

Line	F	(A)	Residential			Commercial and Industrial: Low Load Factor				Commercial and Industrial: High Load Factor				Company Total (M)	Explanation (N)
			Non Heat R-1 (B)	Heat R-3 (C)	Heat R-4 (D)	Total Heat R-3, R-4 (E)	Low Annual G-1 (F)	Medium Annual G-2 (G)	High Annual G-3 (H)	Low Annual G-5 (I)	Medium Annual G-52 (J)	High Annual G-53 (K)	High Annual G-54 (L)		
1		A. Proforma Normalized Calendar Month Revenues at Current Rates													
2		Company Total Base Revenues (R-4 at R-3 rates)													
3		Company Total Base Revenues (R-4 at R-3 rates)													
4		Winter Customer Revenues	\$308,711	\$9,627,692	\$710,077	\$10,339,659	\$2,610,243	\$1,531,176	\$182,155	\$378,943	\$277,641	\$233,150	\$101,728	\$15,852,408	Company Records
5		Summer Customer Revenues	\$154,443	\$4,847,045	\$1,044,989	\$15,892,031	\$3,789,297	\$1,839,297	\$1,565,988	\$512,937	\$658,318	\$776,139	\$441,093	\$33,827,358	Company Records
6		Winter Customer Revenues	\$463,154	\$24,474,727	\$1,755,953	\$28,230,690	\$3,397,784	\$1,755,953	\$1,755,953	\$591,080	\$1,135,960	\$901,289	\$542,821	\$48,679,768	Company Records
7		Summer Customer Revenues	\$305,379	\$9,456,517	\$698,524	\$11,151,041	\$2,584,728	\$1,504,728	\$1,504,728	\$393,309	\$275,071	\$212,464	\$15,575,152	\$15,575,152	Company Records
8		Summer Customer Revenues	\$77,388	\$3,272,840	\$235,519	\$3,508,360	\$1,005,210	\$1,947,431	\$200,849	\$293,309	\$275,071	\$212,464	\$246,204	\$1,943,716	Company Records
9		Summer Customer Revenues	\$382,767	\$12,729,358	\$934,043	\$13,663,901	\$3,569,938	\$3,452,159	\$370,882	\$566,589	\$699,703	\$523,411	\$246,204	\$2,518,881	Company Records
10		Company Total Base Revenues	\$845,921	\$37,204,085	\$2,690,065	\$39,894,091	\$11,967,722	\$12,822,955	\$2,124,834	\$1,558,469	\$1,802,654	\$1,392,045	\$600,253	\$23,318,653	Company Records
11		Revenue Shortfall R-4 revenues at R-4, R-3 rates				\$1,614,079								\$1,614,079	Line 9 - Line 6
12		Recovery of R-4 Revenue Shortfall				\$579,169								\$579,169	Line 10 - Line 11
13		Recovery of R-4 Revenue Shortfall				\$38,229								\$38,229	Line 12 - Line 11
14		B. Billing Determinants													
15		Customer Bill Count													
16		Winter Customers	21,338	438,874	32,171	469,045	55,371	10,618	293	8,189	1,967	192	159	567,172	Company Records
17		Summer Customers	21,354	428,832	31,607	460,440	54,392	10,437	286	8,129	1,936	190	155	557,319	Company Records
18		Total Customers	42,693	867,706	63,778	929,484	109,763	21,055	579	16,319	3,903	382	314	1,124,491	Line 17 - Line 16
19		Delivery Quantities (Weather Normalized Calendarized)													
20		Total	528,420	44,422,264	3,125,454	47,947,738	18,913,276	27,757,246	7,055,947	2,581,289	4,701,709	5,426,355	8,063,862	122,575,832	Company Records
21		Head Block Winter Quantities	0	31,438,765	2,340,045	33,778,810	4,116,219	9,105,122	0	602,664	1,867,762	0	0	49,470,597	Company Records
22		Tail Block Winter Quantities	528,420	10,983,499	785,409	13,766,888	14,797,057	18,652,125	7,055,947	1,978,625	2,833,947	5,426,355	8,063,862	73,105,235	Company Records
23		Summer Quantities	243,550	7,711,698	546,937	10,412,341	3,272,121	6,603,893	1,382,719	1,341,474	2,823,326	3,913,829	8,359,063	38,952,316	Company Records
24		Head Block Summer Quantities	0	7,336,593	546,937	7,883,586	662,160	2,769,333	0	417,814	1,499,636	0	0	13,232,461	Company Records
25		Tail Block Summer Quantities	243,550	2,375,105	153,406	2,753,468	2,150,861	3,834,560	1,882,719	923,660	1,323,690	3,913,829	8,359,063	25,719,855	Company Records
26		Total Quantities	771,870	54,134,262	3,825,797	57,969,059	22,165,397	34,351,159	9,038,666	3,922,714	7,325,035	9,340,183	16,422,925	161,528,148	Line 23 - Line 20
27		C. CLASS REVENUE TARGETS													
28		Cost Study Results													
29		Total Delivery Service Marginal Costs	\$2,071,002			\$50,731,826	\$6,355,050	\$2,409,999	\$120,342	\$939,802	\$401,042	\$137,816	\$222,030	\$63,398,807	Marginal Annual Revenues from MCS
30		Total Customer-related Marginal Costs	\$77,241			\$9,083,544	\$3,570,636	\$4,954,353	\$1,302,952	\$381,402	\$554,845	\$559,830	\$496,712	\$21,683,033	Marginal Annual Revenues from MCS
31		Total Class Marginal Costs	\$2,148,243			\$59,815,370	\$9,925,686	\$7,364,351	\$1,423,293	\$1,301,203	\$955,887	\$798,646	\$728,743	\$84,468,933	Line 30 - Line 31
32		Delivery Service Unit Costs - Marginal Unit Costs													
33		Customer Costs	2,783	1,032	0.447	4,267	0.447	0.214	0.157	0.332	0.127	0.085	0.044	Line 32/ Line 26	
34		Capacity-Related Costs	\$56,85	\$55,56	\$62,16	\$164,57	\$62,16	\$117,19	\$188,31	\$62,59	\$108,33	\$342,15	\$703,98	Marginal Unit Costs from MCS	
35		Delivery Revenue Requirement	\$0,11280	\$0,15946	\$0,16775	\$0,43967	\$0,16775	\$0,14744	\$0,13583	\$0,09612	\$0,07760	\$0,09665	\$0,02875	Marginal Unit Costs from MCS	
36		Other Revenue													
37		Service Revenue													
38		Base Rate Revenue Requirement													
39		Base Rate Revenue Requirement													
40		Base Rate Revenue Requirement													
41		Base Rate Revenue Requirement													
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59		Base Rate Revenue Requirement													

Line	(A)	Residential		Commercial and Industrial: Low Load Factor					Commercial and Industrial: High Load Factor					Explanation (N)
		Non Heat R-1 (B)	Heat R-3 (C)	Heat R-4 (D)	Total Heat R-3, R-4 (E)	Low Annual G-41 (F)	Medium Annual G-42 (G)	High Annual G-43 (H)	Low Annual G-51 (I)	Medium Annual G-52 (J)	High Annual G-53 (K)	High Annual G-54 (L)	Company Total (M)	
60	Development of Base Revenue Target													
61	Prisma Total Revenues (Base Revenues at Current Rates)													
62	Base Revenues	\$463,154	\$24,474,727	\$1,755,953	\$26,233,830	\$8,387,784	\$9,370,486	\$1,745,752	\$91,880	\$1,135,960	\$301,289	\$542,821	\$49,679,766	Line 6
63	Summer Base Revenues	\$382,767	\$12,729,359	\$354,033	\$13,813,159	\$3,569,938	\$3,432,193	\$379,082	\$686,589	\$665,704	\$390,756	\$347,472	\$23,518,667	Line 9
64	Winter Base Revenues	\$845,921	\$37,204,085	\$2,690,008	\$39,954,091	\$11,867,722	\$12,622,955	\$2,124,634	\$1,558,469	\$1,802,664	\$1,292,045	\$890,293	\$73,198,633	Line 64 + Line 63
65	Total Prisma Revenues													
66	MCS Revenue Targets at Proposed Rates													
67	Customer-related Adjusted Marginal Costs	\$1,926,671			\$47,198,259	\$5,912,158	\$2,242,043	\$111,955	\$874,306	\$373,092	\$28,211	\$215,860	\$58,980,555	Line 53
68	Capacity-related Adjusted Marginal Costs	\$71,858			\$8,450,500	\$3,321,794	\$4,609,087	\$1,212,147	\$308,215	\$516,777	\$12,915	\$451,631	\$19,592,325	Line 54
69	Total Adjusted Marginal Costs	\$1,998,529			\$55,648,759	\$9,233,952	\$6,851,130	\$1,324,102	\$1,210,521	\$889,870	\$41,127	\$677,491	\$78,572,880	Line 67 + Line 58
70	Prisma base Revenues													
71	Total Potential Increase (decrease) in Base Revenues	\$1,152,608			\$15,755,669	(\$2,733,770)	(\$5,871,465)	(\$900,732)	(\$347,948)	(\$913,394)	(\$550,918)	(\$212,803)	\$5,374,247	Line 55 - Line 65
72	Total Potential Increase (Line 71) as a % of (Current Base Revenues)	136.25%			39.49%	-22.84%	-46.57%	-37.68%	-22.33%	-50.67%	-42.64%	-23.90%	7.34%	Line 71 / Line 65
73														
74	System Average Rate Increase	7.34%			7.34%	7.34%	7.34%	7.34%	7.34%	7.34%	7.34%	7.34%		Line 72 Column (M)
75	Total Base Revenues	\$908,028			\$42,823,116	\$12,846,393	\$13,764,030	\$2,280,839	\$1,672,891	\$1,935,016	\$1,386,907	\$955,659	\$78,572,880	Line 65 x (1 + Line 74)
76	Total increase (decrease) in Base Revenues	\$62,108			\$2,928,026	\$878,671	\$941,435	\$156,005	\$114,423	\$132,352	\$94,862	\$65,365	\$5,374,247	Line 75 - Line 65
77														
78	BASE REVENUE TARGET BEFORE KEENE ADJUSTMENT	\$969,028			\$42,823,116	\$12,846,393	\$13,764,030	\$2,280,839	\$1,672,891	\$1,935,016	\$1,386,907	\$955,659	\$78,572,880	Line 75
79	Revenue Shortfall													
80	Keene Revenue Shortfall				\$78,199	\$129,464	\$94,703	\$0	\$74,685	\$130,894	\$0	\$0	\$536,161	Keene Billing Data tab
81	Annualization Revenue Shortfall	\$38,217			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 2016 Billing Determinants tab
82	Total Adjusted Prisma Revenue	\$807,704			\$39,815,892	\$11,838,238	\$12,737,692	\$2,124,834	\$1,483,784	\$1,671,770	\$1,292,045	\$890,293	\$72,662,472	Line 65 - Line 81 - Line 82
83	Revised Rate Increase												\$5,910,408	Line 78 - Line 83
84	Adjusted System Average Rate Increase for Rate Design												8.13%	Line 84 / Line 83
85														
86														
87	FINAL BASE REVENUE TARGET	\$873,403			\$43,054,539	\$12,801,189	\$13,774,000	\$2,297,669	\$1,694,476	\$1,807,752	\$1,397,140	\$962,710	\$78,572,880	Line 83 x (1 + Line 85)

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Rate Design Analysis and Calculations

Line	Residential				Commercial and Industrial: Low Load Factor				Commercial and Industrial: High Load Factor				Company Total (M)	Explanation (N)	
	Non Heat R-1 (B)	Heat R-3 (C)	Low Income Heat R-4 (D)	Total Heat R-3, R-4 (E)	Low Annual G-41 (F)	Medium Annual G-42 (G)	High Annual G-43 (H)	Low Annual G-51 (I)	Medium Annual G-52 (J)	High Annual G-53 (K)	High Annual G-54 (L)				
88	D. RATE DESIGN														
89	Current Customer charge (as Filed)	\$15.27			\$22.10	\$48.38	\$145.08	\$622.61	\$48.38	\$145.08	\$640.74	\$640.74	\$13,035,151	Company tariffs - 4/2017	
90	Calculated increase	8.13%			8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	\$1,010,003	Rate design input	
91	Marginal Cost Considerations: Current customer charge vs MCS customer costs												\$1,010,003	Rate design input	
92	Consistency Consideration: Proposed % increase	28.87%			42.76%	83.60%	133.07%	337.48%	83.05%	143.96%	201.30%	97.84%	\$1,010,003	Order input	
93	Proposed Customer Charge	-2.55%			-32.67%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	\$1,010,003	(Line 89) x (1 + Line 92)	
94	Customer Charge as a % of MCS unit costs	\$14.88			\$14.88	\$52.29	\$156.88	\$673.25	\$52.29	\$156.88	\$692.86	\$692.86	\$1,010,003	(Line 89) x (1 + Line 92)	
95	Customer Charge Revenue, Proposed Customer Charge	28.14%			28.68%	90.4%	143.9%	364.9%	89.8%	155.7%	217.7%	105.6%	\$1,010,003	(Line 89) x (1 + Line 92)	
96	Winter Period Customer Revenues	\$317,516			\$6,979,382	\$2,895,570	\$1,685,719	\$198,971	\$428,244	\$308,579	\$133,167	\$110,003	\$13,035,151	Line 89 * Line 16	
97	Summer Period Customer Revenues	\$317,755			\$6,851,345	\$2,844,337	\$1,637,411	\$192,730	\$425,110	\$308,579	\$133,167	\$110,003	\$13,035,151	Line 89 * Line 17	
98	Total Customer Charge revenue	\$635,271			\$13,830,727	\$5,739,907	\$3,323,130	\$388,701	\$853,354	\$612,316	\$264,533	\$217,260	\$20,946,219	Line 86 + Line 97	
99	Remaining Revenues	\$238,133			\$29,223,812	\$7,061,283	\$10,470,870	\$1,907,968	\$751,122	\$1,185,436	\$1,132,608	\$745,430	\$52,728,691	Line 86 + Line 98	
100	Total Volumetric Revenue Requirement													Line 89	
101	Current Volumetric Rates as Filed														
102	Winter Period Variable Rates														
103	Head Block	\$0.2018	\$0.3495	\$0.1398	\$0.3495	\$0.3965	\$0.3606	\$0.2216	\$0.2390	\$0.2052	\$0.1434	\$0.0547	\$0.0547	Company tariffs - 4/2017	
104	Tail Block	\$0.2018	\$0.2892	\$0.1156	\$0.2892	\$0.2653	\$0.2402	\$0.2216	\$0.1553	\$0.1367	\$0.1434	\$0.0547	\$0.0547	Company tariffs - 4/2017	
105	Summer Period Variable Rates														
106	Head Block	\$0.2018	\$0.3495	\$0.1398	\$0.3495	\$0.3965	\$0.3606	\$0.1013	\$0.2390	\$0.1487	\$0.0688	\$0.0287	\$0.0287	Company tariffs - 4/2017	
107	Head Block	\$0.2018	\$0.2892	\$0.1156	\$0.2892	\$0.2653	\$0.2402	\$0.1013	\$0.1553	\$0.0845	\$0.0688	\$0.0287	\$0.0287	Company tariffs - 4/2017	
108	Tail Block													Line 85	
109	Target Percent Increase for Volumetric Rates													(Line 100) / (Line 20 + Line 23)	
110	Annual Average Volumetric Rate	\$0.3085			\$0.5042	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	\$0.3085	Line 112	
111	Annual Average Head Block Rate				\$0.5042									Line 113	
112	Annual Average Tail Block Rate				\$0.5042									Line 114 / Line 113	
113	Winter Period Tail Block Rate % of Head Block Rate				100%									Rate design input or Line 115	
114	Summer Period Tail Block Rate % of Head Block Rate				100%										
115	Base Rates with R-4 Discount included														
116	Monthly Customer Charge	\$14.88	\$14.88	\$5.95	\$14.88	\$52.29	\$156.88	\$673.25	\$52.29	\$156.88	\$692.86	\$692.86	\$1,010,003	Line 93	
117	Winter Period Variable Rates													Line 113 or Line 104 x (1 + Line 110)	
118	Head Block	\$0.3085	\$0.5042	\$0.2017	\$0.5042	\$0.4288	\$0.3899	\$0.2396	\$0.2584	\$0.2219	\$0.1551	\$0.0591	\$0.0591	Line 114 or Line 105 x (1 + Line 110)	
119	Tail Block	\$0.3085	\$0.5042	\$0.2017	\$0.5042	\$0.2880	\$0.2597	\$0.2396	\$0.1679	\$0.1478	\$0.1551	\$0.0591	\$0.0591	Line 113 or Line 107 x (1 + Line 110)	
120	Summer Period Variable Rates													Line 114 or Line 108 x (1 + Line 110)	
121	Head Block	\$0.3085	\$0.5042	\$0.2017	\$0.5042	\$0.4288	\$0.3899	\$0.1095	\$0.2584	\$0.1608	\$0.0744	\$0.0321	\$0.0321	Line 113 or Line 107 x (1 + Line 110)	
122	Tail Block	\$0.3085	\$0.5042	\$0.2017	\$0.5042	\$0.2880	\$0.2597	\$0.1095	\$0.1679	\$0.0914	\$0.0744	\$0.0321	\$0.0321	Line 114 or Line 108 x (1 + Line 110)	
123	Remaining Revenues														
124	Total Volumetric Revenue Requirement														

Line	Residential				Commercial and Industrial: Low Load Factor				Commercial and Industrial: High Load Factor				Company Total (M)	Explanation (N)
	Non Heat (B)	Heat (C)	Heat R-4 (D)	Total Heat R-3, R-4 (E)	Low Annual G-41 (F)	Medium Annual G-42 (G)	High Annual G-43 (H)	Low Annual G-51 (I)	Medium Annual G-52 (J)	High Annual G-53 (K)	High Annual G-54 (L)			
126	(A)													
127	Low Income Discount and RLAP Calculation													
128	Base Revenues before Low Income Discount													
129	Monthly Customer Charge													
130	Winter Period Variable Rates													
131	Head Block													
132	Tail Block													
133	Summer Period Variable Rates													
134	Head Block													
135	Tail Block													
136	Total Base Revenue before Low Income Discount													
137	Low Income Discount % of Distribution Rates													
138	Total Low Income Revenue Shortfall													
139	Low Income Revenue Shortfall (\$/MWh)													
140	RLAP Revenues													
141	Increase in RLAP Rate													
142	Base Rates Revenue Proof													
143														
144	Customer Charge Revenues													
145	Winter													
146	Summer													
147	Delivery Quantities													
148	Winter													
149	Summer													
150														
151														
152	Total Base Revenues													
153	Total Base plus RLAP Revenues													
154	Truncation Difference Compared to Revenue Requirement													
155	Base Revenues plus Low Income RLAP Revenues													
156	Class Rate Impact Calculations													
157	Increase in Base Revenues, R-4 revenues at R-3 rates													
158	Percent Increase in Base Revenues, R-4 revenues at R-3 rates													
159	Increase in Base Revenues, R-4 revenues at R-4 rates													
160	Percent Increase in Base Revenues, R-4 revenues at R-4 rates													
161	Increase in R-4 Shortfall Recovery													
162	Net Increase													
163	Percent Increase in Base Revenues, R-4 revenues at R-4 rates													