ (470,814)	\$ (528,330)	\$ (512,373)
154	Average Monthly Balance	(In 144 + 155) / 2	\$ (280,167)	\$ (281,376)	\$ (282,631)	\$ (283,891)	\$ (285,034)	\$ (286,305)	\$ (315,352)	\$ (356,755)	\$ (376,006)	\$ (391,353)	\$ (409,499)	\$ (445,937)	\$ (500,566)	
155	Interest Rate	Prime Rate		5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%	5.25%		
156	Interest Applied	In 157 * In 159 / 365 * Days of Mo.	\$ (1,209)	\$ (1,255)	\$ (1,260)	\$ (1,143)	\$ (1,271)	\$ (1,235)	\$ (1,406)	\$ (1,539)	\$ (1,677)	\$ (1,745)	\$ (1,767)	\$ (1,988)		\$ (17,496)
157	(Over)/Under Balance	In 155 + In 161	\$ (280,167)	\$ (281,376)	\$ (282,631)	\$ (283,891)	\$ (285,034)	\$ (286,305)	\$ (344,570)	\$ (370,480)	\$ (384,747)	\$ (399,704)	\$ (421,061)	\$ (472,802)	\$ (500,566)	\$ (529,869)
164	166 Calculation of Bad Debt with Interest															
165	Beginning Balance		\$ (280,167)	\$ (280,167)	\$ (281,376)	\$ (282,631)	\$ (283,891)	\$ (285,034)	\$ (287,541)	\$ (344,570)	\$ (368,941)	\$ (384,747)	\$ (399,704)	\$ (421,061)	\$ (472,802)	\$ (280,167)
166	Forecast Bad Debt	In 146	-	-	-	-	-	-	22,305	16,016	14,393	14,301	14,990	21,358	-	103,363
167	Projected Revenues with Int.	In 184 * 189	-	-	-	-	-	-	(20,797)	(55,020)	(32,454)	(28,583)	(37,731)	(67,258)	(93,724)	(335,569)
168	Projected Unbilled Revenue	In 185 * 189	-	-	-	-	-	-	(57,131)	(42,497)	(38,566)	(37,497)	(34,345)	(38,197)	-	(248,232)
169	Reverse Prior Month Unbilled		-	-	-	-	-	-	57,131	42,497	38,566	37,497	34,345	38,197	-	248,232
170	Bad Debt Billed	In 152	-	-	-	-	-	-	(1,406)	(1,539)	(1,677)	(1,745)	(1,767)	(1,988)	-	(10,123)
171	Add Interest	In 161	-	-	-	-	-	-	-	-	-	-	-	-	-	-
172	Add Net Adjustments	In 153	-	-	-	-	-	-	-	-	-	-	-	-	-	-
173	Monthly (Over)/Under Recovery		\$ (280,167)	\$ (280,167)	\$ (281,376)	\$ (282,631)	\$ (283,891)	\$ (285,034)	\$ (344,570)	\$ (370,480)	\$ (386,283)	\$ (401,261)	\$ (422,629)	\$ (474,380)	\$ (529,919)	\$ (522,496)
174	Average Monthly Balance	(In 168 + 176) / 2	\$ (280,167)	\$ (281,376)	\$ (282,631)	\$ (283,891)	\$ (285,034)	\$ (286,305)	\$ (316,055)	\$ (357,528)	\$ (378,390)	\$ (393,782)	\$ (411,950)	\$ (448,510)	\$ (502,155)	
175	Interest Applied	In 159 * In 178 / 365 * Days of Month	\$ (1,209)	\$ (1,255)	\$ (1,260)	\$ (1,143)	\$ (1,271)	\$ (1,235)	\$ (1,409)	\$ (1,543)	\$ (1,687)	\$ (1,756)	\$ (1,778)	\$ (2,000)		\$ (17,546)
176	(Over)/Under Balance	In 174 + In 176 + In 180	\$ (280,167)	\$ (281,376)	\$ (282,631)	\$ (283,891)	\$ (285,034)	\$ (286,305)	\$ (344,573)	\$ (370,487)	\$ (386,304)	\$ (401,272)	\$ (422,639)	\$ (474,392)	\$ (529,919)	\$ (529,919)
177	Forecast Therm Sales	In 53							1,299,823	3,438,776	2,028,346	1,786,464	2,358,217	4,203,645	5,857,761	20,973,031
178	Unbilled Therm	In 55							3,570,678	2,656,064	2,410,403	2,343,538	2,146,536	2,387,282		
179	COG Rate Without Interest	Sch. 3, pg. 4, In 245 col. (c)							\$0.0160	\$0.0160	\$0.0160	\$0.0160	\$0.0160	\$0.0160	\$0.0160	
180	COG With Interest	Sch. 3, pg. 4, In 245 col. (d)							\$0.0160	\$0.0160	\$0.0160	\$0.0160	\$0.0160	\$0.0160	\$0.0160	
181	Total Interest	In 48 + 119 + 180	\$ 6,845	\$ 7,104	\$ 7,135	\$ 6,474	\$ 7,196	\$ 6,995	\$ 6,403	\$ 5,471	\$ 6,262	\$ 7,309	\$ 7,851	\$ 7,697	\$ -	\$ 82,742

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.

2

3 Off Peak 2020 Summer Cost of Gas Filing

4 Adjustments to Gas Costs

5

Schedule 4

Page 1 of 1

6 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-19	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10 Dec-19	-	-	-	-	-	-	-	-	-	-	-
11 Jan-20	-	-	-	-	-	-	-	-	-	-	-
12 Feb-20	-	-	-	-	-	-	-	-	-	-	-
13 Mar-20	-	-	-	-	-	-	-	-	-	-	-
14 Apr-20	-	-	-	-	-	-	-	-	-	-	-
15 May-20	-	-	-	-	-	-	-	-	-	-	-
16 Jun-20	-	-	-	-	-	-	-	-	-	-	-
17 Jul-20	-	-	-	-	-	-	-	-	-	-	-
18 Aug-20	-	-	-	-	-	-	-	-	-	-	-
19 Sep-20	-	-	-	-	-	-	-	-	-	-	-
20 Oct-20	-	-	-	-	-	-	-	-	-	-	-
21											
22 Total Off Peak Period	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.

2

3 Off Peak 2020 Summer Cost of Gas Filing

4 Demand Costs

5

6

7

8

9

10

11 Supply

12 Niagara Supply

13 Subtotal Supply Demand & Reservation Charges

14

15 Pipeline

16 Iroquois Gas Trans Service RTS 470-0

17 Tenn Gas Pipeline 95346 Z5-Z6

18 Tenn Gas Pipeline 2302 Z5-Z6

19 Tenn Gas Pipeline 8587 Z0-Z6

20 Tenn Gas Pipeline 8587 Z1-Z6

21 Tenn Gas Pipeline 8587 Z4-Z6

22 Tenn Gas Pipeline (Dracut) 42076 Z6-Z6

23 Tenn Gas Pipeline (Concord Lateral) Z6-Z6

24 Portland Natural Gas Trans Service

25 Portland Natural Gas

26 ANE (TransCanada via Union to Iroquois)

27 TransCanada via Union to Portland

28 Tenn Gas Pipeline Z4-Z6 stg 632

29 Tenn Gas Pipeline Z4-Z6 stg 11234

30 Tenn Gas Pipeline Z5-Z6 stg 11234

31 National Fuel FST 2358

32

33 Subtotal Pipeline Demand Charges

34

35 Peaking Supply

36 Tenn Gas Pipeline (Concord Lateral) Z6-Z6

37 Granite Ridge Demand

38 DOMAC Demand NSB041

39 Subtotal Peaking Demand Charges

40

41 Subtotal Supply, Pipeline & Peaking

42

43 Less Transportation Capacity Credit

44

45 Total Supply, Pipeline & Peaking Demand

Peak  
(b)

Reference  
(c)

May-20  
(d)

Jun-20  
(e)

Jul-20  
(f)

Aug-20  
(g)

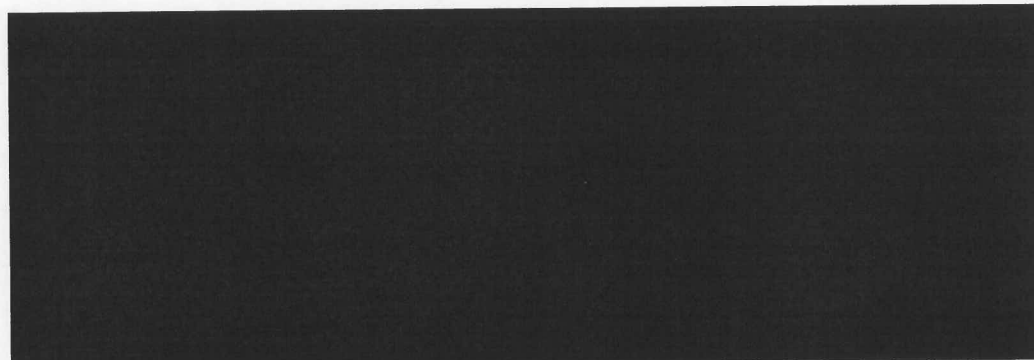
Sep-20  
(h)

Oct-20  
(i)

Off Peak  
May - Oct  
Total  
(j)

Peak  
May - Oct  
Total  
(k)

\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-



\$	1,489,939	\$	1,495,302	\$	1,495,302	\$	1,495,302	\$	1,495,302	\$	1,495,302	\$	1,495,302	\$	7,680,422	\$	1,286,027
----	-----------	----	-----------	----	-----------	----	-----------	----	-----------	----	-----------	----	-----------	----	-----------	----	-----------

\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-

\$	1,489,939	\$	1,495,302	\$	1,495,302	\$	1,495,302	\$	1,495,302	\$	1,495,302	\$	1,495,302	\$	7,680,422	\$	1,286,027
----	-----------	----	-----------	----	-----------	----	-----------	----	-----------	----	-----------	----	-----------	----	-----------	----	-----------

\$	(607,597)	\$	(609,784)	\$	(609,784)	\$	(609,784)	\$	(609,784)	\$	(609,784)	\$	(609,784)	\$	(3,132,076)	\$	(524,442)
----	-----------	----	-----------	----	-----------	----	-----------	----	-----------	----	-----------	----	-----------	----	-------------	----	-----------

\$	882,342	\$	885,518	\$	885,518	\$	885,518	\$	885,518	\$	885,518	\$	885,518	\$	4,548,346	\$	761,585
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REDACTED

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.

2

3 Off Peak 2020 Summer Cost of Gas Filing

Schedule 5A

4 Demand Costs

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46

Schedule 5A

47 Storage

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48	Dominion - Demand	peak	Sch 5B, ln 35 * Sch 5C ln 61 x days	\$ 1,744	\$ 1,744	\$ 1,744	\$ 1,744	\$ 1,744	\$ 1,744	\$ -	\$ 10,464
49	Dominion - Storage	peak	Sch 5B, ln 36 * Sch 5C ln 62 x days	1,489	1,489	1,489	1,489	1,489	1,489	-	8,935
50	Honeoye - Demand	peak	Sch 5B, ln 37 * Sch 5C ln 65 x days	8,351	8,351	8,351	8,351	8,351	8,351	-	50,105
51	National Fuel - Demand	peak	Sch 5B, ln 39 * Sch 5C ln 67 x days	15,229	15,229	15,229	15,229	15,229	15,229	-	91,371
52	National Fuel - Capacity	peak	Sch 5B, ln 40 * Sch 5C ln 68 x days	25,625	25,625	25,625	25,625	25,625	25,625	-	153,747
53	Tenn Gas Pipeline - Demand	peak	Sch 5B, ln 41 * Sch 5C ln 71 x days	31,958	31,958	31,958	31,958	31,958	31,958	-	191,747
54	Tenn Gas Pipeline - Capacity	peak	Sch 5B, ln 42 * Sch 5C ln 72 x days	31,208	31,208	31,208	31,208	31,208	31,208	-	187,247
55											
56	<b>Subtotal Storage Demand Costs</b>			\$ 115,603	\$ 115,603	\$ 115,603	\$ 115,603	\$ 115,603	\$ 115,603	\$ -	\$ 693,617
57											
58	Less Transportation Capacity Credit			\$ (47,143)	\$ (47,143)	\$ (47,143)	\$ (47,143)	\$ (47,143)	\$ (47,143)	\$ -	\$ (282,857)
59											
60	<b>Total Storage Demand Costs</b>		In 56 + ln 58	\$ 68,460	\$ 68,460	\$ 68,460	\$ 68,460	\$ 68,460	\$ 68,460	\$ -	\$ 410,760
61											
62	<b>Total Demand Charges</b>		In 41 + ln 56	\$ 1,605,542	\$ 1,610,905	\$ 1,610,905	\$ 1,610,905	\$ 1,610,905	\$ 1,610,905	\$ 7,680,422	\$ 1,979,644
63											
64	Total Transportation Capacity Credit		In 43 + ln 58	\$ (654,740)	\$ (656,927)	\$ (656,927)	\$ (656,927)	\$ (656,927)	\$ (656,927)	\$ (3,132,076)	\$ (807,299)
65											
66	<b>Total Demand Charges less Cap. Cr.</b>		In 62 + ln 64	\$ 950,802	\$ 953,978	\$ 953,978	\$ 953,978	\$ 953,978	\$ 953,978	\$ 4,548,346	\$ 1,172,345
67											
68											
69	Monthly Off Peak Demand			\$ 1,203,846	\$ 1,209,209	\$ 1,209,209	\$ 1,209,209	\$ 1,209,209	\$ 1,209,209	\$ 7,249,891	\$ -
70	Monthly Off Peak Transportation Cap Credit			(490,929)	(493,115)	(493,115)	(493,115)	(493,115)	(493,115)	(2,956,506)	-
71	<b>Total Off Peak Demand</b>			\$ 712,918	\$ 716,094	\$ 716,094	\$ 716,094	\$ 716,094	\$ 716,094	\$ 4,293,386	\$ -
72											
73	Monthly Peak Demand			\$ 329,941	\$ 329,941	\$ 329,941	\$ 329,941	\$ 329,941	\$ 329,941	\$ -	\$ 1,979,644
74	Monthly Peak Transportation Cap Credit			(134,550)	(134,550)	(134,550)	(134,550)	(134,550)	(134,550)	-	(807,299)
75	<b>Total Peak Demand</b>			\$ 195,391	\$ 195,391	\$ 195,391	\$ 195,391	\$ 195,391	\$ 195,391	\$ -	\$ 1,172,345



1 Liberty Utilities (EnergyNorth Natural Gas) Corp.

2 d/b/a Liberty Utilities

3 Off Peak 2020 Summer Cost of Gas Filing

4 Demand Rates

Schedule 5C

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5				May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21
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	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11 Pipeline																
12	Iroquois Gas	RTS 470-01	\$ 5.4177 Forth Revised Sheet No. 4	\$ 0.1748	\$ 0.1806	\$ 0.1748	\$ 0.1748	\$ 0.1806	\$ 0.1748	\$ 0.1767	\$ 0.1806	\$ 0.1748	\$ 0.1748	\$ 0.1935	\$ 0.1748	\$ 0.1806
14	Tenn Gas Pipeline	95346 Z5-Z6	\$ 7.0050 13th 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
16	Tenn Gas Pipeline	2302 Z5-Z6	\$ 7.0050 13th Rev Sheet No. 14	\$ 0.2260	\$ 0.2335	\$ 0.2260	\$ 0.2260	\$ 0.2335	\$ 0.2260	\$ 0.2285	\$ 0.2335	\$ 0.2260	\$ 0.2260	\$ 0.2502	\$ 0.2260	\$ 0.2335
18	Tenn Gas Pipeline	8587 Z0-Z6	\$ 22.7344 FT-A (Z0 - Z6)	\$ 0.7334	\$ 0.7578	\$ 0.7334	\$ 0.7334	\$ 0.7578	\$ 0.7334	\$ 0.7415	\$ 0.7578	\$ 0.7334	\$ 0.7334	\$ 0.8119	\$ 0.7334	\$ 0.7578
20	Tenn Gas Pipeline	8587 Z1-Z6	\$ 20.1801 FT-A (Z1 - Z6)	\$ 0.6510	\$ 0.6727	\$ 0.6510	\$ 0.6510	\$ 0.6727	\$ 0.6510	\$ 0.6582	\$ 0.6727	\$ 0.6510	\$ 0.6510	\$ 0.7207	\$ 0.6510	\$ 0.6727
22	Tenn Gas Pipeline	8587 Z4-Z6	\$ 7.9757 FT-A (Z4 - Z6)	\$ 0.2573	\$ 0.2659	\$ 0.2573	\$ 0.2573	\$ 0.2659	\$ 0.2573	\$ 0.2601	\$ 0.2659	\$ 0.2573	\$ 0.2573	\$ 0.2848	\$ 0.2573	\$ 0.2659
24	TGP Dracut	42076 FTA Z6-Z	\$ 4.6431 13th Rev Sheet No. 14	\$ 0.1498	\$ 0.1548	\$ 0.1498	\$ 0.1498	\$ 0.1548	\$ 0.1498	\$ 0.1514	\$ 0.1548	\$ 0.1498	\$ 0.1498	\$ 0.1658	\$ 0.1498	\$ 0.1548
26	TGP Concord Lateral	Firm Transporta	\$ 12.1868 Per contract	\$ 0.3931	\$ 0.4062	\$ 0.3931	\$ 0.3931	\$ 0.4062	\$ 0.3931	\$ 0.3975	\$ 0.4062	\$ 0.3931	\$ 0.3931	\$ 0.4352	\$ 0.3931	\$ 0.4062
28	Portland Natural Gas	FT-1999-001	\$ 18.2633 Dmd is Nego/CMDY=Part 4.1 V	\$ 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
30	Portland Natural Gas	FTN	\$ 22.8125 Dmd is Nego/CMDY=Part 4.1 V	\$ 0.7359	\$ 0.7604	\$ 0.7359	\$ 0.7359	\$ 0.7604	\$ 0.7359	\$ 0.7441	\$ 0.7604	\$ 0.7359	\$ 0.7359	\$ 0.8147	\$ 0.7359	\$ 0.7604
32	Tenn Gas Pipeline	632 Z4-Z6 (stg)	\$ 7.9757 13th Rev Sheet No. 14	\$ 0.2573	\$ 0.2659	\$ 0.2573	\$ 0.2573	\$ 0.2659	\$ 0.2573	\$ 0.2601	\$ 0.2659	\$ 0.2573	\$ 0.2573	\$ 0.2848	\$ 0.2573	\$ 0.2659
34	Tenn Gas Pipeline	11234 Z4-Z6(stg)	\$ 7.9757 13th Rev Sheet No. 14	\$ 0.2573	\$ 0.2659	\$ 0.2573	\$ 0.2573	\$ 0.2659	\$ 0.2573	\$ 0.2601	\$ 0.2659	\$ 0.2573	\$ 0.2573	\$ 0.2848	\$ 0.2573	\$ 0.2659
36	Tenn Gas Pipeline	11234 Z5-Z6(stg)	\$ 7.0050 13th Rev Sheet No. 14	\$ 0.2260	\$ 0.2335	\$ 0.2260	\$ 0.2260	\$ 0.2335	\$ 0.2260	\$ 0.2285	\$ 0.2335	\$ 0.2260	\$ 0.2260	\$ 0.2502	\$ 0.2260	\$ 0.2335
38	National Fuel	FST N02358	\$ 3.6727 4.010 Version 24.0.1 Pg 1	\$ 0.1185	\$ 0.1224	\$ 0.1185	\$ 0.1185	\$ 0.1224	\$ 0.1185	\$ 0.1198	\$ 0.1224	\$ 0.1185	\$ 0.1185	\$ 0.1312	\$ 0.1185	\$ 0.1224
40	ANE Union Gas		\$ 3.7160													
41	TransCanada Pipelines Limited		\$ 9.5229 Union Parkway to Iroquois													
42	Delivery Pressure Demand Charge		\$ 0.6704 Union Parkway to Iroquois													
43	Sub Total Demand Charges		\$ 13.9092													
44	Conversion rate GJ to MMBTU		\$ 1.0551													
45	Conversion rate to US\$		\$ 1.3329 updated 7/10/19													
46	Demand Rate/US\$		\$ 11.0099	\$ 0.3552	\$ 0.3670	\$ 0.3552	\$ 0.3552	\$ 0.3670	\$ 0.3552	\$ 0.3591	\$ 0.3670	\$ 0.3552	\$ 0.3552	\$ 0.3932	\$ 0.3552	\$ 0.3670
48	ANE Union Gas		\$ 3.7160													
49	TransCanada Pipelines Limited		\$ 16.0673													
50	Delivery Pressure Demand Charge		\$ 0.6704													
51	Sub Total Demand Charges		\$ 20.4537													
52	Conversion rate GJ to MMBTU		\$ 1.0551													
53	Conversion rate to US\$		\$ 1.3329 updated 7/10/19													
54	Demand Rate/US\$		\$ 16.1902	\$ 0.5223	\$ 0.5397	\$ 0.5223	\$ 0.5223	\$ 0.5397	\$ 0.5223	\$ 0.5281	\$ 0.5397	\$ 0.5223	\$ 0.5223	\$ 0.5782	\$ 0.5223	\$ 0.5397
56 Peaking																
57	Granite Ridge Demand		\$ - Per Contract	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
58	DOMAC Demand NSB041		\$ - Per Contract	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
60 Storage																
61	Dominion - Demand	GSS 300076	\$ 1.8673 GSS Settled,Tariff Rec #10.30 v	\$ 0.0602	\$ 0.0622	\$ 0.0602	\$ 0.0602	\$ 0.0622	\$ 0.0602	\$ 0.0610	\$ 0.0622	\$ 0.0602	\$ 0.0602	\$ 0.0667	\$ 0.0602	\$ 0.0622
62	Dominion - Capacity	GSS 300076	\$ 0.0145 GSS Settled,Tariff Rec #10.30 v	\$ 0.0005	\$ 0.0005	\$ 0.0005	\$ 0.0005	\$ 0.0005	\$ 0.0005	\$ 0.0005	\$ 0.0005	\$ 0.0005	\$ 0.0005	\$ 0.0005	\$ 0.0005	\$ 0.0005
63			\$ 1.8818	\$ 0.0607	\$ 0.0627	\$ 0.0607	\$ 0.0607	\$ 0.0627	\$ 0.0607	\$ 0.0615	\$ 0.0627	\$ 0.0607	\$ 0.0607	\$ 0.0672	\$ 0.0607	\$ 0.0627
65	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
67	National Fuel - Demand	FSS-1 2357	\$ 2.4973 4.020 Version 19.0.0 Pg 1	\$ 0.0806	\$ 0.0832	\$ 0.0806	\$ 0.0806	\$ 0.0832	\$ 0.0806	\$ 0.0816	\$ 0.0832	\$ 0.0806	\$ 0.0806	\$ 0.0892	\$ 0.0806	\$ 0.0832
68	National Fuel - Capacity	FSS-1 2357	\$ 0.0382 4.020 Version 19.0.0 Pg 1	\$ 0.0012	\$ 0.0013	\$ 0.0012	\$ 0.0012	\$ 0.0013	\$ 0.0012	\$ 0.0012	\$ 0.0013	\$ 0.0012	\$ 0.0012	\$ 0.0014	\$ 0.0012	\$ 0.0013
69			\$ 2.5355	\$ 0.0818	\$ 0.0845	\$ 0.0818	\$ 0.0818	\$ 0.0845	\$ 0.0818	\$ 0.0829	\$ 0.0845	\$ 0.0818	\$ 0.0818	\$ 0.0906	\$ 0.0818	\$ 0.0845
71	Tenn Gas Pipeline	FS-MA 523	\$ 1.4630 16th Rev Sheet No.61	\$ 0.0472	\$ 0.0488	\$ 0.0472	\$ 0.0472	\$ 0.0488	\$ 0.0472	\$ 0.0478	\$ 0.0488	\$ 0.0472	\$ 0.0472	\$ 0.0523	\$ 0.0472	\$ 0.0488



1 Liberty Utilities (EnergyNorth Natural Gas) Corp.  
 2  
 3 Off Peak 2020 Summer Cost of Gas Filing  
 4 Supply and Commodity Costs, Volumes and Rates

REDACTED  
 Schedule 6  
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5										
6	For Month of:	Reference	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Off-Peak	
7	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	May - Oct	(i)
8										
9	<b>Supply and Commodity Costs</b>									
10	<b>11 Pipeline Gas:</b>									
12	Dawn Supply	In 63 * In 104								
13	Niagara Supply	In 64 * In 109								
14	TGP Supply (Gulf)	In 65 * In 125								
15	Dracut Supply 1 - Baseload	In 66 * In 114								
16	Dracut Supply 2 - Swing	In 67 * In 119								
17	City Gate Delivered Supply	In 68 * In 131								
18	LNG Truck	In 69 * In 133								
19	Propane Truck	In 70 * In 135								
20	PNGTS	In 71 * In 140								
21	Portland Natural Gas									
22	TGP Supply (Zone 4)	In 73 * In 150								
23										
24	Subtotal Pipeline Gas Costs		\$ 1,438,268	\$ 1,171,270	\$ 974,777	\$ 905,522	\$ 876,009	\$ 1,167,449	\$ 6,530,329	
25										
26	<b>Volumetric Transportation Costs</b>									
27	Dawn Supply	In 63 * In 197								
28	Niagara Supply	In 64 * In 208								
29	TGP Supply (Zone 4)	In 73 * In 246								
30	Dracut Supply 1 - Baseload	In 66 * In 257								
31	Dracut Supply 2 - Swing	In 67 * In 257								
32	City Gate Delivered Supply	In 68 * In 257								
33	TGP Storage - Withdrawals	In 78 * In 172								
34										
35	Total Volumetric Transportation Costs		\$ 79,904	\$ 68,780	\$ 58,174	\$ 54,861	\$ 54,419	\$ 66,857	\$ 382,995	
36										
37	<b>Less - Gas Refill:</b>									
38	LNG Truck	In 87 * In 157								
39	Propane	In 88 * In 158								
40	TGP Storage Refill	In 89 * In 123								
41	Storage Refill (Trans.)	In 89 * In 236								
42										
43	Subtotal Refills		\$ (527,780)	\$ (834,166)	\$ (771,840)	\$ (707,107)	\$ (615,075)	\$ (346,157)	\$ (3,802,125)	
44										
45	Total Supply & Pipeline Commodity Costs In 24 + In 35 + In 43		\$ 990,392	\$ 405,884	\$ 261,111	\$ 253,275	\$ 315,353	\$ 888,149	\$ 3,114,165	
46										
47	<b>Storage Gas:</b>									
48	TGP Storage - Withdrawals	In 78 * In 164	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
49										
50	<b>Produced Gas:</b>									
51	LNG Vapor	In 81 * In 152								
52	Propane	In 82 * In 154								
53										
54	Total Produced Gas	In 51 + In 52	\$ 7,377	\$ 4,318	\$ 3,245	\$ 2,811	\$ 2,598	\$ 2,333	\$ 22,682	
55										
56										
57	Total Commodity Gas & Trans. Costs	In 45 + In 48 + In 54	\$ 997,769	\$ 410,202	\$ 264,357	\$ 256,086	\$ 317,951	\$ 890,482	\$ 3,136,847	

REDACTED

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.

2

3 Off Peak 2020 Summer Cost of Gas Filing

4 Supply and Commodity Costs, Volumes and Rates

59

Schedule 6

60 Volumes (Therms)

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61

62 Pipeline Gas:

See Schedule 11A

63	Dawn Supply	667,277	310,612	-	-	10,229	265,425	1,253,543
64	Niagara Supply	640,798	521,582	283,949	-	421,954	567,177	2,435,460
65	TGP Supply (Gulf)	-	-	-	-	-	-	-
66	Dracut Supply 1 - Baseload	-	-	-	-	-	-	-
67	Dracut Supply 2 - Swing	89,367	-	-	-	-	57,421	146,788
68	City Gate Delivered Supply	-	-	-	-	-	-	-
69	LNG Truck	47,001	17,837	15,625	-	29,665	13,476	123,604
70	Propane Truck	76,128	70,733	61,962	61,447	58,818	67,382	396,470
71	PNGTS	203,228	182,677	145,477	153,351	150,369	179,879	1,014,981
72	Portland Natural Gas	167,481	-	-	-	-	120,701	288,182
73	TGP Supply (Zone 4)	5,168,086	4,640,724	4,192,967	4,158,635	3,859,985	4,576,086	26,596,484
74								
75	Subtotal Pipeline Volumes	7,059,366	5,744,165	4,699,981	4,373,433	4,531,019	5,847,547	32,255,511
76								
77	Storage Gas:							
78	TGP Storage	-	-	-	-	-	-	-
79								
80	Produced Gas:							
81	LNG Vapor	19,197	17,837	15,625	15,495	14,321	16,992	99,468
82	Propane	-	-	-	-	-	-	-
83								
84	Subtotal Produced Gas	19,197	17,837	15,625	15,495	14,321	16,992	99,468
85								
86	Less - Gas Refill:							
87	LNG Truck	(47,001)	(17,837)	(15,625)	-	(29,665)	(13,476)	(123,604)
88	Propane	(76,128)	(70,733)	(61,962)	(61,447)	(58,818)	(67,382)	(396,470)
89	TGP Storage Refill	(1,994,549)	(3,102,427)	(2,822,252)	(2,575,971)	(2,255,536)	(1,256,812)	(14,007,547)
90								
91	Subtotal Refills	(2,117,677)	(3,190,998)	(2,899,839)	(2,637,418)	(2,344,019)	(1,337,670)	(14,527,622)
92								
93	Total Sendout Volumes	4,960,886	2,571,004	1,815,767	1,751,511	2,201,322	4,526,868	17,827,358
94								
95								
96								

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.  
 2  
 3 Off Peak 2020 Summer Cost of Gas Filing  
 4 Supply and Commodity Costs, Volumes and Rates

REDACTED  
 Schedule 6  
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		Average Rate							
97									
98	Gas Costs and Volumetric Transportation Rates								
99									
100	Pipeline Gas:								
101	Dawn Supply								
102	NYMEX Price	Sch 7, In 10/10							
103	Basis Differential								
104	Net Commodity Costs								
105									
106	Niagara Supply								
107	NYMEX Price	Sch 7, In 10/10							
108	Basis Differential								
109	Net Commodity Costs								
110									
111	Dracut Supply 1 - Baseload								
112	Commodity Costs - NYMEX Price	Sch 7, In 10 / 10							
113	Basis Differential								
114	Net Commodity Costs								
115									
116	Dracut Supply 2 - Swing								
117	Commodity Costs - NYMEX Price	Sch 7, In 10 / 10							
118	Basis Differential								
119	Net Commodity Costs								
120									
121									
122	TGP Supply (Gulf)								
123	NYMEX Price	Sch 7, In 10/10							
124	Basis Differential								
125	Net Commodity Costs								
126									
127									
128	TGP Citygate Supply								
129	NYMEX Price	Sch 7, In 10/10							
130	Basis Differential								
131	Net Commodity Costs								
132									
133	LNG Truck	Sch 7, In 10/10	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000		
134									
135	Propane Truck	NYMEX - Propane	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000		
136									
137	PNGTS								
138	NYMEX Price	Sch 7, In 10/10							
139	Additional Cost								
140	Net Commodity Cost								
141									
142	PNGTS EXP								
143	NYMEX Price	Sch 7, In 10/10							
144	Basis Differential								
145	Net Commodity Cost								
146									
147	TGP Supply (Zone 4)								
148	NYMEX Price	Sch 7, In 10/10							
149	Basis Differential								
150	Net Commodity Cost								
151									
152	LNG Vapor (Storage)	Sch 13, In 97 /10	\$0.3842	\$0.2421	\$0.2077	\$0.1814	\$0.1814	\$0.1373	\$0.2224
153									
154	Propane	Sch 13, In 67 /10	\$1.2013	\$1.0613	\$0.9577	\$0.8822	\$0.8182	\$0.7651	\$0.9476
155									
156	Storage Refill:								
157	LNG Truck	In 133	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000
158	Propane	In 135	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000
159									

REDACTED

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.  
 2  
 3 Off Peak 2020 Summer Cost of Gas Filing  
 4 Supply and Commodity Costs, Volumes and Rates

REDACTED  
 Schedule 6  
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							Average Rate	
177	Per Unit Volumetric Transportation Rates							
178	Dawn Supply Volumetric Transportation Charge						\$0.2197	
179	Commodity Costs	In 104	\$0.2170	\$0.2163	\$0.2207	\$0.2217	\$0.2200	\$0.2224
180								
181	TransCanada - Commodity Rate/GJ	Union Parkway to Iroquois	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000
182	Conversion Rate GL to MMBTU		1.0551	1.0551	1.0551	1.0551	1.0551	1.0551
183	Conversion Rate to US\$	updated 7/10/19	1.3329	1.3329	1.3329	1.3329	1.3329	1.3329
184	Commodity Rate/US\$	In 181 x In 182 x In 183	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000
185	TransCanada Fuel %	Union Parkway to Iroquois	1.46%	1.64%	0.00%	0.00%	0.00%	0.52%
186	TransCanada Fuel * Percentage	In 179 x In 185	\$0.00316	\$0.00355	\$0.00000	\$0.00000	\$0.00000	\$0.00112
187	Subtotal TransCanada		\$0.00316	\$0.00355	\$0.00000	\$0.00000	\$0.00000	\$0.00112
188	IGTS - Z1 RTS Commodity	Forth Revised Sheet No. 4	\$0.00034	\$0.00034	\$0.00034	\$0.00034	\$0.00034	\$0.00034
189	IGTS - Z1 RTS ACA Rate Commodity	Forth Revised Sheet No. 4	\$0.00013	\$0.00013	\$0.00013	\$0.00013	\$0.00013	\$0.00013
190	IGTS - Z1 RTS Deferred Asset Surcharge	Forth Revised Sheet No. 4	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000	\$0.00000
191	Subtotal IGTS - Trans Charge - Z1 RTS Commodity		\$0.00047	\$0.00047	\$0.00047	\$0.00047	\$0.00047	\$0.00047
192	TGP NET-NE - Comm. Segments 3 & 4	15th Rev Sheet No. 15	\$0.00013	\$0.00013	\$0.00013	\$0.00013	\$0.00013	\$0.00013
193	IGTS -Fuel Use Factor - Percentage	Forth Revised Sheet No. 4	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
194	IGTS -Fuel Use Factor - Fuel * Percentage	In 179 x In 193	\$0.00217	\$0.00216	\$0.00221	\$0.00222	\$0.00220	\$0.00222
195	TGP FTA Fuel Charge % Z 5-6	Sub 15th Rev Sheet No. 32	0.95%	0.95%	0.95%	0.95%	0.95%	0.95%
196	TGP FTA Fuel * Percentage	In 179 x In 195	\$0.00206	\$0.00206	\$0.00210	\$0.00211	\$0.00209	\$0.00209
197	Total Volumetric Transportation Charge - Dawn Supply		\$0.00799	\$0.00837	\$0.00490	\$0.00492	\$0.00489	\$0.00494
198								
199								
200	Niagara Supply Volumetric Transportation Charge							
201	Commodity Costs	Ln 109						
202								
203	TGP FTA - FTA Z 5-6 Comm. Rate	15th Rev Sheet No. 15						
204	TGP FTA - FTA Z 5-6 - ACA Rate	15th Rev Sheet No. 15						
205	Subtotal TGP FTA - FTA Z 5-6 Commodity Rate							
206	TGP FTA Fuel Charge % Z 5-6	Sub 15th Rev Sheet No. 32						
207	TGP FTA Fuel * Percentage	In 201 x In 206						
208	Total Volumetric Transportation Rate - Niagara Supply							
209								
210								
211								

REDACTED

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.  
 2  
 3 Off Peak 2020 Summer Cost of Gas Filing  
 4 Supply and Commodity Costs, Volumes and Rates

REDACTED  
 Schedule 6  
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 Average Rate

		REDACTED						
		Schedule 6						
		Page 5 of 5						
		Average Rate						
212								
213								
214								
215	TGP Direct Volumetric Transportation Charge							
216	Commodity Costs Ln 123							
217								
218	TGP - Max Comm. Base Rate - Z 0-6 15th Rev Sheet No. 15	\$0.02974	\$0.02974	\$0.02974	\$0.02974	\$0.02974	\$0.02974	\$0.02974
219	TGP - Max Commodity ACA Rate - Z 0-6 15th Rev Sheet No. 15	\$0.00013	\$0.00013	\$0.00013	\$0.00013	\$0.00013	\$0.00013	\$0.00013
220	Subtotal TGP - Max Comm. Rate Z 0-6	\$0.02987	\$0.02987	\$0.02987	\$0.02987	\$0.02987	\$0.02987	\$0.02987
221	Prorated Percentage	32.60%	32.60%	32.60%	32.60%	32.60%	32.60%	32.60%
222	Prorated TGP - Max Commodity Rate - Z 0-6	\$0.00974	\$0.00974	\$0.00974	\$0.00974	\$0.00974	\$0.00974	\$0.00974
223	TGP - Max Comm. Base Rate - Z 1-6 15th Rev Sheet No. 15	\$0.02593	\$0.02593	\$0.02593	\$0.02593	\$0.02593	\$0.02593	\$0.02593
224	TGP - Max Commodity ACA Rate - Z 1-6 15th Rev Sheet No. 15	\$0.00013	\$0.00013	\$0.00013	\$0.00013	\$0.00013	\$0.00013	\$0.00013
225	Subtotal TGP - Max Commodity Rate - Z 1-6	\$0.02606	\$0.02606	\$0.02606	\$0.02606	\$0.02606	\$0.02606	\$0.02606
226	Prorated Percentage	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
227	Prorated TGP - Trans Charge - Max Commodity Rate - Z 1-6	\$0.01756	\$0.01756	\$0.01756	\$0.01756	\$0.01756	\$0.01756	\$0.01756
228	TGP - Fuel Charge % - Z 0-6 Sub 15th Rev Sheet No. 32	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%	5.18%
229	Prorated Percentage	32.6%	32.6%	32.6%	32.6%	32.6%	32.6%	32.6%
230	Prorated TGP Fuel Charge % - Z 0-6	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%	1.69%
231	TGP - Fuel Charge % - Z 1-6 Sub 15th Rev Sheet No. 32	4.51%	4.51%	4.51%	4.51%	4.51%	4.51%	4.51%
232	Prorated Percentage	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%	67.40%
233	Prorated TGP Fuel Charge - Fuel Charge % - Z 1-6	3.04%	3.04%	3.04%	3.04%	3.04%	3.04%	3.04%
234	TGP - Fuel Charge % - Z 0-6 In 216 x In 230	\$0.00367	\$0.00373	\$0.00380	\$0.00380	\$0.00376	\$0.00380	\$0.00376
235	TGP - Fuel Charge % - Z 1-6 In 216 x In 233	\$0.00660	\$0.00671	\$0.00684	\$0.00684	\$0.00677	\$0.00683	\$0.00677
236	Total Volumetric Transportation Rate - TGP (Direct)	\$0.03757	\$0.03774	\$0.03794	\$0.03795	\$0.03783	\$0.03793	\$0.03783
237								
238	TGP (Zone 4 Purchase) Volumetric Transportation Charge							
239	Commodity Costs Ln 123							
240								
241	TGP - Max Comm. Base Rate - Z 4-6 15th Rev Sheet No. 15	\$0.01025	\$0.01025	\$0.01025	\$0.01025	\$0.01025	\$0.01025	\$0.01025
242	TGP - Max Commodity ACA Rate - Z 4-6 15th Rev Sheet No. 15	\$0.00013	\$0.00013	\$0.00013	\$0.00013	\$0.00013	\$0.00013	\$0.00013
243	Subtotal TGP - Max Commodity Rate - Z 4-6	\$0.01038	\$0.01038	\$0.01038	\$0.01038	\$0.01038	\$0.01038	\$0.01038
244	TGP - Fuel Charge % - Z 4-6 Sub 15th Rev Sheet No. 32	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%	1.35%
245	TGP - Fuel Charge In 239 x In 244	\$0.00276	\$0.00277	\$0.00282	\$0.00281	\$0.00262	\$0.00267	\$0.00274
246	Total Vol. Trans. Rate - TGP (Zone 6)	\$0.01314	\$0.01315	\$0.01320	\$0.01319	\$0.01300	\$0.01305	\$0.01312
247								
248								
249	TGP Dracut							
250	Commodity Costs - NYMEX Price Ln 114							
251								
252	TGP - Trans Charge - Comm. - Z 6-6 15th Rev Sheet No. 15							
253	TGP - Trans Charge - ACA Rate - Z6-6 15th Rev Sheet No. 15							
254	Subtotal TGP - Trans Charge - Max Commodity Rate - Z 6-6							
255	TGP - Fuel Charge % - Z 6-6 Sub 15th Rev Sheet No. 32							
256	TGP - Fuel Charge In 250 x In 255							
257	Total Volumetric Transportation Rate - TGP Dracut							
258								
259								

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.

2

3 Off Peak 2020 Summer Cost of Gas Filing

4 NYMEX Futures @ Henry Hub

May - Oct  
Off Peak

5

6 For Month of:

Reference

May-20

Jun-20

Jul-20

Aug-20

Sep-20

Oct-20

Strip Average

7

(a)

(b)

(c)

(d)

(e)

(f)

(g)

(h)

(i)

8 I. NYMEX Opening Prices as of:

9

Opening Prices (15 day average)

Line 206

\$2.2704

\$2.3113

\$2.3554

\$2.3655

\$2.3487

\$2.3749

\$ 2.3377

10

\$2.2704

\$2.3113

\$2.3554

\$2.3655

\$2.3487

\$2.3749

\$ 2.3377

11

12

13

14 NYMEX Settlement - 15 Day Average

15

Days

Date

16

8/19/2019

\$2.2540

\$2.2930

\$2.3350

\$2.3420

\$2.3220

\$2.3470

\$2.2670

17

8/16/2019

\$2.2410

\$2.2790

\$2.3190

\$2.3260

\$2.3070

\$2.3310

\$2.2670

18

8/15/2019

\$2.2710

\$2.3070

\$2.3450

\$2.3520

\$2.3320

\$2.3570

\$2.2670

19

8/14/2019

\$2.2500

\$2.2880

\$2.3290

\$2.3370

\$2.3180

\$2.3430

\$2.2670

20

8/13/2019

\$2.2510

\$2.2900

\$2.3310

\$2.3400

\$2.3220

\$2.3490

\$2.2670

21

8/12/2019

\$2.2330

\$2.2710

\$2.3120

\$2.3210

\$2.3050

\$2.3330

\$2.2670

22

8/9/2019

\$2.2630

\$2.3010

\$2.3430

\$2.3540

\$2.3370

\$2.3640

\$2.2670

23

8/8/2019

\$2.2640

\$2.3020

\$2.3450

\$2.3570

\$2.3400

\$2.3650

\$2.2670

24

8/7/2019

\$2.2470

\$2.2910

\$2.3380

\$2.3500

\$2.3340

\$2.3620

\$2.2670

25

8/6/2019

\$2.2610

\$2.3030

\$2.3500

\$2.3610

\$2.3450

\$2.3710

\$2.2670

26

8/5/2019

\$2.2520

\$2.2970

\$2.3450

\$2.3570

\$2.3430

\$2.3700

\$2.2670

27

8/2/2019

\$2.2870

\$2.3290

\$2.3760

\$2.3880

\$2.3740

\$2.4020

\$2.2670

28

8/1/2019

\$2.3350

\$2.3800

\$2.4270

\$2.4380

\$2.4220

\$2.4490

\$2.2670

29

7/31/2019

\$2.3430

\$2.3880

\$2.4350

\$2.4460

\$2.4290

\$2.4550

\$2.2670

30

7/30/2019

\$2.3040

\$2.3510

\$2.4010

\$2.4140

\$2.4000

\$2.4260

\$2.2670

31

32

33

15 Day Average

2.2704

2.3113

2.3554

2.3655

2.3487

2.3749



Liberty Utilities (EnergyNorth Natural Gas) Corp.

2 Off Peak 2020 Summer Cost of Gas Filing  
 3 Annual Bill Comparisons, May 19 - Oct 19 vs May 20 - Oct 20 - Residential Heating Rate R-3

Schedule 8  
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6 November 1, 2019 - April 30, 2020  
 7 Residential Heating (R3)

	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	Winter Nov-Apr
9 Typical Usage (Therms)	62	110	123	148	132	92	666
12 Winter:							
13 Cust. Chg	\$ 15.20	\$ 15.20	\$ 15.20	\$ 15.20	\$ 15.20	\$ 15.20	\$ 91.20
14 Headblock	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
15 Tailblock	\$ 0.5569	\$ 0.5569	\$ 0.5569	\$ 0.5569	\$ 0.5569	\$ 0.5569	\$ 370.99
16 HB Threshold	-	-	-	-	-	-	-
18 Summer:							
19 Cust. Chg	\$ 15.20	\$ 15.20	\$ 15.20	\$ 15.20	\$ 15.20	\$ 15.20	\$ 91.20
20 Headblock	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
21 Tailblock	\$ 0.5569	\$ 0.5569	\$ 0.5569	\$ 0.5569	\$ 0.5569	\$ 0.5569	\$ 370.99
22 HB Threshold	-	-	-	-	-	-	-
24 Total Base Rate Amount	\$ 49.55	\$ 76.32	\$ 83.58	\$ 97.41	\$ 88.98	\$ 66.35	\$ 462.19
25 COG Rate - (Seasonal)	\$ 0.6203	\$ 0.6203	\$ 0.6203	\$ 0.6203	\$ 0.6203	\$ 0.6203	\$ 0.6203
27 COG amount	\$ 38.26	\$ 68.07	\$ 76.17	\$ 91.57	\$ 82.17	\$ 56.98	\$ 413.23
28 LDAC	\$ 0.0635	\$ 0.0635	\$ 0.0635	\$ 0.0635	\$ 0.0635	\$ 0.0635	\$ 0.0635
30 LDAC amount	\$ 3.92	\$ 6.97	\$ 7.80	\$ 9.38	\$ 8.42	\$ 5.84	\$ 42.33
32 Total Bill	\$ 91.74	\$ 151.36	\$ 167.55	\$ 198.36	\$ 179.57	\$ 129.17	\$ 917.74

34 November 1, 2018 - April 30, 2019  
 35 Residential Heating (R3)

	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	Winter Nov-Apr
38 Typical Usage (Therms)	62	110	123	148	132	92	666
40 Winter:							
41 Cust. Chg	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 90.12
42 Headblock	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
43 Tailblock	\$ 33.94	\$ 60.38	\$ 67.56	\$ 81.22	\$ 72.89	\$ 50.54	\$ 366.53
44 HB Threshold	-	-	-	-	-	-	-
46 Summer:							
47 Cust. Chg	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 15.02	\$ 90.12
48 Headblock	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
49 Tailblock	\$ 33.94	\$ 60.38	\$ 67.56	\$ 81.22	\$ 72.89	\$ 50.54	\$ 366.53
50 HB Threshold	-	-	-	-	-	-	-
52 Total Base Rate Amount	\$ 48.96	\$ 75.40	\$ 82.58	\$ 96.24	\$ 87.91	\$ 65.56	\$ 456.65
53 COG Rate - (Seasonal)	\$ 0.7411	\$ 0.7504	\$ 0.7504	\$ 0.8056	\$ 0.8056	\$ 0.8056	\$ 0.7804
55 COG amount	\$ 45.72	\$ 82.35	\$ 92.14	\$ 118.92	\$ 106.72	\$ 74.00	\$ 519.85
56 LDAC	\$ 0.0660	\$ 0.0660	\$ 0.0660	\$ 0.0660	\$ 0.0660	\$ 0.0660	\$ 0.0660
58 LDAC amount	\$ 4.07	\$ 7.24	\$ 8.10	\$ 9.74	\$ 8.74	\$ 6.06	\$ 43.97
60 Total Bill	\$ 98.75	\$ 165.00	\$ 182.82	\$ 224.90	\$ 203.37	\$ 145.62	\$ 1,020.47

62 DIFFERENCE:

63 Total Bill	\$ (7.01)	\$ (13.63)	\$ (15.27)	\$ (26.55)	\$ (23.81)	\$ (16.45)	\$ (102.72)
64 % Change	-7.10%	-8.26%	-8.35%	-11.80%	-11.71%	-11.30%	-10.07%
66 Base Rate	\$ 0.59	\$ 0.92	\$ 1.00	\$ 1.17	\$ 1.07	\$ 0.80	\$ 5.54
67 % Change	1.21%	1.21%	1.21%	1.21%	1.21%	1.21%	1.21%
69 COG & LDAC	\$ (7.60)	\$ (14.55)	\$ (16.28)	\$ (27.72)	\$ (24.87)	\$ (17.25)	\$ (108.27)
70 % Change	-15.27%	-16.24%	-16.24%	-21.54%	-21.54%	-21.54%	-19.20%
check	\$ -	\$ 0.00	\$ 0.00	\$ (0.00)	\$ -	\$ -	\$ -

May 1, 2020 - October 31, 2020

May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Summer May-Oct	Total Nov-Oct
51	28	16	14	14	21	142	809
\$ 15.20	\$ 15.20	\$ 15.20	\$ 15.20	\$ 15.20	\$ 15.20	\$ 91.20	\$ 182.40
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ 28.31	\$ 15.51	\$ 8.85	\$ 7.56	\$ 7.65	\$ 11.47	\$ 79.35	\$ 450.34
\$ 43.51	\$ 30.71	\$ 24.05	\$ 22.76	\$ 22.85	\$ 26.67	\$ 170.55	\$ 632.74
\$ 0.4520	\$ 0.4520	\$ 0.4520	\$ 0.4520	\$ 0.4520	\$ 0.4520	\$ 0.4520	\$ 0.5906
\$ 22.97	\$ 12.59	\$ 7.18	\$ 6.14	\$ 6.21	\$ 9.31	\$ 64.41	\$ 477.63
\$ 0.0635	\$ 0.0635	\$ 0.0635	\$ 0.0635	\$ 0.0635	\$ 0.0635	\$ 0.0635	\$ 0.0635
\$ 3.23	\$ 1.77	\$ 1.01	\$ 0.86	\$ 0.87	\$ 1.31	\$ 9.05	\$ 51.38
\$ 69.71	\$ 45.06	\$ 32.25	\$ 29.76	\$ 29.94	\$ 37.29	\$ 244.01	\$ 1,161.76

May 1, 2019 - October 31, 2019

May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Summer May-Oct	Total Nov-Oct
51	28	16	14	14	21	142	809
\$ 15.02	\$ 15.02	\$ 15.20	\$ 15.20	\$ 15.20	\$ 15.20	\$ 90.84	\$ 180.96
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ 27.97	\$ 15.32	\$ 8.85	\$ 7.56	\$ 7.65	\$ 11.47	\$ 78.83	\$ 445.35
\$ 42.99	\$ 30.34	\$ 24.05	\$ 22.76	\$ 22.85	\$ 26.67	\$ 169.87	\$ 626.31
\$ 0.4445	\$ 0.4445	\$ 0.5556	\$ 0.5556	\$ 0.5556	\$ 0.5556	\$ 0.4943	\$ 0.7299
\$ 22.59	\$ 12.38	\$ 8.83	\$ 7.54	\$ 7.64	\$ 11.45	\$ 70.43	\$ 590.28
\$ 0.0945	\$ 0.0945	\$ 0.0945	\$ 0.0945	\$ 0.0945	\$ 0.0945	\$ 0.0945	\$ 0.0710
\$ 4.80	\$ 2.63	\$ 1.50	\$ 1.28	\$ 1.30	\$ 1.95	\$ 13.47	\$ 57.43
\$ 70.38	\$ 45.35	\$ 34.38	\$ 31.59	\$ 31.79	\$ 40.07	\$ 253.56	\$ 1,274.03

\$ (0.67)	\$ (0.29)	\$ (2.14)	\$ (1.83)	\$ (1.85)	\$ (2.77)	\$ (9.55)	\$ (112.27)
-0.95%	-0.63%	-6.22%	-5.78%	-5.82%	-6.92%	-3.76%	-8.81%
\$ 0.52	\$ 0.37	\$ -	\$ -	\$ -	\$ -	\$ 0.89	\$ 6.43
1.21%	1.21%	0.00%	0.00%	0.00%	0.00%	0.52%	1.03%
\$ (1.19)	\$ (0.65)	\$ (2.14)	\$ (1.83)	\$ (1.85)	\$ (2.77)	\$ (10.43)	\$ (118.70)
-4.35%	-4.35%	-20.70%	-20.70%	-20.70%	-20.70%	-12.44%	-18.33%
\$ (0.00)	\$ 0.00	\$ -	\$ -	\$ -	\$ 0.00	\$ -	\$ -

Liberty Utilities (EnergyNorth Natural Gas) Corp.

1  
 2 Off Peak 2020 Summer Cost of Gas Billing  
 3 Annual Bill Comparisons, May 19 - Oct 19 vs May 20 - Oct 20 - Commercial Rate G-41  
 4  
 5  
 6 November 1, 2019 - April 30, 2020  
 7 Commercial Rate (G-41)

Schedule 8  
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	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	Winter Nov-Apr
9 Typical Usage (Therms)	89	277	504	457	331	297	1,954
12 Winter: 7/1/2019							
13 Cust. Chg \$ 56.36	\$ 56.36	\$ 56.36	\$ 56.36	\$ 56.36	\$ 56.36	\$ 56.36	\$ 338.16
14 Headblock \$ 0.4621	\$ 40.99	\$ 46.21	\$ 46.21	\$ 46.21	\$ 46.21	\$ 46.21	\$ 272.04
15 Tailblock \$ 0.3104	\$ -	\$ 54.98	\$ 125.36	\$ 110.70	\$ 71.65	\$ 61.09	\$ 423.78
16 HB Threshold 100							
18 Summer:							
19 Cust. Chg \$ 56.36							
20 Headblock \$ 0.4621							
21 Tailblock \$ 0.3104							
22 HB Threshold 20							
24 Total Base Rate Amount	\$ 97.35	\$ 157.55	\$ 227.93	\$ 213.27	\$ 174.22	\$ 163.66	\$ 1,033.97
26 COG Rate - (Seasonal)	\$ 0.6190	\$ 0.6190	\$ 0.6190	\$ 0.6190	\$ 0.6190	\$ 0.6190	\$ 0.6190
27 COG amount	\$ 54.91	\$ 171.54	\$ 311.89	\$ 282.65	\$ 204.78	\$ 183.73	\$ 1,209.50
29 LDAC	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494
30 LDAC amount	\$ 4.38	\$ 13.69	\$ 24.89	\$ 22.56	\$ 16.34	\$ 14.66	\$ 96.52
32 Total Bill	\$ 156.64	\$ 342.78	\$ 564.70	\$ 518.47	\$ 395.34	\$ 362.06	\$ 2,340.00

34 November 1, 2018 - April 30, 2019  
 35 Commercial Rate (G-41)

	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	Winter Nov-Apr
38 Typical Usage (Therms)	89	277	504	457	331	297	1,954
40 Winter:							
41 Cust. Chg \$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 334.08
42 Headblock \$ 45.66	\$ 40.50	\$ 45.66	\$ 45.66	\$ 45.66	\$ 45.66	\$ 45.66	\$ 268.80
43 Tailblock \$ -	\$ 54.33	\$ 123.86	\$ 109.38	\$ 70.80	\$ 60.37	\$ 418.72	
44 HB Threshold							
46 Summer:							
47 Cust. Chg \$ 55.68							
48 Headblock \$ 45.66							
49 Tailblock \$ -							
50 HB Threshold							
51 Total Base Rate Amount	\$ 96.18	\$ 155.67	\$ 225.20	\$ 210.72	\$ 172.14	\$ 161.71	\$ 1,021.60
54 COG Rate - (Seasonal)	\$ 0.7403	\$ 0.7403	\$ 0.7496	\$ 0.6707	\$ 0.5204	\$ 0.5817	\$ 0.6651
55 COG amount	\$ 65.67	\$ 205.16	\$ 377.69	\$ 306.26	\$ 172.16	\$ 172.66	\$ 1,299.59
57 LDAC	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757
58 LDAC amount	\$ 6.71	\$ 20.98	\$ 38.14	\$ 34.57	\$ 25.04	\$ 22.47	\$ 147.91
60 Total Bill	\$ 168.56	\$ 381.80	\$ 641.04	\$ 551.54	\$ 369.34	\$ 356.84	\$ 2,469.11

62 DIFFERENCE:

63 Total Bill	\$ (11.92)	\$ (39.02)	\$ (76.33)	\$ (33.07)	\$ 26.00	\$ 5.22	\$ (129.12)
64 % Change	-7.07%	-10.22%	-11.91%	-6.00%	7.04%	1.46%	-5.23%
66 Base Rate	\$ 1.17	\$ 1.89	\$ 2.72	\$ 2.55	\$ 2.08	\$ 1.96	\$ 12.37
67 % Change	1.21%	1.21%	1.21%	1.21%	1.21%	1.21%	1.21%
69 COG & LDAC	\$ (13.09)	\$ (40.90)	\$ (79.06)	\$ (35.62)	\$ 23.92	\$ 3.26	\$ (141.49)
70 % Change	-18.09%	-18.09%	-19.01%	-10.45%	12.13%	1.67%	-9.77%
check	\$ (0.00)	\$ -	\$ -	\$ -	\$ (0.00)	\$ (0.00)	\$ -

May 1, 2020 - October 31, 2020

	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Summer May-Oct	Total Nov-Oct
9 Typical Usage (Therms)	153	39	26	34	25	29	306	2,260
\$ 56.36	\$ 56.36	\$ 56.36	\$ 56.36	\$ 56.36	\$ 56.36	\$ 56.36	\$ 338.16	\$ 676.32
\$ 9.24	\$ 9.24	\$ 9.24	\$ 9.24	\$ 9.24	\$ 9.24	\$ 9.24	\$ 55.45	\$ 327.49
\$ 41.20	\$ 5.81	\$ 1.95	\$ 4.21	\$ 1.57	\$ 2.86	\$ 57.81	\$ 481.38	
\$ 106.81	\$ 71.42	\$ 67.55	\$ 69.81	\$ 67.17	\$ 68.46	\$ 451.22	\$ 1,485.19	
\$ 0.4474	\$ 0.4474	\$ 0.4474	\$ 0.4474	\$ 0.4474	\$ 0.4474	\$ 0.4474	\$ 0.4474	
\$ 68.34	\$ 17.33	\$ 11.76	\$ 15.02	\$ 11.21	\$ 13.07	\$ 136.72	\$ 1,346.22	
\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	
\$ 7.55	\$ 1.91	\$ 1.30	\$ 1.66	\$ 1.24	\$ 1.44	\$ 15.10	\$ 111.62	
\$ 182.69	\$ 90.66	\$ 80.60	\$ 86.49	\$ 79.63	\$ 82.97	\$ 603.04	\$ 2,943.03	

May 1, 2019 - October 31, 2019

	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Summer May-Oct	Total Nov-Oct
9 Typical Usage (Therms)	153	39	26	34	25	29	306	2,260
\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 55.68	\$ 336.80	\$ 670.88
\$ 9.13	\$ 9.13	\$ 9.13	\$ 9.13	\$ 9.13	\$ 9.13	\$ 9.13	\$ 55.23	\$ 324.03
\$ 40.71	\$ 5.74	\$ 1.95	\$ 4.21	\$ 1.57	\$ 2.86	\$ 57.05	\$ 475.77	
\$ 105.52	\$ 70.56	\$ 67.55	\$ 69.81	\$ 67.17	\$ 68.46	\$ 449.08	\$ 1,470.88	
\$ 0.4417	\$ 0.4417	\$ 0.5517	\$ 0.5517	\$ 0.5517	\$ 0.5517	\$ 0.4828	\$ 0.6404	
\$ 67.47	\$ 17.11	\$ 14.50	\$ 18.52	\$ 13.83	\$ 16.12	\$ 147.53	\$ 1,447.13	
\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	
\$ 11.56	\$ 2.93	\$ 1.99	\$ 2.54	\$ 1.90	\$ 2.21	\$ 23.13	\$ 171.05	
\$ 184.55	\$ 90.59	\$ 84.03	\$ 90.87	\$ 82.90	\$ 86.79	\$ 619.74	\$ 3,088.86	

\$ (1.87)	\$ 0.06	\$ (3.43)	\$ (4.38)	\$ (3.27)	\$ (3.82)	\$ (16.71)	\$ (145.83)
-1.01%	0.07%	-4.08%	-4.82%	-3.95%	-4.40%	-2.70%	-4.72%
\$ 1.28	\$ 0.86	\$ -	\$ -	\$ -	\$ -	\$ 2.14	\$ 14.51
1.21%	1.22%	0.00%	0.00%	0.00%	0.00%	0.48%	0.99%
\$ (3.15)	\$ (0.80)	\$ (3.43)	\$ (4.38)	\$ (3.27)	\$ (3.82)	\$ (18.85)	\$ (160.34)
-3.98%	-3.98%	-20.82%	-20.82%	-20.82%	-20.82%	-11.04%	-9.91%
\$ 0.00	\$ (0.00)	\$ 0.00	\$ (0.00)	\$ (0.00)	\$ 0.00	\$ (0.00)	\$ -



Liberty Utilities (EnergyNorth Natural Gas) Corp.

1  
 2 Off Peak 2020 Summer Cost of Gas Filing  
 4 Annual Bill Comparisons, May 19 - Oct 19 vs May 20 - Oct 20 - Commercial Rate G-52  
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 6  
 7 November 1, 2019 - April 30, 2020  
 8 Commercial Rate (G-52)

Schedule 8  
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	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	Winter Nov-Apr
11 Typical Usage (Therms)	1,352	1,866	2,284	2,160	1,886	1,760	11,306
13 Winter: 7/1/2019							
14 Cust. Chg \$ 169.09	\$ 169.09	\$ 169.09	\$ 169.09	\$ 169.09	\$ 169.09	\$ 169.09	\$ 1,014.54
15 Headblock \$ 0.2392	\$ 239.20	\$ 239.20	\$ 239.20	\$ 239.20	\$ 239.20	\$ 239.20	\$ 1,435.20
16 Tailblock \$ 0.1593	\$ 56.03	\$ 137.94	\$ 204.48	\$ 184.73	\$ 141.07	\$ 121.08	\$ 845.32
17 HB Threshold 1,000							
19 Summer:							
20 Cust. Chg \$ 169.09	\$ 169.09	\$ 169.09	\$ 169.09	\$ 169.09	\$ 169.09	\$ 169.09	\$ 1,014.54
21 Headblock \$ 0.1733	\$ 173.30	\$ 173.30	\$ 173.30	\$ 173.30	\$ 173.30	\$ 173.30	\$ 1,021.91
22 Tailblock \$ 0.0985	\$ 48.96	\$ 12.58	\$ 3.15	\$ 2.47	\$ 4.90	\$ -	\$ 72.06
23 HB Threshold 1,000							
25 Total Base Rate Amount	\$ 464.32	\$ 546.23	\$ 612.77	\$ 593.02	\$ 549.36	\$ 529.37	\$ 3,295.06
27 COG Rate - (Seasonal)	\$ 0.6258	\$ 0.6258	\$ 0.6258	\$ 0.6258	\$ 0.6258	\$ 0.6258	\$ 0.6258
28 COG amount	\$ 845.92	\$ 1,167.69	\$ 1,429.07	\$ 1,351.49	\$ 1,179.97	\$ 1,101.44	\$ 7,075.59
30 LDAC	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494
31 LDAC amount	\$ 66.77	\$ 92.17	\$ 112.81	\$ 106.68	\$ 93.14	\$ 86.94	\$ 558.53
33 Total Bill	\$ 1,377.02	\$ 1,806.09	\$ 2,154.65	\$ 2,051.19	\$ 1,822.47	\$ 1,717.76	\$ 10,929.18

35 November 1, 2018 - April 30, 2019  
 36 Commercial Rate (G-52)

	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	Winter Nov-Apr
39 Typical Usage (Therms)	1,352	1,866	2,284	2,160	1,886	1,760	11,306
41 Winter:							
42 Cust. Chg \$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 1,002.36
43 Headblock \$ 0.2363	\$ 236.30	\$ 236.30	\$ 236.30	\$ 236.30	\$ 236.30	\$ 236.30	\$ 1,417.80
44 Tailblock \$ 0.1196	\$ 55.36	\$ 136.29	\$ 202.04	\$ 182.52	\$ 139.38	\$ 119.63	\$ 835.24
45 HB Threshold							
47 Summer:							
48 Cust. Chg \$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 167.06	\$ 1,010.48
49 Headblock \$ 0.1712	\$ 171.20	\$ 171.20	\$ 173.30	\$ 173.30	\$ 173.30	\$ 173.30	\$ 1,017.71
50 Tailblock \$ 0.0985	\$ 48.96	\$ 12.58	\$ 3.15	\$ 2.47	\$ 4.90	\$ -	\$ 72.06
51 HB Threshold							
53 Total Base Rate Amount	\$ 458.72	\$ 539.65	\$ 605.40	\$ 585.88	\$ 542.74	\$ 522.99	\$ 3,255.40
55 COG Rate - (Seasonal)	\$ 0.7456	\$ 0.7456	\$ 0.7549	\$ 0.6760	\$ 0.5257	\$ 0.5870	\$ 0.6728
56 COG amount	\$ 1,007.86	\$ 1,391.23	\$ 1,723.88	\$ 1,459.91	\$ 991.23	\$ 1,033.15	\$ 7,607.26
58 LDAC	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757
59 LDAC amount	\$ 102.33	\$ 141.25	\$ 172.87	\$ 163.48	\$ 142.74	\$ 133.24	\$ 855.90
61 Total Bill	\$ 1,568.91	\$ 2,072.13	\$ 2,502.15	\$ 2,209.27	\$ 1,676.71	\$ 1,689.38	\$ 11,718.56

63 DIFFERENCE:

64 Total Bill	\$ (191.89)	\$ (266.04)	\$ (347.50)	\$ (158.08)	\$ 145.76	\$ 28.37	\$ (789.38)
65 % Change	-12.23%	-12.84%	-13.89%	-7.16%	8.69%	1.68%	-6.74%
67 Base Rate	\$ 5.60	\$ 6.58	\$ 7.37	\$ 7.13	\$ 6.61	\$ 6.37	\$ 39.66
68 % Change	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%	1.22%
70 COG & LDAC	\$ (197.49)	\$ (272.61)	\$ (354.87)	\$ (165.21)	\$ 139.15	\$ 22.00	\$ (829.04)
71 % Change	-17.79%	-17.79%	-18.71%	-10.18%	12.27%	1.89%	-8.80%
check	\$ 0.00	\$ -	\$ -	\$ 0.00	\$ -	\$ (0.00)	\$ -

May 1, 2020 - October 31, 2020

	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Summer May-Oct	Total Nov-Oct
1,497	1,128	1,032	1,025	1,050	897	6,628	17,935	
\$ 169.09	\$ 169.09	\$ 169.09	\$ 169.09	\$ 169.09	\$ 169.09	\$ 169.09	\$ 1,014.54	\$ 2,029.08
\$ 173.30	\$ 173.30	\$ 173.30	\$ 173.30	\$ 173.30	\$ 173.30	\$ 155.41	\$ 1,021.91	\$ 2,457.11
\$ 48.96	\$ 12.58	\$ 3.15	\$ 2.47	\$ 4.90	\$ -	\$ -	\$ 72.06	\$ 917.38
\$ 391.35	\$ 354.97	\$ 345.54	\$ 344.86	\$ 347.29	\$ 324.50	\$ 2,108.51	\$ 5,403.57	
\$ 0.4591	\$ 0.4591	\$ 0.4591	\$ 0.4591	\$ 0.4591	\$ 0.4591	\$ 0.4591	\$ 0.4591	\$ 0.5642
\$ 687.28	\$ 517.74	\$ 473.77	\$ 470.60	\$ 481.96	\$ 411.71	\$ 3,043.06	\$ 10,118.66	
\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494	\$ 0.0494
\$ 73.95	\$ 55.71	\$ 50.98	\$ 50.64	\$ 51.86	\$ 44.30	\$ 327.43	\$ 885.96	
\$ 1,152.57	\$ 928.43	\$ 870.28	\$ 866.09	\$ 861.11	\$ 780.52	\$ 5,479.01	\$ 16,408.18	

May 1, 2019 - October 31, 2019

	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Summer May-Oct	Total Nov-Oct
1,497	1,128	1,032	1,025	1,050	897	6,628	17,935	
\$ 167.06	\$ 167.06	\$ 169.09	\$ 169.09	\$ 169.09	\$ 169.09	\$ 169.09	\$ 1,010.48	\$ 2,012.84
\$ 171.20	\$ 171.20	\$ 173.30	\$ 173.30	\$ 173.30	\$ 173.30	\$ 155.41	\$ 1,017.71	\$ 2,435.51
\$ 48.96	\$ 12.58	\$ 3.15	\$ 2.47	\$ 4.90	\$ -	\$ -	\$ 72.06	\$ 907.30
\$ 387.22	\$ 350.84	\$ 345.54	\$ 344.86	\$ 347.29	\$ 324.50	\$ 2,100.25	\$ 5,355.65	
\$ 0.4506	\$ 0.4506	\$ 0.5633	\$ 0.5633	\$ 0.5633	\$ 0.5633	\$ 0.5187	\$ 0.6159	
\$ 674.55	\$ 508.16	\$ 581.30	\$ 577.41	\$ 591.35	\$ 505.16	\$ 3,437.93	\$ 11,045.19	
\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	\$ 0.0757	
\$ 113.32	\$ 85.37	\$ 78.12	\$ 77.60	\$ 79.47	\$ 67.89	\$ 501.76	\$ 1,357.66	
\$ 1,175.09	\$ 944.37	\$ 1,004.95	\$ 999.86	\$ 1,018.11	\$ 897.55	\$ 6,039.94	\$ 17,758.50	

\$ (22.52)	\$ (15.95)	\$ (134.67)	\$ (133.77)	\$ (137.00)	\$ (117.03)	\$ (560.94)	\$ (1,350.31)
-1.92%	-1.69%	-13.40%	-13.38%	-13.46%	-13.04%	-9.29%	-7.60%
\$ 4.13	\$ 4.13	\$ -	\$ -	\$ -	\$ -	\$ 8.26	\$ 47.92
1.07%	1.18%	0.00%	0.00%	0.00%	0.00%	0.39%	0.89%
\$ (26.65)	\$ (20.08)	\$ (134.67)	\$ (133.77)	\$ (137.00)	\$ (117.03)	\$ (569.20)	\$ (1,398.24)
-3.38%	-3.38%	-20.42%	-20.42%	-20.42%	-20.42%	-14.45%	-11.27%
\$ (0.00)	\$ (0.00)	\$ -	\$ -	\$ -	\$ (0.00)	\$ -	\$ -

Liberty Utilities (EnergyNorth Natural Gas) Corp.

1  
2 Off Peak 2020 Summer Cost of Gas Filing

3 Residential Heating	Summer 2019	Summer 2020
4		
5 Customer Charge	\$ 15.20	\$ 15.20
6 First 20 Therms	\$ 0.5569	\$ 0.5569
7 Excess 20 Therms	\$ 0.5569	\$ 0.5569
8 LDAC	\$ 0.0945	\$ 0.0635
9 COG	\$ 0.4943	\$ 0.4520
10 Total Adjust	\$ 0.5888	\$ 0.5155

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	Summer 2019 COG @	Summer 2020 Cog @
16	\$ 0.5888	\$ 0.5155
17		
18 Cooking alone	5 \$ 2.94	\$ 20.56
19		
20	10 \$ 5.89	\$ 25.92
21		
22	20 \$ 11.78	\$ 36.65
23		
24 Water Heating alone	30 \$ 17.66	\$ 47.37
25		
26	45 \$ 26.49	\$ 63.46
27		
28	50 \$ 29.44	\$ 68.82
29		
30 Heating Alone	80 \$ 44.16	\$ 95.63
31		
32	125 \$ 78.31	\$ 157.83
33		
34	150 \$ 88.31	\$ 176.07
35		
36	200 \$ 117.75	\$ 229.69
37		

Total		Base Rate		COG		LDAC	
\$ Impact	% Impact	\$ Impact	% Impact	\$ Impact	% Impact	\$ Impact	% Impact
\$ (0.07)	-12%						
\$ 17.62	598%	\$ 17.98	611%	\$ (0.21)	-1%	\$ (0.15)	-5%
\$ 20.04	340%	\$ 20.77	353%	\$ (0.42)	-2%	\$ (0.31)	-5%
\$ 24.87	211%	\$ 26.34	224%	\$ (0.85)	-2%	\$ (0.62)	-5%
\$ 29.71	168%	\$ 31.91	181%	\$ (1.27)	-3%	\$ (0.93)	-5%
\$ 36.97	140%	\$ 40.26	152%	\$ (1.90)	-3%	\$ (1.39)	-5%
\$ 39.38	134%	\$ 43.05	146%	\$ (2.11)	-3%	\$ (1.55)	-5%
\$ 51.48	117%	\$ 56.97	129%	\$ (3.17)	-3%	\$ (2.32)	-5%
\$ 79.53	102%	\$ 89.27	114%	\$ (5.62)	-4%	\$ (4.12)	-5%
\$ 87.75	99%	\$ 98.74	112%	\$ (6.34)	-4%	\$ (4.64)	-5%
\$ 111.94	95%	\$ 126.58	107%	\$ (8.45)	-4%	\$ (6.19)	-5%

**2020 Summer Cost of Gas Filing  
Capacity Assignment Calculations 2019-2020  
Derivation of Class Assignments and Weightings**

Basic assumptions:

- 1 Residential class pays average seasonal gas cost rate (using MBA method to allocate costs to seasons)
- 2 Residual gas costs are allocated to C&I HLF and LLF classes based on MBA method
- 3 The MBA method allocates capacity costs based on design day demands in two pieces:
  - a The base use portion of the class design day demand based on base use
  - b The remaining portion of design day demand based on remaining design day demand
- 4 Base demand is composed solely of pipeline supplies
- 5 Remaining demand consists of a portion of pipeline and all storage and peaking supplies

	Column A	Column B	Column C	Column D	Column E	Column F
	Design Day Demand, 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	476	479	0.3%	100	379
2	RATE R-3-Resi Htg	71,532	72,164	43.2%	3,607	68,557
3	RATE G-41 (T)	31,571	31,857	19.1%	815	31,042
4	RATE G-51 (S)	2,494	2,511	1.5%	690	1,821
5	RATE G-42 (V)	38,675	39,020	23.4%	1,584	37,436
6	RATE G-52	5,492	5,527	3.3%	1,751	3,776
7	RATE G-43	8,862	8,940	5.4%	500	8,440
8	RATE G-53	3,481	3,498	2.1%	1,616	1,882
9	RATE G-54	3,060	3,086	1.8%	225	2,862
10						
11	Total	165,643	167,083	100.0%	10,890	156,193
12						
13	Residential Total	72,008	72,643	43.477%	3,707	68,935
14	LLF Total	79,109	79,818	47.771%	2,900	76,918
15	HLF Total	14,527	14,622	8.752%	4,282	10,340
16	Total	165,643	167,083	100.0%	10,890	156,193
17						
18	C&I Breakdown					
19	LLF Total				2,900	76,918
20	HLF Total				4,282	10,340
21	Total				7,182	87,258
22						
23	C&I Breakdown Percentage					
24	LLF Total				40.377%	88.150%
25	HLF Total				59.623%	11.850%
26	Total				100.0%	100.0%
27						
28		Capacity Cost	MDQ, Dt	\$/Dt-Mo.		
29	Pipeline	\$12,337,197	79,718	\$12.8967		
30	Storage	\$4,336,601	28,115	\$12.8538		
31						
32	Peaking	\$4,459,829				
33	Peaking Additional Costs (Concord Lateral Peaking x Differential)	\$0				
34	Subtotal Peaking Costs	\$4,459,829	59,250	\$6.2726		
35	Total	\$21,133,627	167,083	\$10.5405		
36						
37		Capacity Cost	MDQ, Dt	\$/Dt-Mo.		
38	Pipeline - Baseload	1,685,265	10,890	\$12.8967		
39	Pipeline - Remaining	10,651,932	68,828	\$12.8967		
40	Storage	4,336,601	28,115	\$12.8538		
41	Peaking	4,459,829	59,250	\$6.2726		
42	Total	21,133,627	167,083	\$10.5405		
43						
44						
45	Residential Allocation	Capacity Cost	MDQ, Dt	\$/Dt-Mo.		
46	Pipeline - Base	Line 38 * Line 13 Col C	43.477%	732,702	4,734	\$12.8967
47	Pipeline - Remaining	Line 39 * Line 13 Col C	43.477%	4,631,137	29,925	\$12.8967
48	Storage	Line 40 * Line 13 Col C	43.477%	1,885,430	12,224	\$12.8538
49	Peaking	Line 41 * Line 13 Col C	43.477%	1,938,986	25,760	\$6.2726
50	Total		43.477%	9,188,266	72,643	\$10.5405
51						



54 **2020 Summer Cost of Gas Filing**  
55 **Capacity Assignment Calculations 2019-2020**  
56 **Derivation of Class Assignments and Weightings**  
57

		Capacity Cost	MDQ, Dt	\$/Dt-Mo.	<b>Ratios for COG</b>		
59	C&I Allocation						
60	Pipeline - Base	Line 38 - Line 46	952,562	6,155	\$12.8967		
61	Pipeline - Remaining	Line 39 - Line 47	6,020,796	38,904	\$12.8967		
62	Storage	Line 40 - Line 48	2,451,171	15,891	\$12.8537		
63	Peaking	Line 41 - Line 49	2,520,843	33,490	\$6.2726		
64	<b>Total</b>		<b>56.523%</b>	<b>11,945,371</b>	<b>94,440</b>	<b>\$10.5405</b>	<b>1.0000</b>
66							
67	LLF - C&I Allocation						
68	Pipeline - Base	Line 60 * Line 24 Col E	384,620	2,485	\$12.8981		
69	Pipeline - Remaining	Line 61 * Line 24 Col F	5,307,319	34,294	\$12.8966		
70	Storage	Line 62 * Line 24 Col F	2,160,702	14,008	\$12.8540		
71	Peaking	Line 63 * Line 24 Col F	2,222,118	29,521	\$6.2727		
72	<b>Total</b>		<b>47.6717%</b>	<b>10,074,759</b>	<b>80,308</b>	<b>\$10.4543</b>	<b>0.9918</b>
73			<b>40.377%</b>	<b>84%</b>			<b>(Line 72 / Line 64)</b>
74							
75	HLF - C&I Allocation						
76	Pipeline - Base	Line 60 - Line 68	567,942	3,670	\$12.8960		
77	Pipeline - Remaining	Line 61 - Line 69	713,477	4,610	\$12.8973		
78	Storage	Line 62 - Line 70	290,469	1,883	\$12.8549		
79	Peaking	Line 63 - Line 71	298,725	3,969	\$6.2720		
80	<b>Total</b>		<b>8.8514%</b>	<b>1,870,613</b>	<b>14,132</b>	<b>\$11.0306</b>	<b>1.0465</b>
81							<b>(Line 80 / Line 64)</b>
82							
83	Unit Cost	Residential	LLF C&I	HLF C&I			
84							
85	Pipeline	\$ 12.8967	\$ 12.8967	\$ 12.8967			
86	Storage	\$ 12.8538	\$ 12.8538	\$ 12.8538			
87	Peaking	\$ -	\$ -	\$ -			
88	<b>Total</b>	<b>\$ 10.5405</b>	<b>\$ 10.4543</b>	<b>\$ 11.0306</b>			
89							
90							
91	Load Makeup	Residential	LLF C&I	HLF C&I			
92							
93	Pipeline	47.71%	45.80%	58.59%			
94	Storage	16.83%	17.44%	13.32%			
95	Peaking	35.46%	36.76%	28.09%			
96	<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>			
97							
98							
99	Supply Makeup	Residential	LLF C&I	HLF C&I	Total		
100							
101	Pipeline	43.48%	46.14%	10.39%	100.00%		
102	Storage	43.48%	49.82%	6.70%	100.00%		
103	Peaking	43.48%	49.82%	6.70%	100.00%		

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.

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3 2020 Summer Cost of Gas Filing

4 Correction Factor Calculation

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7

8 Data Source: Schedule 10B

	d	e	f	g	h	i	Total Sales
9	May	June	July	Aug	Sep	Oct	
10							
11 G-41	825,988	374,233	227,968	173,804	187,407	474,514	2,263,916
12 G-42	830,511	510,566	256,263	128,806	83,159	252,829	2,062,134
13 G-43	189,272	123,198	83,814	65,939	75,550	119,551	657,325
14 High Winter Use	1,845,772	1,007,997	568,045	368,549	346,116	846,894	4,983,375
15							
16 G-51	205,405	132,424	100,060	100,572	126,916	169,428	834,804
17 G-52	221,428	149,131	116,062	116,101	142,266	181,913	926,900
18 G-53	322,179	227,722	182,794	173,508	190,531	223,488	1,320,222
19 G-54	38,279	31,307	27,452	28,722	33,712	35,520	194,992
21 Low Winter Use	787,291	540,585	426,368	418,903	493,424	610,348	3,276,919
22							
23 Gross Total	2,633,063	1,548,582	994,413	787,452	839,540	1,457,243	8,260,293

24

25

26 Total Sales

8,260,293

27 Low Winter Use

3,276,919

28 Summer Ratio for Low Winter Use

1.0465 Schedule 10A p 2, In 80

29 High Winter Use

4,983,375

30 Summer Ratio for High Winter Use

0.9918 Schedule 10A p 2, In 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 =

98.6680%

34

35

36 Allocation Calculation for Miscellaneous Overhead

37

38 Projected Winter Sales Volume

11/1/19 - 4/30/20

88,325,512 Sch.10B, In 23

39 Projected Annual Sales Volume

11/1/19 - 10/31/20

109,235,165 Sch.10B, In 23

40 Percentage of Winter Sales to Annual Sales

80.86%

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.  
 2 d/b/a Liberty Utilities  
 3 Off Peak 2020 Summer Cost of Gas Filing  
 4 2020 Summer Cost of Gas Filing

Dry Therms															
	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	Subtotal PK 19-20	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Subtotal OP 20	Total
5															
6															
7 Firm Sales															
8															
9 R-1	64,441	81,258	94,340	96,957	88,775	67,522	493,293	48,853	33,289	25,753	27,155	35,378	47,895	218,322	711,615
10 R-3	3,976,866	7,288,275	10,335,588	11,068,345	9,377,386	6,305,835	48,352,296	3,631,507	1,745,119	990,322	965,942	1,458,088	2,616,925	11,407,904	59,760,200
11 R-4	240,702	454,184	715,200	879,999	779,069	613,370	3,682,524	386,095	190,722	96,795	84,852	104,149	160,520	1,023,133	4,705,657
12 Total Residential.	4,282,009	7,823,717	11,145,128	12,045,301	10,245,231	6,986,726	52,528,113	4,066,455	1,969,131	1,112,870	1,077,949	1,597,614	2,825,340	12,649,359	65,177,472
13															
14 G-41	1,362,747	2,392,390	3,265,083	3,609,169	3,018,720	1,978,893	15,627,001	825,988	374,233	227,968	173,804	187,407	474,514	2,263,916	17,890,916
15 G-42	993,611	1,721,619	2,311,289	2,414,040	2,010,439	1,425,998	10,876,995	830,511	510,566	256,263	128,806	83,159	252,829	2,062,134	12,939,129
16 G-43	224,486	313,974	456,238	520,420	455,122	372,393	2,342,633	189,272	123,198	83,814	65,939	75,550	119,551	657,325	2,999,958
17 G-51	242,511	317,486	388,757	406,064	374,579	290,084	2,019,481	205,405	132,424	100,060	100,572	126,916	169,428	834,804	2,854,285
18 G-52	246,942	308,934	379,059	402,212	378,945	301,429	2,017,521	221,428	149,131	116,062	116,101	142,266	181,913	926,900	2,944,421
19 G-53	173,425	275,747	681,477	562,748	510,559	457,116	2,661,072	322,179	227,722	182,794	173,508	190,531	223,488	1,320,222	3,981,294
20 G-54	38,526	40,125	42,439	44,776	45,279	41,551	252,696	38,279	31,307	27,452	28,722	33,712	35,520	194,992	447,688
21 Total C/I	3,282,249	5,370,274	7,524,341	7,959,429	6,793,642	4,867,464	35,797,399	2,633,063	1,548,582	994,413	787,452	839,540	1,457,243	8,260,293	44,057,693
22															
23 Sales Volume	7,564,258	13,193,992	18,669,469	20,004,731	17,038,873	11,854,190	88,325,512	6,699,518	3,517,713	2,107,283	1,865,401	2,437,154	4,282,582	20,909,652	109,235,165
24															
25 Transportation Sales															
26															
27 G-41	555,619	790,553	1,071,220	1,155,934	959,109	752,710	5,285,146	404,406	216,089	122,280	125,438	170,851	296,475	1,335,538	6,620,684
28 G-42	1,913,476	2,771,360	3,801,397	4,119,616	3,415,094	2,676,976	18,697,919	1,430,035	731,604	370,607	344,836	474,677	928,578	4,280,338	22,978,257
29 G-43	644,512	946,093	1,216,856	1,344,314	1,241,733	983,928	6,377,436	820,255	505,388	334,036	286,714	325,900	492,397	2,764,690	9,142,126
30 G-51	60,487	66,804	78,538	91,139	86,757	83,475	467,200	111,038	95,930	91,646	109,919	126,508	114,619	649,661	1,116,861
31 G-52	447,663	473,008	519,762	559,195	542,424	501,133	3,043,185	571,984	525,066	533,825	652,940	768,136	719,601	3,771,552	6,814,737
32 G-53	665,616	871,883	1,124,142	1,267,722	1,261,236	1,154,978	6,345,577	1,058,787	757,840	520,024	425,038	404,383	502,917	3,668,989	10,014,566
33 G-54	1,876,671	1,885,410	1,949,916	1,658,420	1,596,606	1,527,872	10,494,895	1,414,172	1,435,517	1,419,611	1,552,030	1,636,150	1,761,239	9,218,719	19,713,614
34															
35 Total Trans. Sales	6,164,045	7,805,111	9,761,832	10,196,340	9,102,958	7,681,073	50,711,358	5,810,677	4,267,434	3,392,030	3,496,914	3,906,604	4,815,826	25,689,486	76,400,844
36															
37 Total All Sales	13,728,303	20,999,102	28,431,301	30,201,070	26,141,831	19,535,263	139,036,871	12,510,195	7,785,147	5,499,313	5,362,316	6,343,759	9,098,408	46,599,138	185,636,009

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.

Schedule 11A

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3 Off Peak 2020 Summer Cost of Gas Filing

4 Normal and Design Year Volumes

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7 Volumes (Therms)

Normal Year

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9 For the Months of May 20 -October 20

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	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Off Peak May - Oct
13 Pipeline Gas:							
14 Dawn Supply	667,277	310,612	-	-	10,229	265,425	1,253,543
15 Niagara Supply	640,798	521,582	283,949	-	421,954	567,177	2,435,460
16 TGP Supply (Gulf)	-	-	-	-	-	-	0
17 Dracut Supply 1 - Baseload	-	-	-	-	-	-	0
18 Dracut Supply 2 - Swing	89,367	-	-	-	-	57,421	146,788
19 Constellation Combo	-	-	-	-	-	-	0
20 LNG Truck	47,001	17,837	15,625	-	29,665	13,476	123,604
21 Propane Truck	76,128	70,733	61,962	61,447	58,818	67,382	396,470
22 PNGTS	203,228	182,677	145,477	153,351	150,369	179,879	1,014,981
23 Portland Natural Gas	167,481	-	-	-	-	120,701	288,182
24 TGP Supply (Z4)	5,168,086	4,640,724	4,192,967	4,158,635	3,859,985	4,576,086	26,596,484
	7,059,366	5,744,165	4,699,981	4,373,433	4,531,019	5,847,547	32,255,511
27 Storage Gas:							
28	-	-	-	-	-	-	0
29							
30 Produced Gas:							
31 LNG Vapor	19,197	17,837	15,625	15,495	14,321	16,992	99,468
32 Propane	-	-	-	-	-	-	0
	19,197	17,837	15,625	15,495	14,321	16,992	99,468
35 Less - Gas Refills:							
36 LNG Truck	(47,001)	(17,837)	(15,625)	-	(29,665)	(13,476)	(123,604)
37 Propane	(76,128)	(70,733)	(61,962)	(61,447)	(58,818)	(67,382)	(396,470)
38 TGP Storage Refill	(1,994,549)	(3,102,427)	(2,822,252)	(2,575,971)	(2,255,536)	(1,256,812)	(14,007,547)
	(2,117,677)	(3,190,998)	(2,899,839)	(2,637,418)	(2,344,019)	(1,337,670)	(14,527,622)
41 Total Sendout Volumes	4,960,886	2,571,004	1,815,767	1,751,511	2,201,322	4,526,868	17,827,358

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.

Schedule 11B

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3 Off Peak 2020 Summer Cost of Gas Filing

43 Normal and Design Year Volumes

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46 Volumes (Therms)

Design Year

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48 For the Months of May 20 -October 20

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	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Off Peak May - Oct
Pipeline Gas:							
Dawn Supply	790,405	289,084	-	-	12,786	271,870	1,364,146
Niagara Supply	640,798	521,582	275,867	38,471	424,000	567,177	2,467,895
TGP Supply (Gulf)	-	-	-	-	-	-	0
Dracut Supply 1 - Baseload	-	-	-	-	-	-	0
Dracut Supply 2 - Swing	110,551	-	-	-	-	60,936	171,487
Constellation Combo	-	-	-	-	-	-	0
LNG Truck	47,001	17,837	15,625	-	29,665	13,476	123,604
Propane Truck	76,128	70,733	61,962	61,447	58,818	67,382	396,470
PNGTS	203,228	182,677	140,628	153,885	150,369	179,879	1,010,666
Portland Natural Gas	175,425	-	-	-	-	123,630	299,055
TGP Supply (Z4)	5,165,438	4,641,339	4,194,045	4,159,170	3,860,496	4,576,086	26,596,574
Subtotal Pipeline Volumes	7,208,974	5,723,253	4,688,128	4,412,973	4,536,134	5,860,437	32,429,898
Storage Gas:							
TGP Storage	-	-	-	-	-	-	0
Produced Gas:							
LNG Vapor	19,197	17,222	15,625	15,495	14,321	16,992	98,853
Propane	-	-	-	-	-	-	-
Subtotal Produced Gas	19,197	17,222	15,625	15,495	14,321	16,992	98,853
Less - Gas Refills:							
LNG Truck	(47,001)	(17,837)	(15,625)	-	(29,665)	(13,476)	(123,604)
Propane	(76,128)	(70,733)	(61,962)	(61,447)	(58,818)	(67,382)	(396,470)
TGP Storage Refill	(2,110,396)	(3,012,012)	(2,817,403)	(2,613,908)	(2,246,841)	(1,248,023)	(14,048,582)
Subtotal Refills	(2,233,524)	(3,100,582)	(2,894,990)	(2,675,355)	(2,335,324)	(1,328,881)	(14,568,657)
Total Sendout Volumes	4,994,647	2,639,893	1,808,763	1,753,114	2,215,131	4,548,547	17,960,094

1 Liberty Utilities (EnergyNorth Natural Gas) Corp.

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3 Off Peak 2020 Summer Cost of Gas Filing

4 Capacity Utilization

5 Volumes (Therms)

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11 Pipeline Gas:

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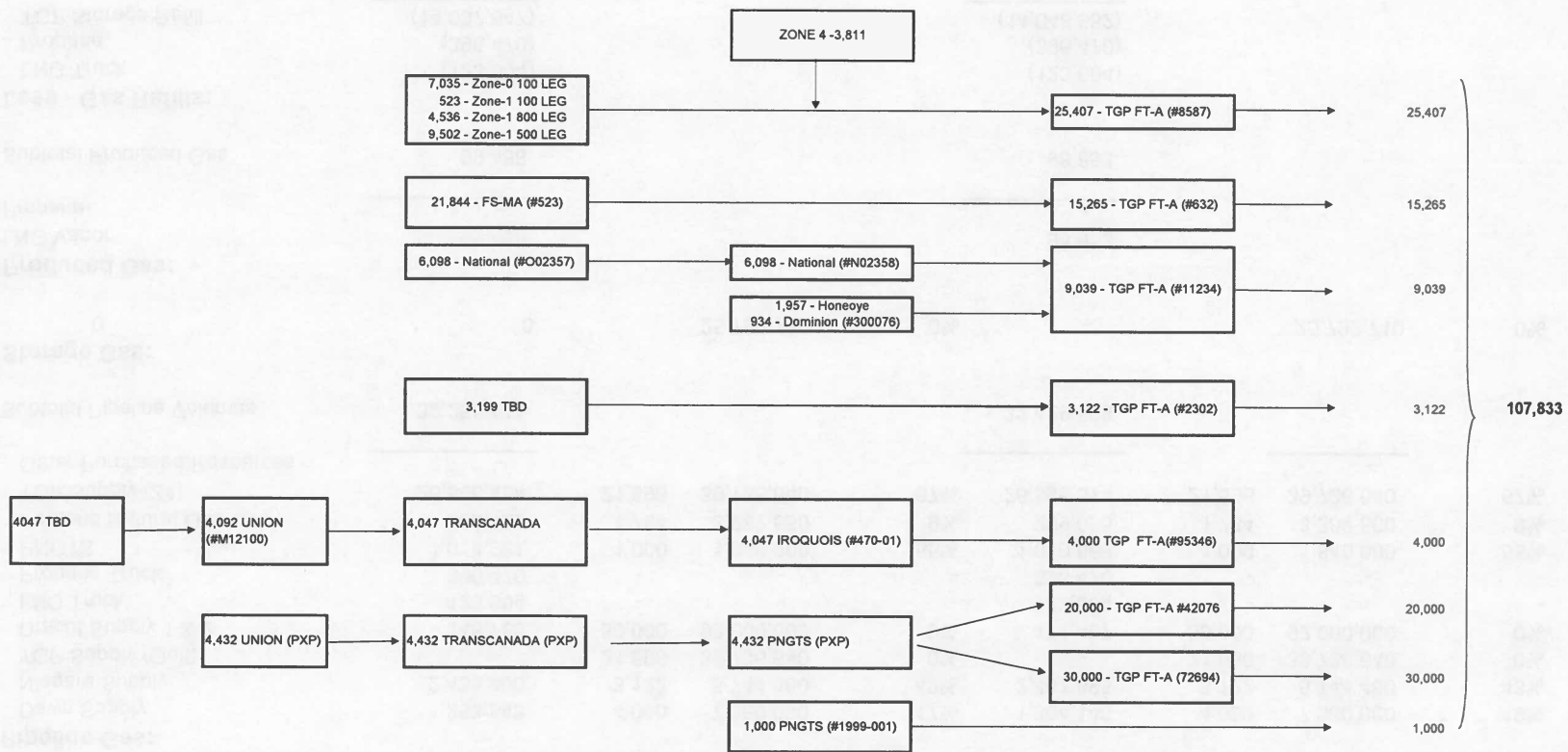
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	Off-Peak Period Normal Year				Off-Peak Period Design Year			
	Use (Therms)	MDQ (MMBtu/day)	Seasonal Quantity (Therms)	Utilization Rate	Use (Therms)	MDQ (MMBtu/day)	Seasonal Quantity (Therms)	Utilization Rate
<b>11 Pipeline Gas:</b>								
12 Dawn Supply	1,253,543	4,000	7,360,000	17%	1,364,146	4,000	7,360,000	19%
13 Niagara Supply	2,435,460	3,122	5,744,480	42%	2,467,895	3,122	5,744,480	43%
14 TGP Supply (Gulf)	-	21,596	39,736,640	0%	-	21,596	39,736,640	0%
15 Dracut Supply 1 & 2	146,788	50,000	92,000,000	0%	171,487	50,000	92,000,000	0%
16 LNG Truck	123,604	-	-	-	123,604	-	-	-
17 Propane Truck	396,470	-	-	-	396,470	-	-	-
18 PNGTS	1,014,981	1,000	1,840,000	55%	1,010,666	1,000	1,840,000	55%
Portland Natural Gas	288,182	1,784	3,282,560	9%	299,055	1,784	3,282,560	9%
19 TGP Supply (Z4)	26,596,484	21,596	39,736,640	67%	26,596,574	21,596	39,736,640	67%
20 Other Purchased Resources	-	-	-	-	-	-	-	-
22 Subtotal Pipeline Volumes	32,255,511				32,429,898			
<b>24 Storage Gas:</b>								
25 0	0		25,792,710	0%	-		25,792,710	0%
<b>27 Produced Gas:</b>								
28 LNG Vapor	99,468				98,853			
29 Propane	-				-			
31 Subtotal Produced Gas	99,468				98,853			
<b>33 Less - Gas Refills:</b>								
34 LNG Truck	(123,604)				(123,604)			
35 Propane	(396,470)				(396,470)			
36 TGP Storage Refill	(14,007,547)				(14,048,582)			
38 Subtotal Refills	(14,527,622)				(14,568,657)			
40 Total Sendout Volumes	17,827,358				17,960,094			



Liberty Utilities (EnergyNorth Natural Gas) Corp.

Off Peak 2020 Summer Cost of Gas Filing  
 Transportation Available for Pipeline Supply and Storage  
 (MMBtu)



Liberty Utilities (EnergyNorth Natural Gas) Corp.

Off Peak 2020 Summer Cost of Gas Filing  
Agreements for Gas Supply and Transportation

SOURCE	RATE SCHEDULE	CONTRACT NUMBER	TYPE	MDQ MMBTU	MAQ * MMBTU	EXPIRATION DATE	NOTIFICATION DATE	RENEWAL OPTIONS
Niagara	NA	NA	Supply	3,147	1,148,655	3/31/2020	N/A	Terminates
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	3/31/2020	N/A	Terminates
Dracut or Z6	NA	NA	Supply	Up to 20,000 / day	1,412,000	2/28/2020	N/A	Terminates
TGP Long-Haul	NA	NA	Supply	21,596	3,908,876	4/30/2020	N/A	Terminates
Northern Transport	NA	NA	Trucking	28,500 Gallons	900,000 Gallons		N/A	Terminates
Dominion Transmission Incorporated	GSS	300076	Storage	934	102,700	3/31/2021	3/31/2019	Mutually agreed upon
Honeyoe Storage Corporation	SS-NY	11234	Storage	1,957	245,380	3/31/2020	12 months notice	Evergreen Provision
National Fuel Gas Supply Corporation	FSS	O02358	Storage	8,098	670,800	3/31/2020	3/31/2019	Evergreen Provision
National Fuel Gas Supply Corporation	FSST	N02358	Transportation	6,098	670,800	3/31/2020	3/31/2019	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	10/31/2020	10/31/2019	Precedent Agreement
Tennessee Gas Pipeline Company	FS-MA	523	Storage	21,844	1,560,391	10/31/2020	10/31/2019	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	8587	Transportation	25,407	9,273,555	10/31/2020	10/31/2019	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	2302	Transportation	3,122	1,139,530	10/31/2020	10/31/2019	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	632	Transportation	15,265	5,571,725	10/31/2020	10/31/2019	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	11234	Transportation	9,039	3,299,235	10/31/2020	10/31/2019	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	72694	Transportation	30,000	10,950,000	10/31/2029	10/31/2029	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	95346	Transportation	4,000	1,460,000	11/30/2021	11/30/2020	Evergreen Provision
Tennessee Gas Pipeline Company	FTA	42076	Transportation	20,000	7,300,000	10/31/2020	10/31/2019	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	0	Precedent Agreement
Union Gas Limited	M12	M12200	Transportation	4,092	1,493,580	10/31/2022	10/31/2020	Evergreen Provision
Union Gas Limited	M12	PXP	Transportation	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 2020 Summer Cost of Gas Filing**

4 **Storage Inventory**

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6 **Underground Storage Gas**

		May-19 (Estimate)	Jun-19 (Estimate)	Jul-19 (Estimate)	Aug-19 (Estimate)	Sep-19 (Estimate)	Oct-19 (Estimate)	Total
7								
8								
9	Beginning Balance (MMBtu)	328,846	479,010	678,465	988,708	1,270,933	1,528,530	1,951,935
10								
11	Injections (MMBtu) Sch 11A In 38 /10	150,164	199,455	310,243	282,225	257,597	225,554	1,879,127
12								
13	Subtotal	479,010	678,465	988,708	1,270,933	1,528,530	1,754,084	
14								
15	Storage Sale							
16								
17	Withdrawals (MMBtu) Sch 11A In 28 /10	-	-	-	-	-	-	(1,368,064)
18								
19	<u>Ending Balance (MMBtu)</u>	<u>479,010</u>	<u>678,465</u>	<u>988,708</u>	<u>1,270,933</u>	<u>1,528,530</u>	<u>1,754,084</u>	<u>2,462,998</u>
20								
21								
22	Beginning Balance	\$ 735,298	\$ 1,098,832	\$ 1,583,259	\$ 2,349,446	\$ 3,044,400	\$ 3,641,886	\$ 3,609,668
23								
24	Injections In 11 * In 36	363,535	484,427	766,187	694,955	597,486	531,008	4,463,013
25								
26	Subtotal	\$ 1,098,832	\$ 1,583,259	\$ 2,349,446	\$ 3,044,400	\$ 3,641,886	\$ 4,172,894	
27								
28	Storage Sale							
29								
30	Withdrawals In 17 * In 34	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (2,634,626)
31								
32	<u>Ending Balance</u>	<u>\$ 1,098,832</u>	<u>\$ 1,583,259</u>	<u>\$ 2,349,446</u>	<u>\$ 3,044,400</u>	<u>\$ 3,641,886</u>	<u>\$ 4,172,894</u>	<u>\$ 5,438,055</u>
33								
34	Average Rate For Withdrawals In 22 /In 9	\$ 2.2360	\$ 2.2940	\$ 2.3336	\$ 2.3763	\$ 2.3954	\$ 2.3826	
35								
36	TGP Storage Rate for Injections Actual or NYMEX plus TGP Transportation	\$ 2.4209	\$ 2.4288	\$ 2.4696	\$ 2.4624	\$ 2.3195	\$ 2.3542	

37 Liberty Utilities (EnergyNorth Natural Gas) Corp.

Schedule 13

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39 Off Peak 2020 Summer Cost of Gas Filing

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41 Liquid Propane Gas (LPG)

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	May-19 (Estimate)	Jun-19 (Estimate)	Jul-19 (Estimate)	Aug-19 (Estimate)	Sep-19 (Estimate)	Oct-19 (Estimate)	Total
Beginning Balance	57,733	57,733	65,346	72,419	78,615	84,760	96,655
Injections Sch 11A In 37 /10	-	7,613	7,073	6,196	6,145	5,882	45,989
Subtotal	57,733	65,346	72,419	78,615	84,760	90,642	
Withdrawals Sch 11A In 32 /10	-	-	-	-	-	-	(61,632)
Adjustment for change in temperature	-	-	-	-	-	-	-
Adjustment for Transfer	-	-	-	-	-	-	-
Ending Balance	57,733	65,346	72,419	78,615	84,760	90,642	81,012
Beginning Balance	\$ 693,524	\$ 693,524	\$ 693,524	\$ 693,524	\$ 693,524	\$ 693,524	\$ 1,193,497
Injections In 46 * In 69	-	-	-	-	-	-	168,840
Subtotal	\$ 693,524	\$ 693,524	\$ 693,524	\$ 693,524	\$ 693,524	\$ 693,524	
Withdrawals In 52 * In 67	-	-	-	-	-	-	(763,126)
Ending Balance	\$ 693,524	\$ 693,524	\$ 693,524	\$ 693,524	\$ 693,524	\$ 693,524	\$ 599,211
Average Rate For Withdrawals	\$ 12.0127	\$ 10.6132	\$ 9.5766	\$ 8.8218	\$ 8.1822	\$ 7.6513	
Propane Rate for Injections Actual or Sch. 6, In 158 * 10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	

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

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72 **Off Peak 2020 Summer Cost of Gas Filing**

73  
74 **Liquid Natural Gas (LNG)**

		May-19 (Estimate)	Jun-19 (Estimate)	Jul-19 (Estimate)	Aug-19 (Estimate)	Sep-19 (Estimate)	Oct-19 (Estimate)	Total	
75									
76	Beginning Balance	10,099	8,002	10,782	10,782	10,782	9,233	12,057	
77									
78	Injections	Sch 11A In 36 /10	-	4,700	1,784	1,563	-	2,966	135,961
79									
80	Subtotal	10,099	12,702	12,566	12,345	10,782	12,199		
81									
82	Withdrawals	Sch 11A In 31 /10	(2,097)	(1,920)	(1,784)	(1,563)	(1,432)	(131,728)	
83									
84	Ending Balance	8,002	10,782	10,782	10,782	9,233	10,767	16,290	
85									
86									
87	Beginning Balance	\$ 38,805	\$ 30,747	\$ 26,100	\$ 22,395	\$ 19,561	\$ 16,750	\$ 135,659	
88									
89	Injections	In 78 * In 99	-	-	-	-	-	653,097	
90									
91	Subtotal	\$ 38,805	\$ 30,747	\$ 26,100	\$ 22,395	\$ 19,561	\$ 16,750		
92									
93	Withdrawals	In 82 * In 97	(8,058)	(4,647)	(3,705)	(2,835)	(1,966)	(766,584)	
94									
95	Ending Balance	\$ 30,747	\$ 26,100	\$ 22,395	\$ 19,561	\$ 16,750	\$ 14,783	\$ 22,173	
96									
97	Average Rate For Withdrawals	\$ 3.8424	\$ 2.4206	\$ 2.0770	\$ 1.8141	\$ 1.8141	\$ 1.3730		
98									
99	LNG Rate for Injections	Actual or Sch. 6, In 157 * 10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	