

**Liberty Utilities (EnergyNorth Natural Gas) Corp.
d/b/a Liberty Utilities
Docket No. DG 20-XXX
Attachment CAM-1
April 15, 2020**

**Liberty Utilities (EnergyNorth Natural Gas) Corp.
Fiscal Year 2020 Cast Iron/Bare Steel Replacement Program
Computation of Revenue Requirement
April 15, 2020**

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Bill Impacts due to Cast Iron and Bare Steel Replacement Program	4

Incremental Investment

Revenue Requirement Calculation

(current federal
tax rate of 21%
and state rate
of 7.7%)

41(k) includes a low income revenue correction from FY 18 of (\$7,290) = (\$6,911 plus interest)

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Fiscal Year 2020 Cast Iron/Bare Steel Replacement Program
Vintage Year Book Depreciation Schedule

		(a)	(b) July 1, 2009 thru March 31, 2010	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
		Actual FY09	9 Months FY10	Actual FY11	Actual FY12	Actual FY13	Actual FY14	Actual FY15	Actual FY16	Actual FY17	Actual FY18	Actual FY19	Actual FY20
Book Depreciation Schedule-Mains													
1	Actual CIBS spending	1,736,153	4,049,995	3,391,069	1,570,208	2,174,813	2,781,140	3,006,856	3,304,532	5,204,619	8,858,559	8,865,300	14,099,869
2	Base spending	(352,073)	(402,707)	(417,650)	(408,438)	(465,466)	(441,199)	(402,383)	(423,720)	(422,739)	(455,796)	(472,039)	(501,731)
3	Incremental CIBS spending	1,384,080	3,647,288	2,973,419	1,161,770	1,709,346	2,339,940	2,604,473	2,880,812	4,781,880	8,402,763	8,393,261	13,598,138
4													
5	Book Depreciation Rate:												
6	Year 1	2.54%	35,065	0	0	0	0	0	0	0	0	0	0
7	Year 1 beginning in FY10	1.92%		70,028	57,090	22,306	32,819	44,927	50,006	55,312	161,333	161,151	261,084
8	Year 2	1.92%		70,028	57,090	22,306	32,819	44,927	50,006	55,312	161,333	161,333	161,151
9	Year 3	1.92%			70,028	57,090	22,306	32,819	44,927	50,006	55,312	161,333	161,333
10	Year 4	1.92%				70,028	57,090	22,306	32,819	44,927	50,006	55,312	91,812
11	Year 5	1.92%					70,028	57,090	22,306	32,819	44,927	50,006	55,312
12	Year 6	1.92%						70,028	57,090	22,306	32,819	44,927	50,006
13	Year 7	1.92%							70,028	57,090	22,306	32,819	44,927
14	Year 8	1.92%								70,028	57,090	22,306	32,819
15	Year 9	1.92%									70,028	57,090	22,306
16	Year 10	1.92%										70,028	57,090
17	Year 11	1.92%											70,028
18	Book Depreciation Expense-Mains	35,065	70,028	127,118	149,424	182,243	227,170	277,176	332,487	424,299	585,632	676,755	937,839
19													
20	Accumulated Depreciation Mains-Beginning of Year	-	-	70,028	197,146	346,570	528,813	755,982	1,033,158	1,365,646	1,789,945	2,375,577	3,052,333
21	Accumulated Depreciation Mains-End of Year	35,065	70,028	197,146	346,570	528,813	755,982	1,033,158	1,365,646	1,789,945	2,375,577	3,052,333	3,990,172
22													
23													
24	Book Depreciation Schedule-Services												
25													
26	Actual CIBS spending	729,463	798,555	668,631	352,005	161,352	370,655	776,086	705,984	1,209,322	1,389,222	1,147,142	1,334,614
27	Base spending	(147,927)	(79,403)	(82,350)	(91,562)	(34,534)	(58,801)	(103,857)	(90,524)	(98,226)	(71,479)	(61,080)	(47,491)
28	Incremental CIBS spending	581,536	719,152	586,281	260,443	126,818	311,854	672,229	615,460	1,111,096	1,317,743	1,086,062	1,287,123
29													
30	Book Depreciation Rate:												
31	Year 1	2.54%	14,771	0	0	0	0	0	0	0	0	0	0
32	Year 1 beginning in FY10	4.00%		28,766	23,451	10,418	5,073	12,474	26,889	24,618	44,444	52,710	51,485
33	Year 2	4.00%		28,766	23,451	10,418	5,073	12,474	26,889	24,618	44,444	52,710	43,442
34	Year 3	4.00%			28,766	23,451	10,418	5,073	12,474	26,889	24,618	44,444	52,710
35	Year 4	4.00%				28,766	23,451	10,418	5,073	12,474	26,889	24,618	44,444
36	Year 5	4.00%					28,766	23,451	10,418	5,073	12,474	26,889	24,618
37	Year 6	4.00%						28,766	23,451	10,418	5,073	12,474	26,889
38	Year 7	4.00%							28,766	23,451	10,418	5,073	12,474
39	Year 8	4.00%								28,766	23,451	10,418	5,073
40	Year 9	4.00%									28,766	23,451	10,418
41	Year 10	3.55%										25,530	20,813
42	Year 11	3.55%											25,530
43	Book Depreciation Expense-Services	14,771	28,766	52,217	62,635	67,708	80,182	107,071	131,690	176,133	228,843	269,049	317,896
44													
45	Accumulated Depreciation Services-Beginning of Year	-	-	28,766	80,983	143,618	211,326	291,508	398,579	530,268	706,402	935,245	1,204,294
46	Accumulated Depreciation Services-End of Year	14,771	28,766	80,983	143,618	211,326	291,508	398,579	530,268	706,402	935,245	1,204,294	1,522,190
47													
48													
49													
50	Total Mains & Services Depreciation Expense	49,836	98,794	179,335	212,059	249,951	307,352	384,247	464,177	600,433	814,476	945,805	1,255,735
51													
52	Total Mains & Services Accumulated Depreciation	49,836	98,794	278,129	490,188	740,138	1,047,490	1,431,737	1,895,914	2,496,347	3,310,822	4,256,627	5,512,362

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Fiscal Year 2020 Cast Iron/Bare Steel Replacement Program
Municipal Taxes as a Percentage of Net Plant

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
	12/31/2005	12/31/2006	12/31/2007	12/31/2008	12/31/2009	12/31/2010	12/31/2011	12/31/2012	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019
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	539,666	595,016	665,855
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)	(171,469)	(134,742)	(224,026)
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	368,198	460,274	441,829
4															
5 Average Net Plant															
6															
7 Plant in Service	265,625	281,028	297,300	312,479	325,893	338,508	350,565	368,690	400,214	435,582	456,863	495,808	567,341	630,435	
8 Depreciation Reserve	(85,463)	(91,563)	(98,575)	(105,429)	(111,282)	(117,133)	(120,510)	(125,128)	(133,432)	(143,799)	(150,432)	(160,706)	(153,105)	(179,384)	
9 Net Plant	180,162	189,465	198,726	207,051	214,611	221,375	230,056	243,562	266,782	291,783	306,431	335,102	414,236	451,051	
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	9,380	10,361	12,226	
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%	3.13%	2.80%	2.50%	2.71%	

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 2020 Cast Iron/Bare Steel Replacement Program
Bill Impacts due to Cast Iron and Bare Steel Replacement Program

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020
1 Annual Increase due to Cast Iron Bare Steel program	262,185	479,762	521,590	(44,226)	157,667	330,245	311,610	214,434	688,807	762,488	1,020,832	1,612,633
2 Annual Throughput (see Winter 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	182,370,287	183,203,513	185,636,009
3 Increase Factor	\$0.0017	\$0.0032	\$0.0034	(\$0.0003)	\$0.0010	\$0.0021	\$0.0019	\$0.0012	\$0.0037	\$0.0042	\$0.0056	\$0.0087
4												
5 Annual Calendar Year Gross Revenues (Annual Report - Page 11) ³	\$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	\$139,890,158	\$157,495,294	\$157,020,559
6 Annual Percent Increase	0.15%	0.32%	0.39%	-0.03%	0.13%	0.24%	0.26%	0.14%	0.57%	0.55%	0.65%	1.03%
7 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	11.58	9.91	11.13
8 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	48.34	58.25	69.38
9 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	78.65	68.74	55.83
10												
11 Services Replaced Annually ²	101	127	282	81	84	174	316	291	572	584	270	513
12 Cumulative Number of Services Replaced	101	228	510	591	675	849	1,165	1,456	2,028	2,612	2,882	3,395
13												
14 Typical Residential bill	\$1,292	\$1,107	\$1,118	\$1,059	\$1,020	\$1,123	\$1,309	\$1,309	\$1,078	\$1,171	\$1,170	\$1,162
15 Typical Usage	800	800	800	800	800	800	800	800	763	779	778	809
16 Annual Increase for Residential Heating customer	\$1.36	\$2.54	\$2.70	(\$0.22)	\$0.80	\$1.65	\$1.50	\$1.00	\$2.81	\$3.26	\$4.33	\$7.03
17 Percent Bill Increase	0.10%	0.23%	0.24%	-0.02%	0.08%	0.15%	0.11%	0.08%	0.26%	0.28%	0.37%	0.60%
18												
19 Typical G-41	\$3,375	\$2,939	\$2,842	\$2,696	\$2,654	\$2,926	\$3,499	\$3,499	\$2,651	\$3,031	\$3,213	\$2,943
20 Typical Usage	2,167	2,167	2,167	2,167	2,167	2,167	2,167	2,167	2,029	2,180	2,260	2,260
21 Annual Increase for G-41 customer	\$3.67	\$6.89	\$7.31	(\$0.59)	\$2.16	\$4.47	\$4.06	\$2.70	\$7.48	\$9.11	\$12.59	\$19.63
22 Percent Bill Increase	0.11%	0.23%	0.26%	-0.02%	0.08%	0.15%	0.12%	0.08%	0.28%	0.30%	0.39%	0.67%
23												
24 Typical G-42	\$22,595	\$18,926	\$18,432	\$17,516	\$16,884	\$18,853	\$22,486	\$22,486	\$16,284	\$18,916	\$21,784	\$19,754
25 Typical Usage	15,567	15,567	15,567	15,567	15,567	15,567	15,567	15,567	14,720	15,883	18,073	18,073
26 Annual Increase for G-42 customer	\$26.38	\$49.52	\$52.50	(\$4.21)	\$15.53	\$32.13	\$29.13	\$19.40	\$54.25	\$66.41	\$100.70	\$157.00
27 Percent Bill Increase	0.12%	0.26%	0.28%	-0.02%	0.09%	0.17%	0.13%	0.09%	0.33%	0.35%	0.46%	0.79%
28												
29 Typical G-52	\$21,973	\$16,707	\$16,605	\$16,025	\$14,629	\$16,555	\$18,667	\$18,667	\$14,087	\$15,714	\$17,730	\$16,408
30 Typical Usage	15,687	15,687	15,687	15,687	15,687	15,687	15,687	15,687	14,566	15,645	17,935	17,935
31 Annual Increase for G-52 customer	\$26.59	\$49.90	\$52.91	(\$4.24)	\$15.65	\$32.37	\$29.35	\$19.55	\$53.68	\$65.41	\$99.93	\$155.80
32 Percent Bill Increase	0.12%	0.30%	0.32%	-0.03%	0.11%	0.20%	0.16%	0.10%	0.38%	0.42%	0.56%	0.95%
33												

Line / Column Notes:

1(b)-16(b)

¹Mileage includes Cast Iron/Bare Steel replaced through the CIBS Program as well as City/State Construction.
These figures include all service replacements and inserts, including bare steel, coated steel and plastic services
These figures include both ENNG and Keene beginning in FY 2019

**Liberty Utilities (EnergyNorth Natural Gas) Corp.
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Docket No. DG XX-XXX
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Computation of Revenue Requirement
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Municipal Taxes as a Percentage of Net Plant	3
Bill Impacts due to Cast Iron and Bare Steel Replacement Program	4

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Fiscal Year 2020 Cast Iron/Bare Steel Replacement Program
Computation of Revenue Requirement

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

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
	Actual FY09	12 Months FY10	Actual FY11	Actual FY12	Actual FY13	Actual FY14	Actual FY15	Actual FY16	Actual FY17	Actual FY18	Actual FY19	Actual FY20
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	8,858,559	8,865,300	14,099,869
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	1,389,222	1,147,142	1,334,614
3 CIBS Program Estimated Spend-Mains					-	-	-	-	-	-	-	-
4 CIBS Program Estimated Spend-Service					-	-	-	-	-	-	-	-
5 Degradation Fees [1]					-	-	-	-	-	1,198,059	-	-
6 Base Spending Amount	500,000	500,000	500,000	500,000	500,000	500,000	506,240	514,244	520,965	527,275	533,119	549,222
7 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	10,918,565	9,479,323	14,885,261
8 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	39,548,472	49,027,795	63,913,055
Deferred Tax Calculation												
11 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	10,918,565	9,479,323	14,885,261
12 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	39,548,472	49,027,795	63,913,055
14 Annual Book Depreciation	49,836	152,184	232,725	265,448	303,340	360,741	437,636	517,566	653,822	867,865	1,069,126	1,306,326
15 Cumulative Book Depreciation Since July 1, 2009		202,019	434,744	700,192	1,003,532	1,364,273	1,801,909	2,319,475	2,973,297	3,841,162	4,910,288	6,216,614
17 Annual Book/Tax Timer	982,112	5,309,953	3,326,975	1,156,765	1,532,825	2,291,054	2,839,067	2,978,706	5,239,154	10,050,701	8,410,197	13,578,935
18 Cumulative Book/Tax Timer	982,112	6,292,065	9,619,040	10,775,805	12,308,630	14,599,684	17,438,751	20,417,457	25,656,611	35,707,312	44,117,509	57,696,444
19 Statutory Tax Rate	40.53%	40.53%	40.53%	40.53%	40.53%	39.61%	39.61%	39.61%	39.61%	27.24%	27.08%	27.08%
21 Deferred Tax Reserve	398,001	2,550,174	3,898,597	4,367,434	4,988,688	5,896,174	6,907,489	8,087,355	10,162,584	12,900,395	12,004,153	15,624,197
Rate Base Calculation												
24 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	39,548,472	49,027,795	63,913,055
25 Accumulated Depreciation	(49,836)	(202,019)	(434,744)	(700,192)	(1,003,532)	(1,364,273)	(1,801,909)	(2,319,475)	(2,973,297)	(3,841,162)	(4,910,288)	(6,216,614)
26 Net Plant in Service	1,915,780	6,292,065	9,619,040	10,775,805	12,308,630	14,599,683	17,438,750	20,417,456	25,656,610	35,707,310	44,117,507	57,696,441
27 Deferred Tax Reserve	(398,001)	(2,550,174)	(3,898,597)	(4,367,434)	(4,988,688)	(5,896,174)	(6,907,489)	(8,087,355)	(10,162,584)	(12,900,395)	(12,004,153)	(15,624,197)
28 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	22,806,915	32,113,354	42,072,244
Revenue Requirement Calculation												
31 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	22,806,915	32,113,354	42,072,244
32 Pre-Tax ROR	11.53%	11.53%	11.63%	11.63%	11.63%	11.50%	10.22%	9.87%	9.87%	8.51%	8.50%	8.50%
33 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	1,940,868	2,729,635	3,576,141
34 Book Depreciation	49,836	152,184	232,725	265,448	303,340	360,741	437,636	517,566	653,822	867,865	1,069,126	1,306,326
35 Property Taxes	2.71%	37,347	244,324	281,249	284,329	410,251	559,784	534,937	777,395	1,015,684	1,225,695	1,563,574
36 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	3,824,417	5,024,456	6,446,041
37 Adjustment due to Order No 26,266 in DG 18-054											2,954	
38 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	3,824,417	5,027,410
40 Low Income Revenue Correction From FY 2018											(7,290)	
42 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	863,940	1,192,749	1,418,631
Actual Capital Structure/ROR												
			(current federal tax rate of 21% and state rate of 7.7%)									
	Ratio	Rate	Pre-Tax									
57 Long Term Debt	49.85%	4.42%	2.200%									
58 Short Term Debt	0.95%	2.49%	0.02%									
59 Common Equity	49.20%	9.30%	6.280%									
61	100.00%		8.500%									

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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)	(k)	(l)
		Actual FY09	12 Months FY10	Actual FY11	Actual FY12	Actual FY13	Actual FY14	Actual FY15	Actual FY16	Actual FY17	Actual FY18	Actual FY19	Actual FY19
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	8,858,559	8,865,300	14,099,869
2	Base spending	(352,073)	(418,248)	(417,650)	(408,438)	(465,466)	(441,199)	(402,383)	(423,720)	(422,739)	(455,796)	(472,039)	(501,731)
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	8,402,763	8,393,261	13,598,138
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	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	91,812	161,333	161,151	261,084
8	Year 2 1.92%			72,731	57,090	22,306	32,819	44,927	50,006	55,312	91,812	161,333	161,151
9	Year 3 1.92%				72,731	57,090	22,306	32,819	44,927	50,006	55,312	91,812	161,333
10	Year 4 1.92%					72,731	57,090	22,306	32,819	44,927	50,006	55,312	91,812
11	Year 5 1.92%						72,731	57,090	22,306	32,819	44,927	50,006	55,312
12	Year 6 1.92%							72,731	57,090	22,306	32,819	44,927	50,006
13	Year 7 1.92%								72,731	57,090	22,306	32,819	44,927
14	Year 8 1.92%									72,731	57,090	22,306	32,819
15	Year 9 1.92%										72,731	57,090	22,306
15	Year 10 1.92%											72,731	57,090
16	Year 11 1.92%												72,731
17	Book Depreciation Expense-Mains	35,065	107,796	164,886	187,191	220,010	264,937	314,943	370,255	462,067	623,400	784,550	972,904
18													
19	Accumulated Depreciation Mains-Beginning of Year	-	35,065	142,860	307,746	494,937	714,947	979,884	1,294,827	1,665,081	2,127,148	2,750,548	3,535,098
20	Accumulated Depreciation Mains-End of Year	35,065	142,860	307,746	494,937	714,947	979,884	1,294,827	1,665,081	2,127,148	2,750,548	3,535,098	4,508,002
21													
22													
23	Book Depreciation Schedule-Services												
24													
25	Actual CIBS spending	729,463	822,173	668,631	352,005	161,352	370,655	776,086	705,984	1,209,322	1,389,222	1,147,142	1,334,614
26	Base spending	(147,927)	(81,752)	(82,350)	(91,562)	(34,534)	(58,801)	(103,857)	(90,524)	(98,226)	(71,479)	(61,080)	(47,491)
27	Incremental CIBS spending	581,536	740,421	586,281	260,443	126,818	311,854	672,229	615,460	1,111,096	1,317,743	1,086,062	1,287,123
28													
29	Book Depreciation Rate:												
30	Year 1 2.54%	14,771	14,771	14,771	14,771	14,771	14,771	14,771	14,771	14,771	14,771	14,771	14,771
31	Year 1 beginning in FY10 4.00%		29,617	23,451	10,418	5,073	12,474	26,889	24,618	44,444	52,710	43,442	51,485
32	Year 2 4.00%			29,617	23,451	10,418	5,073	12,474	26,889	24,618	44,444	52,710	43,442
33	Year 3 4.00%				29,617	23,451	10,418	5,073	12,474	26,889	24,618	44,444	52,710
34	Year 4 4.00%					29,617	23,451	10,418	5,073	12,474	26,889	24,618	44,444
35	Year 5 4.00%						29,617	23,451	10,418	5,073	12,474	26,889	24,618
36	Year 6 4.00%							29,617	23,451	10,418	5,073	12,474	26,889
37	Year 7 4.00%								29,617	23,451	10,418	5,073	12,474
38	Year 8 4.00%									29,617	23,451	10,418	5,073
39	Year 9 4.00%										29,617	23,451	10,418
40	Year 10 3.55%											26,285	20,813
41	Year 11 3.55%												26,285
42	Book Depreciation Expense-Services	14,771	44,388	67,839	78,257	83,330	95,804	122,693	147,311	191,755	244,465	284,575	333,422
43													
44	Accumulated Depreciation Services-Beginning of Year	-	14,771	59,159	126,998	205,255	288,584	384,388	507,081	654,392	846,147	1,090,612	1,375,188
45	Accumulated Depreciation Services-End of Year	14,771	59,159	126,998	205,255	288,584	384,388	507,081	654,392	846,147	1,090,612	1,375,188	1,708,610
46													
47													
48													
49	Total Mains & Services Depreciation Expense	49,836	152,184	232,725	265,448	303,340	360,741	437,636	517,566	653,822	867,865	1,069,126	1,306,326
50													
51	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	3,841,160	4,910,286	6,216,612

6(a) & 30(a) FY 2009 filing used the composite depreciation rate for both mains and services.

Liberty Utilities (EnergyNorth Natural Gas) Corp.
Fiscal Year 2020 Cast Iron/Bare Steel Replacement Program
Municipal Taxes as a Percentage of Net Plant

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

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)
	12/31/2005	12/31/2006	12/31/2007	12/31/2008	12/31/2009	12/31/2010	12/31/2011	12/31/2012	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019
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	539,666	595,016	665,855
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)	(171,469)	(134,742)	(224,026)
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	368,198	460,274	441,829
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	456,863	495,808	567,341	630,435
7 Depreciation Reserve		(85,463)	(91,563)	(98,575)	(105,429)	(111,282)	(117,133)	(120,510)	(125,128)	(133,432)	(143,799)	(150,432)	(160,706)	(153,105)	(179,384)
8 Net Plant		180,162	189,465	198,726	207,051	214,611	221,375	230,056	243,562	266,782	291,783	306,431	335,102	414,236	451,051
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	9,380	10,361	12,226
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%	3.13%	2.80%	2.50%	2.71%

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 2020 Cast Iron/Bare Steel Replacement Program
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) FY2018	(k) FY2019	(l) FY2020
1 Annual Increase due to Cast Iron Bare Steel program	262,185	713,870	527,261	(92,035)	146,987	332,918	301,819	195,769	690,993	863,940	1,192,749	1,418,631
2												
3 Annual Calendar Year Gross Revenues (Annual Report - Page 11) ³	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	182,370,287	183,203,513	185,636,009
4												
5 Increase Factor	\$0.0017	\$0.0047	\$0.0034	(\$0.0006)	\$0.0009	\$0.0021	\$0.0018	\$0.0011	\$0.0037	\$0.0047	\$0.0065	\$0.0076
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	\$139,890,158	\$157,495,294	\$157,020,559
8												
9 Annual Percent Increase	0.15%	0.47%	0.40%	-0.06%	0.12%	0.24%	0.25%	0.12%	0.58%	0.62%	0.76%	0.90%
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	11.58	9.91	11.13
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	48.34	58.25	69.38
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	78.65	68.74	55.83
14												
15 Services Replaced Annually ²	101	127	282	81	84	174	316	291	572	584	270	513
16 Cumulative Number of Services Replaced	101	228	510	591	675	849	1,165	1,456	2,028	2,612	2,882	3,395
17												
18 Typical Residential bill	\$1,292	\$1,107	\$1,118	\$1,059	\$1,020	\$1,123	\$1,309	\$1,309	\$1,078	\$1,171	\$1,170	\$1,162
19												
20 Typical Usage	800	800	800	800	800	800	800	800	763	779	778	809
21												
22 Annual Increase for Residential Heating customer	\$1.36	\$3.79	\$2.73	(\$0.45)	\$0.74	\$1.66	\$1.45	\$0.91	\$2.82	\$3.69	\$5.07	\$6.18
23												
24 Percent Bill Increase	0.10%	0.34%	0.24%	-0.04%	0.07%	0.15%	0.11%	0.07%	0.26%	0.32%	0.43%	0.53%
25												
26												
27 Typical G-41	\$3,375	\$2,939	\$2,842	\$2,696	\$2,654	\$2,926	\$3,499	\$3,499	\$2,651	\$3,031	\$3,213	\$2,943
28												
29 Typical Usage	2,167	2,167	2,167	2,167	2,167	2,167	2,167	2,167	2,029	2,180	2,260	2,260
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	\$10.33	\$14.71	\$17.27
32												
33 Percent Bill Increase	0.11%	0.35%	0.26%	-0.05%	0.08%	0.15%	0.11%	0.07%	0.28%	0.34%	0.46%	0.59%
34												
35												
36 Typical G-42	\$22,595	\$18,926	\$18,432	\$17,516	\$16,884	\$18,853	\$22,486	\$22,486	\$16,284	\$18,916	\$21,784	\$19,754
37												
38 Typical Usage	15,567	15,567	15,567	15,567	15,567	15,567	15,567	15,567	14,720	15,883	18,073	18,073
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	\$75.24	\$117.66	\$138.11
41												
42 Percent Bill Increase	0.12%	0.39%	0.29%	-0.05%	0.09%	0.17%	0.13%	0.08%	0.33%	0.40%	0.54%	0.70%
43												
44												
45 Typical G-52	\$21,973	\$16,707	\$16,605	\$16,025	\$14,629	\$16,555	\$18,667	\$18,667	\$14,087	\$15,714	\$17,730	\$16,380
46												
47 Typical Usage	15,687	15,687	15,687	15,687	15,687	15,687	15,687	15,687	14,566	15,645	17,935	17,935
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	\$74.11	\$116.77	\$137.06
50												
51 Percent Bill Increase	0.12%	0.44%	0.32%	-0.06%	0.10%	0.20%	0.15%	0.10%	0.38%	0.47%	0.66%	0.84%

Line / Column Notes:

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

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¹ Mileage includes Cast Iron/Bare Steel replaced through the CIBS Program as well as City/State Construction.

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

³ These figures include both ENNG and Keene beginning in FY 2019