



Liberty Utilities (EnergyNorth Natural Gas) Corp.

d/b/a Liberty Utilities

Docket No. DG 17-063

Attachment DBS-2

June 16, 2017

Liberty Utilities (EnergyNorth Natural Gas) Corp.

Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program Adjusted Based on Randy's 6/16/17 Email

Computation of Revenue Requirement

June 16, 2017

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Liberty Utilities (EnergyNorth Natural Gas) Corp.
Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program Adjusted Based on Randy's 6/16/17 Email
Computation of Revenue Requirement

RESTATE AS IF RATE CASE WAS NOT FILED. FOR INFORMATIONAL PURPOSES ONLY.

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
	Actual FY09	12 Months FY10	Actual FY11	Actual FY12	Actual FY13	Actual FY14	Actual FY15	Actual FY16	Actual FY17	Estimate FY18
Incremental Investment										
1 CIBS Program Actual Spend-Mains	1,736,153	4,206,295	3,391,069	1,570,208	2,174,813	2,781,140	3,006,856	3,304,532	\$5,204,619	-
2 CIBS Program Actual Spend-Service	729,463	822,173	668,631	352,005	161,352	370,655	776,086	705,984	\$1,209,322	-
3 CIBS Program Estimated Spend-Mains					-	-	-	-	-	13,076,605
4 CIBS Program Estimated Spend-Service					-	-	-	-	-	3,038,421
5 Base Spending Amount	500,000	500,000	500,000	500,000	500,000	500,000	506,240	514,244	520,965	520,965
6 Incremental Amount	1,965,616	4,528,468	3,559,700	1,422,213	1,836,165	2,651,795	3,276,702	3,496,272	5,892,976	15,594,061
7 Cumulative CIBS Program Spend Since July 1, 2009		6,494,084	10,053,784	11,475,997	13,312,162	15,963,956	19,240,659	22,736,931	28,629,907	44,223,967
Deferred Tax Calculation										
10 Annual Tax Depreciation	1,031,948	5,462,136	3,559,700	1,422,213	1,836,165	2,651,795	3,276,702	3,496,272	5,892,976	15,594,061
11 Cumulative Tax Depreciation Since July 1, 2009		6,494,084	10,053,784	11,475,997	13,312,162	15,963,956	19,240,659	22,736,931	28,629,907	44,223,967
13 Annual Book Depreciation	49,836	152,184	232,725	265,448	303,340	360,741	437,636	517,566	653,822	1,014,369
14 Cumulative Book Depreciation Since July 1, 2009	49,836	202,019	434,744	700,192	1,003,532	1,364,274	1,801,910	2,319,476	2,973,298	3,987,668
16 Annual Book/Tax Timer	982,112	5,309,953	3,326,975	1,156,765	1,532,824	2,291,054	2,839,066	2,978,706	5,239,154	14,579,691
17 Cumulative Book/Tax Timer	982,112	6,292,065	9,619,040	10,775,805	12,308,629	14,599,683	17,438,749	20,417,455	25,656,609	40,236,300
18 Statutory Tax Rate	40.53%	40.53%	40.53%	40.53%	40.53%	39.61%	39.61%	39.61%	39.61%	39.41%
20 Deferred Tax Reserve	398,001	2,550,174	3,898,597	4,367,434	4,988,687	5,896,174	6,907,488	8,087,354	10,162,583	15,908,439
Rate Base Calculation										
23 Plant In Service	1,965,616	6,494,084	10,053,784	11,475,997	13,312,162	15,963,956	19,240,659	22,736,931	28,629,907	44,223,967
24 Accumulated Depreciation	(49,836)	(202,019)	(434,744)	(700,192)	(1,003,532)	(1,364,274)	(1,801,910)	(2,319,476)	(2,973,298)	(3,987,668)
25 Net Plant in Service	1,915,780	6,292,065	9,619,040	10,775,805	12,308,629	14,599,683	17,438,749	20,417,455	25,656,609	40,236,300
26 Deferred Tax Reserve	(398,001)	(2,550,174)	(3,898,597)	(4,367,434)	(4,988,687)	(5,896,174)	(6,907,488)	(8,087,354)	(10,162,583)	(15,908,439)
27 Year End Rate Base	1,517,779	3,741,891	5,720,443	6,408,371	7,319,942	8,703,509	10,531,261	12,330,101	15,494,026	24,327,861
Revenue Requirement Calculation										
30 Year End Rate Base	1,517,779	3,741,891	5,720,443	6,408,371	7,319,942	8,703,509	10,531,261	12,330,101	15,494,026	24,327,861
31 Pre-Tax ROR	11.53%	11.53%	11.63%	11.63%	11.63%	11.50%	10.22%	9.87%	9.87%	9.85%
32 Return and Taxes	175,003	431,440	665,288	745,294	851,309	1,000,904	1,076,295	1,216,981	1,529,260	2,395,874
33 Book Depreciation	49,836	152,184	232,725	265,448	303,340	360,741	437,636	517,566	653,822	1,014,369
34 Property Taxes	37,347	130,246	244,324	281,249	284,329	410,251	559,784	534,937	777,395	1,219,160
35 Annual Revenue Requirement	262,185	713,870	1,142,337	1,291,991	1,438,978	1,771,896	2,073,715	2,269,484	2,960,477	4,629,403
37 Prior Year Annual Revenue Requirement	-	262,185	713,870	1,142,337	1,291,991	1,438,978	1,771,896	2,073,715	2,269,484	2,960,477
39 Incremental Annual Rate Adjustment Since July 1, 2009	262,185	451,684	428,467	149,654	146,987	332,918	301,819	195,769	690,993	1,668,926

Actual Capital Structure/ROR

	Ratio	Rate	Weighted after-tax	(prior federal tax rate of 35% and state rate of 8.5%) Pre Tax	(current federal tax rate of 34% and state rate of 8.5%) Pre Tax
Long Term Debt	50.00%	4.43%	2.215%	2.215%	2.215%
Short Term Debt	0.00%	0.00%	0.00%	0.00%	0.00%
Common Equity	50.00%	9.25%	4.625%	7.777%	7.659%
	100.00%		6.840%	9.992%	9.874%

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program Adjusted Based on Randy's 6/16/17 Email
Vintage Year Book Depreciation Schedule

RESTATED AS IF RATE CASE WAS NOT FILED. FOR INFORMATIONAL PURPOSES ONLY.

		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
		Actual FY09	12 Months FY10	Actual FY11	Actual FY12	Actual FY13	Actual FY14	Actual FY15	Actual FY16	Actual FY17	Estimate FY18
Book Depreciation Schedule-Mains											
1	Actual CIBS spending	1,736,153	4,206,295	3,391,069	1,570,208	2,174,813	2,781,140	3,006,856	3,304,532	5,204,619	13,076,605
2	Base spending	(352,073)	(418,248)	(417,650)	(408,438)	(465,466)	(441,199)	(402,383)	(423,720)	(422,739)	(423,255)
3	Incremental CIBS spending	1,384,080	3,788,047	2,973,419	1,161,770	1,709,346	2,339,940	2,604,473	2,880,812	4,781,880	12,653,350
4											
5	Book Depreciation Rate:										
6	Year 1	2.54%	35,065	35,065	35,065	35,065	35,065	35,065	35,065	35,065	35,065
7	Year 1 beginning in FY10	1.92%		72,731	57,090	22,306	32,819	44,927	50,006	55,312	242,944
8	Year 2	1.92%			72,731	57,090	22,306	32,819	44,927	50,006	55,312
9	Year 3	1.92%				57,090	22,306	32,819	44,927	50,006	55,312
10	Year 4	1.92%					57,090	22,306	32,819	44,927	50,006
11	Year 5	1.92%						57,090	22,306	32,819	44,927
12	Year 6	1.92%							57,090	22,306	32,819
13	Year 7	1.92%								57,090	22,306
14	Year 8	1.92%									57,090
15	Year 9	1.92%									72,731
16	Book Depreciation Expense-Mains	35,065	107,796	164,886	187,191	220,011	264,937	314,943	370,255	462,067	705,011
17											
18	Accumulated Depreciation Mains-Beginning of Year	-	35,065	142,861	307,747	494,938	714,948	979,886	1,294,829	1,665,084	1,665,084
19	Accumulated Depreciation Mains-End of Year	35,065	142,861	307,747	494,938	714,948	979,886	1,294,829	1,665,084	2,127,151	2,370,095
20											
21											
22	Book Depreciation Schedule-Services										
23											
24	Actual CIBS spending	729,463	822,173	668,631	352,005	161,352	370,655	776,086	705,984	1,209,322	3,038,421
25	Base spending	(147,927)	(81,752)	(82,350)	(91,562)	(34,534)	(58,801)	(103,857)	(90,524)	(98,226)	(98,346)
26	Incremental CIBS spending	581,536	740,421	586,281	260,443	126,818	311,854	672,229	615,460	1,111,096	2,940,075
27											
28	Book Depreciation Rate:										
29	Year 1	2.54%	14,771	14,771	14,771	14,771	14,771	14,771	14,771	14,771	14,771
30	Year 1 beginning in FY10	4.00%		29,617	23,451	10,418	5,073	12,474	26,889	24,618	117,603
31	Year 2	4.00%			29,617	23,451	10,418	5,073	12,474	26,889	44,444
32	Year 3	4.00%				23,451	10,418	5,073	12,474	26,889	24,618
33	Year 4	4.00%					23,451	10,418	5,073	12,474	26,889
34	Year 5	4.00%						23,451	10,418	5,073	12,474
35	Year 6	4.00%							23,451	10,418	5,073
36	Year 7	4.00%								23,451	10,418
37	Year 8	4.00%									23,451
38	Year 9	4.00%									29,617
39	Book Depreciation Expense-Services	14,771	44,388	67,839	78,257	83,330	95,804	122,693	147,311	191,755	309,358
40											
41	Accumulated Depreciation Services-Beginning of Year	-	14,771	59,159	126,998	205,255	288,584	384,388	507,081	654,392	846,147
42	Accumulated Depreciation Services-End of Year	14,771	59,159	126,998	205,255	288,584	384,388	507,081	654,392	846,147	1,155,505
43											
44											
45											
46	Total Mains & Services Depreciation Expense	49,836	152,184	232,725	265,448	303,340	360,741	437,636	517,566	653,822	1,014,369
47											
48	Total Mains & Services Accumulated Depreciation	49,836	202,020	434,745	700,193	1,003,533	1,364,274	1,801,910	2,319,476	2,973,298	3,525,601

2(g) & 22(g) FY 2018 estimate split 82.6% Mains / 17.4% Services based upon FY 2017 actual spend.

6(a) & 26(a) FY 2009 filing used the composite depreciation rate for both mains and services.

col. (b) See footnote regarding column (b) on page 1 of 5.

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program Adjusted Based on Randy's 6/16/17 Email
Municipal Taxes as a Percentage of Net Plant

RESTATED AS IF RATE CASE WAS NOT FILED. FOR INFORMATIONAL PURPOSES ONLY.

	(a) 12/31/2005	(b) 12/31/2006	(c) 12/31/2007	(d) 12/31/2008	(e) 12/31/2009	(f) 12/31/2010	(g) 12/31/2011	(h) 12/31/2012	(i) 12/31/2013	(j) 12/31/2014	(k) 12/31/2015	(l) 12/31/2016
1 Plant in Service	258,573	272,678	289,379	305,221	319,737	332,049	344,966	356,165	381,214	419,215	451,950	494,511
2 Depreciation and Amortization Reserve	(82,363)	(88,564)	(94,562)	(102,587)	(108,270)	(114,294)	(119,973)	(121,047)	(129,209)	(137,656)	(149,943)	(163,209)
3 Net Plant	176,209	184,114	194,817	202,634	211,467	217,756	224,993	235,118	252,006	281,559	302,007	331,302
4												
5 Average Net Plant												
6 Plant in Service		265,625	281,028	297,300	312,479	325,893	338,508	350,565	368,690	400,214	435,582	473,230
7 Depreciation Reserve		(85,463)	(91,563)	(98,575)	(105,429)	(111,282)	(117,133)	(120,510)	(125,128)	(133,432)	(143,799)	(156,576)
8 Net Plant		180,162	189,465	198,726	207,051	214,611	221,375	230,056	243,562	266,782	291,783	316,654
9												
10 Municipal Taxes		3,534	3,641	3,771	4,294	5,459	5,776	5,321	6,835	8,560	7,644	9,596
11												
12 % Municipal Taxes to Net Plant		1.96%	1.92%	1.90%	2.07%	2.54%	2.61%	2.31%	2.81%	3.21%	2.62%	3.03%

Note: Source of above data is the December 31 PUC Annual Report to be consistent with data previously provided to the Commission.

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program Adjusted Based on Randy's 6/16/17 Email
Bill Impacts due to Cast Iron and Bare Steel Replacement Program

RESTATED AS IF RATE CASE WAS NOT FILED. FOR INFORMATIONAL PURPOSES ONLY.

	(a) FY2009	(b) FY2010	(c) FY2011	(d) FY2012	(e) FY2013	(f) FY2014	(g) FY2015	(h) FY2016	(i) FY2017	(j) Estimate FY2018
1 Annual Increase due to Cast Iron Bare Steel program	262,185	713,870	527,261	(92,036)	146,987	332,918	301,819	195,769	690,993	1,668,926
2										
3 Annual Throughput (see Summer COG filing - schedule 10B)	154,702,063	150,828,182	154,648,622	163,588,592	158,062,349	160,018,819	166,523,068	172,103,158	186,909,214	186,909,214
4										
5 Increase Factor	\$0.0017	\$0.0047	\$0.0034	(\$0.0006)	\$0.0009	\$0.0021	\$0.0018	\$0.0011	\$0.0037	\$0.0089
6										
7 Annual Calendar Year Gross Revenues (Annual Report - Page 11)	\$176,520,000	\$151,224,178	\$132,475,941	\$146,365,316	\$119,363,340	\$137,617,008	\$119,363,341	\$156,933,825	\$120,053,649	\$120,053,649
8										
9 Annual Percent Increase	0.15%	0.47%	0.40%	-0.06%	0.12%	0.24%	0.25%	0.12%	0.58%	1.39%
10										
11 Miles of Cast Iron/Bare Steel Main Replaced Annually through CIBS	2.96	3.98	2.79	1.56	1.65	3.51	5.00	5.05	10.26	13.10
12 Cumulative Miles of Main Replaced through CIBS	2.96	6.94	9.73	11.29	12.94	16.45	21.45	26.50	36.76	49.86
13 Total Miles of Cast Iron/Bare Steel Main Remaining ¹	149.8	142.0	137.4	132.1	126.30	120.88	113.96	106.46	93.18	77.48
14										
15 Services Replaced Annually ²	101	127	282	81	84	174	316	291	572	689
16 Cumulative Number of Services Replaced	101	228	510	591	675	849	1,165	1,456	2,028	2,717
17										
18 Typical Residential bill	\$1,292	\$1,107	\$1,118	\$1,059	\$1,020	\$1,123	\$1,309	\$1,309	\$1,078	\$1,078
19										
20 Typical Usage	800	800	800	800	800	800	800	800	763	763
21										
22 Annual Increase for Residential Hoating customer	\$1.36	\$3.79	\$2.73	(\$0.45)	\$0.74	\$1.66	\$1.45	\$0.91	\$2.82	\$6.81
23										
24 Percent Bill Increase	0.10%	0.34%	0.24%	-0.04%	0.07%	0.15%	0.11%	0.07%	0.26%	0.63%
25										
26										
27 Typical G-41	\$3,375	\$2,939	\$2,842	\$2,696	\$2,654	\$2,926	\$3,499	\$3,499	\$2,651	\$2,651
28										
29 Typical Usage	2,167	2,167	2,167	2,167	2,167	2,167	2,167	2,167	2,029	2,029
30										
31 Annual Increase for G-41 customer	\$3.67	\$10.26	\$7.39	(\$1.22)	\$2.02	\$4.51	\$3.93	\$2.46	\$7.50	\$18.12
32										
33 Percent Bill Increase	0.11%	0.35%	0.26%	-0.05%	0.08%	0.15%	0.11%	0.07%	0.28%	0.68%
34										
35										
36 Typical G-42	\$22,595	\$18,926	\$18,432	\$17,516	\$16,884	\$18,853	\$22,486	\$22,486	\$16,284	\$16,284
37										
38 Typical Usage	15,567	15,567	15,567	15,567	15,567	15,567	15,567	15,567	14,720	14,720
39										
40 Annual Increase for G-42 customer	\$26.38	\$73.68	\$53.07	(\$8.76)	\$14.48	\$32.39	\$28.21	\$17.71	\$54.42	\$131.44
41										
42 Percent Bill Increase	0.12%	0.39%	0.29%	-0.05%	0.09%	0.17%	0.13%	0.08%	0.33%	0.81%
43										
44										
45 Typical G-52	\$21,973	\$16,707	\$16,605	\$16,025	\$14,629	\$16,555	\$18,667	\$18,667	\$14,087	\$14,087
46										
47 Typical Usage	15,687	15,687	15,687	15,687	15,687	15,687	15,687	15,687	14,566	14,566
48										
49 Annual Increase for G-52 customer	\$26.59	\$74.25	\$53.48	(\$8.83)	\$14.59	\$32.64	\$28.43	\$17.84	\$53.85	\$130.06
50										
51 Percent Bill Increase	0.12%	0.44%	0.32%	-0.06%	0.10%	0.20%	0.15%	0.10%	0.38%	0.92%

Line / Column Notes:

1(b)-16(b) Amounts are cumulative from July 1, 2009

¹These figures are as of the end of the CIBS fiscal year (i.e. FY 2017 data is as of 3/31/2017). Mileage includes Cast Iron/Bare Steel replaced through the CIBS Program as well as City/State Construction.

²These figures include all service replacements and inserts, including bare steel, coated steel and plastic services