Liberty Utilities (EnergyNorth Natural Gas) Corp.
d/b/a Liberty Utilities
Docket No. DG 17-XXX
Attachment DBS-1
April 14, 2017

Liberty Utilities (EnergyNorth Natural Gas) Corp. Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program Computation of Revenue Requirement April 14, 2017

Computation of Revenue Requirement	1
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Municipal Taxes as a Percentage of Net Plant	3
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Liberty Utilities (EnergyNorth Natural Gas) Corp. Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program Computation of Revenue Requirement

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
	t! Actual	July 1, 2009 hrough March 31, 2010 9 Months	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Estimate
	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
Incremental Investment										
CIBS Progam Actual Spend-Mains	1,736,153	4,049,995	3,391,069	1,570,208	2,174,813	2,781,140	3,006,856	3,304,532	\$5,240,601	-
CIBS Progam Actual Spend-Service	729,463	798,555	668,631	352,005	161,352	370,655	776,086	705,984	\$1,221,316	-
CIBS Progam Estimated Spend-Mains					-	-	-	-	-	13,069,252
CIBS Progam Estimated Spend-Service					-	-	-	-	-	3,045,773
Base Spending Amount	500,000	482,110	500,000	500,000	500,000	500,000	506,240	514,244	520,965	520,965
Incremental Amount	1,965,616	4,366,440	3,559,700	1,422,213	1,836,165	2,651,795	3,276,702	3,496,272	5,940,951	15,594,061
Cumulative CIBS Program Spend Since July 1, 2009		4,366,440	7,926,140	9,348,353	11,184,518	13,836,312	17,113,015	20,609,287	26,550,238	42,144,299
Deferred Tax Calculation										
Annual Tax Depreciation	1,031,948	4,366,440	3,559,700	1,422,213	1,836,165	2,651,795	3,276,702	3,496,272	5,940,951	15,594,061
Cumulative Tax Depreciation Since July 1, 2009		4,366,440	7,926,140	9,348,353	11,184,518	13,836,312	17,113,015	20,609,287	26,550,238	42,144,299
Annual Book Depreciation	49,836	98,794	179,335	212,059	249,951	307,352	384,247	464,177	601,598	962,294
Cumulative Book Depreciation Since July 1, 2009	,	98,794	278,129	490,188	740,138	1,047,490	1,431,737	1,895,914	2,497,512	3,459,806
Annual Book/Tax Timer	982,112	4,267,646	3,380,365	1,210,154	1,586,214	2,344,443	2,892,456	3,032,095	5,339,353	14,631,767
Cumulative Book/Tax Timer	982,112	4,267,646	7,648,011	8,858,165	10,444,379	12,788,822	15,681,278	18,713,373	24,052,726	38,684,493
Statutory Tax Rate	40.53%	40.53%	40.53%	40.53%	40.53%	39.61%	39.61%	39.61%	39.61%	39.41%
Deferred Tax Reserve	398,001	1,729,677	3,099,739	3,590,214	4,233,107	5,161,741	6,211,354	7,412,367	9,527,285	15,293,664
Rate Base Calculation										
Plant In Service	1.965.616	4,366,440	7,926,140	9,348,353	11,184,518	13.836.312	17.113.015	20,609,287	26,550,238	42,144,299
Accumulated Depreciation	(49,836)	(98,794)	(278,129)	(490,188)	(740,138)	(1,047,490)	(1,431,737)	(1,895,914)	(2,497,512)	(3,459,806)
Net Plant in Service	1,915,780	4,267,646	7,648,011	8,858,166	10,444,379	12,788,822	15,681,278	18,713,373	24,052,726	38,684,493
Deferred Tax Reserve	(398,001)	(1,729,677)	(3,099,739)	(3,590,214)	(4,233,107)	(5,161,741)	(6,211,354)	(7,412,367)	(9,527,285)	(15,293,664)
Year End Rate Base	1,517,779	2,537,969	4,548,272	5,267,951	6,211,273	7,627,082	9,469,924	11,301,006	14,525,441	23,390,829
Revenue Requirement Calculation										
Year End Rate Base	1,517,779	2,537,969	4,548,272	5,267,951	6,211,273	7,627,082	9,469,924	11,301,006	14,525,441	23,390,829
Pre-Tax ROR	11.53%	11.53%	11.63%	11.63%	11.63%	11.50%	10.22%	9.87%	9.87%	9.85%
Return and Taxes	175,003	292,628	528,964	612,663	722,371	877,114	967,826	1,115,409	1,433,661	2,303,593
Book Depreciation	49,836	98,794	179,335	212,059	249,951	307,352	384,247	464,177	601,598	962,294
Property Taxes 3.03%	37,347	88,340	194,259	231,198	241,265	359,366	503,369	490,290	728,798	1,172,140
Annual Revenue Requirement	262,185	479,762	902,558	1,055,920	1,213,587	1,543,832	1,855,442	2,069,876	2,764,057	4,438,027
Prior Year Annual Revenue Requirement	-	_	479,762	902,558	1,055,920	1,213,587	1,543,832	1,855,442	2,069,876	2,764,057
Incremental Annual Rate Adjustment Since July 1, 2009	262,185	479,762	422,796	153,362	157,667	330,245	311,610	214,434	694,182	1,673,969
								-		

Actual Capital Structure/ROR													
				(prior federal	(current federal								
				tax rate of 35%									
			Weighted	and state rate	and state rate								
				of 8.5%)	of 8.5%)								
	Ratio	Rate	after-tax	Pre Tax	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	<u>50.00%</u>	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 Vintage Year Book Depreciation Schedule

Pube				(a)	(b) July 1, 2009 thru March 31, 2010	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
Resergenting 15,007 16,007 16,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,007 17,0		Book Depreciation Schedule-Mains	_										
Recommend CIMS spending													
Book Depreciation Rate:			-										
Book Depreciation Rate: Year 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 1974 19		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	4,818,099	12,646,235
Control Cont		Book Depreciation Rate:											
Year Depictming in FY10		•	2.54%	35.065	0	0	0	0	0	0	0	0	0
8 Year 2				,							55,312	92,508	
Year 4	8				,								
11 Year 5	9	Year 3	1.92%				70,028	57,090	22,306	32,819	44,927	50,006	55,312
Year 6	10	Year 4	1.92%					70,028			32,819	44,927	
Year 7		Year 5							70,028				
Year										70,028			
Year											70,028		
Book Depreciation Expense-Mains												70,028	
National Composition Mains-Beginning of Year 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365,646 1,365			1.92%										
Accumulated Depreciation Mains-Beginning of Year		Book Depreciation Expense-Mains		35,065	70,028	127,118	149,424	182,243	227,170	277,176	332,487	424,995	667,803
Accumulated Depreciation Mains-End of Year 35,065 70,028 197,146 346,570 528,813 755,982 1,033,158 1,365,646 1,790,640 2,033,448 20		A LUB CONTRACTOR OF THE CAN				70.020	107.146	246.550	520.012	755.000	1 000 150	1000 010	1.065.646
Book Depreciation Schedule-Services Services Serv			-	25.065	70.020								
Book Depreciation Schedule-Services		Accumulated Depreciation Mains-End of Year	-	35,065	70,028	197,146	346,570	528,813	/55,982	1,033,158	1,365,646	1,790,640	2,033,448
Part													
Actual CIBS spending 729,463 798,555 668,631 352,005 161,352 370,655 776,086 705,984 1,221,316 3,045,773 124,716 103,857 (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903) (19,903)		Book Depreciation Schedule-Services											
Actual CIBS spending		Book Bepresident Selection Selection											
Base spending		Actual CIBS spending		729,463	798,555	668,631	352,005	161,352	370,655	776,086	705,984	1,221,316	3,045,773
Incremental CIBS spending S81,536 719,152 586,281 260,443 126,818 311,854 672,229 615,460 1,122,852 2,947,190				,									
Part Peginning in FY10 Perindical Part P			· -		719,152	586,281	260,443	126,818	311,854	672,229	615,460	1,122,852	
Year	27												
Year Deginning in FY10	28	Book Depreciation Rate:											
Year 2	29	Year 1	2.54%	14,771	0	0	0	0	0	0	0	0	0
32 Year 3 4.00% 28,766 23,451 10,418 5,073 12,474 26,889 24,618 33 Year 4 4.00% 28,766 23,451 10,418 5,073 12,474 26,889 34 Year 5 4.00% 28,766 23,451 10,418 5,073 12,474 35 Year 6 4.00% 28,766 23,451 10,418 5,073 12,474 36 Year 7 4.00% 28,766 23,451 10,418 5,073 37 Year 8 4.00% 28,766 23,451 10,418 5,073 38 Year 9 4.00% 28,766 23,451 10,418 24,618 38 Year 9 4.00% 28,766 52,217 62,635 67,708 80,182 107,071 131,690 176,604 294,491 40 Accumulated Depreciation Services-Beginning of Year 14,771 28,766 80,983 143,618 211,326 291,508 398,579 530,268					28,766								
Year 4 Year 5 Year 6 Year 6 Year 7 Year 8 Year 9 Y						28,766							
Year 5							28,766						
Year 6								28,766					
Year 7									28,766				
Year 8										28,766			
Section Services											28,766		
Book Depreciation Expense-Services 14,771 28,766 52,217 62,635 67,708 80,182 107,071 131,690 176,604 294,491 Accumulated Depreciation Services-Beginning of Year - 28,766 80,983 143,618 211,326 291,508 398,579 530,268 706,872 Accumulated Depreciation Services-End of Year 14,771 28,766 80,983 143,618 211,326 291,508 398,579 530,268 706,872 1,001,363 43 44 45 Total Mains & Services Depreciation Expense 49,836 98,794 179,335 212,059 249,951 307,352 384,247 464,177 601,598 962,294 47												28,766	
40 41 Accumulated Depreciation Services-Beginning of Year 42 Accumulated Depreciation Services-End of Year 43 Accumulated Depreciation Services-End of Year 44 Accumulated Depreciation Services-End of Year 45 Total Mains & Services Depreciation Expense 49,836 498,794 4179,335 428,766 429,951 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 43,618 44,618 44,618 44,618 44,618 44,618 44,618 44,618 44,618 44,618 44,618 44,618 44,618 44,618 44,618 44,618 44,618 44,618 44,618 44,6			4.00% _	14771	20.766	52.217	(2) (25	(7.700	90.192	107.071	121 600	176 604	
41 Accumulated Depreciation Services-Beginning of Year 42 Accumulated Depreciation Services-End of Year 43 Accumulated Depreciation Services-End of Year 44 44 45 45 46 Total Mains & Services Depreciation Expense 49,836 49,834 49,836 49,839 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,618 413,61		Book Depreciation Expense-Services		14,771	28,700	32,217	02,033	07,708	80,182	107,071	131,090	170,004	294,491
42 Accumulated Depreciation Services-End of Year 14,771 28,766 80,983 143,618 211,326 291,508 398,579 530,268 706,872 1,001,363 44 45 46 Total Mains & Services Depreciation Expense 49,836 98,794 179,335 212,059 249,951 307,352 384,247 464,177 601,598 962,294 47		Assumulated Depressistion Comices Paginning of Va				20 766	90.092	1/2 610	211 226	201 509	209 570	520.269	706 972
43 44 45 46 Total Mains & Services Depreciation Expense			- u	14 771	28 766								
44 45 46 Total Mains & Services Depreciation Expense 49,836 98,794 179,335 212,059 249,951 307,352 384,247 464,177 601,598 962,294 47			-	1-7,//1	20,700	55,765	1-13,010	211,320	271,300	570,517	330,200	700,072	1,001,000
45 46 Total Mains & Services Depreciation Expense 49,836 98,794 179,335 212,059 249,951 307,352 384,247 464,177 601,598 962,294 47													
46 Total Mains & Services Depreciation Expense 49,836 98,794 179,335 212,059 249,951 307,352 384,247 464,177 601,598 962,294 47													
47		Total Mains & Services Depreciation Expense		49,836	98,794	179,335	212,059	249,951	307,352	384,247	464,177	601,598	962,294
		<u>r</u> <u>r</u>	=	,,,,,,	- /	,	,	- /	- 1			,,,,,,,	· / ·
	48	Total Mains & Services Accumulated Depreciation	_	49,836	98,794	278,129	490,188	740,138	1,047,490	1,431,737	1,895,914	2,497,512	3,034,811

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.
d/b/a Liberty Utilities
Docket No. DG 17-XXX
Attachment DBS-1
April 14, 2017
Page 3 of 4

Liberty Utilities (EnergyNorth Natural Gas) Corp. Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program Municipal Taxes as a Percentage of Net Plant

	(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
	12/31/2003	12/31/2000	12/31/2007	12/31/2000	12/31/2007	12/31/2010	12/31/2011	12/31/2012	12/31/2013	12/31/2014	12/31/2013	12/31/2010
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	. <u>-</u>	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 Bill Impacts due to Cast Iron and Bare Steel Replacement Program

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	Estimate FY2018
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	694,182	1,673,969
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
Increase Factor	\$0.0017	\$0.0032	\$0.0034	(\$0.0003)	\$0.0010	\$0.0021	\$0.0019	\$0.0012	\$0.0037	\$0.0090
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
9 Annual Percent Increase	0.15%	0.32%	0.39%	-0.03%	0.13%	0.24%	0.26%	0.14%	0.58%	1.39%
Miles of Cast Iron/Bare Steel Main Replaced Annually through CIBS Cumulative Miles of Main Replaced through CIBS	2.96 2.96	3.98 6.94	2.79 9.73	1.56 11.29	1.65 12.94	3.51 16.45	5.00 21.45	5.05 26.50	10.26 36.76	13.10 49.86
3 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
5 Services Replaced Annually ²	101	127	282	81	84	174	316	291	572	689
6 Cumulative Number of Services Replaced 7	101	228	510	591	675	849	1,165	1,456	2,028	2,717
7 Typical Residential bill	\$1,292	\$1,107	\$1,118	\$1,059	\$1,020	\$1,123	\$1,309	\$1,309	\$1,078	\$1,078
0 Typical Usage 1	800	800	800	800	800	800	800	800	763	763
Annual Increase for Residential Heating customer	\$1.36	\$2.54	\$2.70	(\$0.22)	\$0.80	\$1.65	\$1.50	\$1.00	\$2.83	\$6.83
4 Percent Bill Increase 5	0.10%	0.23%	0.24%	-0.02%	0.08%	0.15%	0.11%	0.08%	0.26%	0.63%
6 7 Typical G-41	\$3,375	\$2,939	\$2,842	\$2,696	\$2,654	\$2,926	\$3,499	\$3,499	\$2,651	\$2,651
8 9 Typical Usage	2,167	2,167	2,167	2,167	2,167	2,167	2,167	2,167	2,029	2,029
0 1 Annual Increase for G-41 customer 2	\$3.67	\$6.89	\$7.31	(\$0.59)	\$2.16	\$4.47	\$4.06	\$2.70	\$7.54	\$18.17
2 Percent Bill Increase 4	0.11%	0.23%	0.26%	-0.02%	0.08%	0.15%	0.12%	0.08%	0.28%	0.69%
5 6 Typical G-42	\$22,595	\$18,926	\$18,432	\$17,516	\$16,884	\$18,853	\$22,486	\$22,486	\$16,284	\$16,284
7 8 Typical Usage	15,567	15,567	15,567	15,567	15,567	15,567	15,567	15,567	14,720	14,720
D Annual Increase for G-42 customer	\$26.38	\$49.52	\$52.50	(\$4.21)	\$15.53	\$32.13	\$29.13	\$19.40	\$54.67	\$131.83
I 2 Percent Bill Increase 3	0.12%	0.26%	0.28%	-0.02%	0.09%	0.17%	0.13%	0.09%	0.34%	0.81%
4 5 Typical G-52	\$21,973	\$16,707	\$16,605	\$16,025	\$14,629	\$16,555	\$18,667	\$18,667	\$14,087	\$14,087
6 7 Typical Usage	15,687	15,687	15,687	15,687	15,687	15,687	15,687	15,687	14,566	14,566
8 9 Annual Increase for G-52 customer	\$26.59	\$49.90	\$52.91	(\$4.24)	\$15.65	\$32.37	\$29.35	\$19.55	\$54.10	\$130.45
0 1 Percent Bill Increase	0.12%	0.30%	0.32%	-0.03%	0.11%	0.20%	0.16%	0.10%	0.38%	0.93%

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

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Liberty Utilities (EnergyNorth Natural Gas) Corp.
d/b/a Liberty Utilities
Docket No. DG 17-XXX
Attachment DBS-2
April 14, 2017

Liberty Utilities (EnergyNorth Natural Gas) Corp. Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program Computation of Revenue Requirement April 14, 2017

Computation of Revenue Requirement	1
Vintage Year Book Depreciation Schedule	2
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 2017 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)
		Actual	12 Months	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Estimate
		FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18
	Incremental Investment										
1	CIBS Progam 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	\$5,240,601	-
2	CIBS Progam Actual Spend-Service	729,463	822,173	668,631	352,005	161,352	370,655	776,086	705,984	\$1,221,316	-
3	CIBS Progam Estimated Spend-Mains					-	-	-	-	-	13,069,252
4	CIBS Progam Estimated Spend-Service	500,000	500,000	500.000	500,000	-	-	-	-		3,045,773
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 Cumulative CIBS Program Spend Since July 1, 2009	1,965,616	4,528,468	3,559,700 10,053,784	1,422,213 11,475,997	1,836,165 13,312,162	2,651,795 15,963,956	3,276,702	3,496,272	5,940,951	15,594,061 44,271,943
7 8	Cumulative CIBS Program Spend Since July 1, 2009		6,494,084	10,055,784	11,475,997	13,312,102	15,965,956	19,240,659	22,736,931	28,677,882	44,271,943
9	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	5,940,951	15,594,061
11	Cumulative Tax Depreciation Since July 1, 2009	1,051,540	6,494,084	10,053,784	11,475,997	13,312,162	15,963,956	19,240,659	22,736,931	28,677,882	44,271,943
12	Cumulative Tall Depresation Since Vary 1, 2007		0,1,71,001	10,000,70	11,,,,,,	13,512,102	15,765,756	17,210,007	22,730,731	20,077,002	11,271,713
13	Annual Book Depreciation	49,836	152,184	232,725	265,448	303,340	360,741	437,636	517,566	654,988	1,015,683
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	2,974,464	3,990,147
15	•										
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	5,285,964	14,578,378
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	25,703,419	40,281,797
18	Statutory Tax Rate	40.53%	40.53%	40.53%	40.53%	40.53%	39.61%	39.61%	39.61%	39.61%	39.41%
19											
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	10,181,124	15,926,463
21											
22	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	28,677,882	44,271,943
24	Accumulated Depreciation	(49,836)	(202,019)	(434,744)	(700,192)	(1,003,532)	(1,364,274)	(1,801,910)	(2,319,476)	(2,974,464)	(3,990,147)
25 26	Net Plant in Service Deferred Tax Reserve	1,915,780 (398,001)	6,292,065 (2,550,174)	9,619,040 (3,898,597)	10,775,805 (4,367,434)	12,308,629 (4,988,687)	14,599,683 (5,896,174)	17,438,749 (6,907,488)	20,417,455 (8,087,354)	25,703,419 (10,181,124)	40,281,796 (15,926,463)
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	15,522,294	24,355,333
28	Teal Elid Kate Base	1,517,779	3,741,071	3,720,443	0,400,371	7,319,942	6,703,309	10,551,201	12,330,101	13,322,294	24,333,333
29	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	15,522,294	24,355,333
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	1,532,050	2,398,580
33	Book Depreciation	49,836	152,184	232,725	265,448	303,340	360,741	437,636	517,566	654,988	1,015,683
34	Property Taxes 3.03%	37,347	130,246	244,324	281,249	284,329	410,251	559,784	534,937	778,814	1,220,538
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	2,965,852	4,634,801
36	•										
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	2,965,852
38											
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	696,368	1,668,949

	Actual Capital Structu	re/ROR			
				(prior federal	(current federal
				tax rate of 35%	tax rate of 34%
			Weighted	and state rate	and state rate
				of 8.5%)	of 8.5%)
	Ratio	Rate	after-tax	Pre Tax	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	<u>50.00%</u>	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 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)
	Book Depreciation Schedule-Mains	_	Actual FY09	12 Months FY10	Actual FY11	Actual FY12	Actual FY13	Actual FY14	Actual FY15	Actual FY16	Actual FY17	Estimate FY18
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	5,240,601	13,069,252
2	Base spending		(352,073)	(418,248)	(417,650)	(408,438)	(465,466)	(441,199)	(402,383)	(423,720)	(422,502)	(423,017)
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	4,818,099	12,646,235
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
7	Year 1 beginning in FY10	1.92%		72,731	57,090	22,306	32,819	44,927	50,006	55,312	92,508	242,808
8	Year 2	1.92%			72,731	57,090	22,306	32,819	44,927	50,006	55,312	92,508
9	Year 3	1.92%				72,731	57,090	22,306	32,819	44,927	50,006	55,312
10	Year 4	1.92%					72,731	57,090	22,306	32,819	44,927	50,006
11	Year 5	1.92%						72,731	57,090	22,306	32,819	44,927
12	Year 6	1.92%							72,731	57,090	22,306	32,819
13	Year 7	1.92%								72,731	57,090	22,306
14	Year 8	1.92%									72,731	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	462,762	705,570
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	2,127,846	2,370,654
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	1,221,316	3,045,773
25	Base spending	_	(147,927)	(81,752)	(82,350)	(91,562)	(34,534)	(58,801)	(103,857)	(90,524)	(98,463)	(98,584)
26	Incremental CIBS spending		581,536	740,421	586,281	260,443	126,818	311,854	672,229	615,460	1,122,852	2,947,190
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	14,771
30	Year 1 beginning in FY10	4.00%		29,617	23,451	10,418	5,073	12,474	26,889	24,618	44,914	117,888
31	Year 2	4.00%			29,617	23,451	10,418	5,073	12,474	26,889	24,618	44,914
32	Year 3	4.00%				29,617	23,451	10,418	5,073	12,474	26,889	24,618
33	Year 4	4.00%					29,617	23,451	10,418	5,073	12,474	26,889
34	Year 5	4.00%						29,617	23,451	10,418	5,073	12,474
35	Year 6	4.00%							29,617	23,451	10,418	5,073
36	Year 7	4.00%								29,617	23,451	10,418
37	Year 8	4.00%									29,617	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	192,225	310,113
40				14.55	50.150	125,000	205.255	200.50:	201206	505.00:	554.000	046.610
41	Accumulated Depreciation Services-Beginning of Year	_	14771	14,771	59,159	126,998	205,255	288,584	384,388	507,081	654,392	846,618
42	Accumulated Depreciation Services-End of Year	-	14,771	59,159	126,998	205,255	288,584	384,388	507,081	654,392	846,618	1,156,731
43											l	
44											l	
45	T-t-1M-in- & Comin D		40.026	152 104	222.725	265 440	202.240	260.741	427.626	517.566	654.000	1.015.602
46	Total Mains & Services Depreciation Expense	-	49,836	152,184	232,725	265,448	303,340	360,741	437,636	517,566	654,988	1,015,683
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	2,974,464	3,527,385

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Liberty Utilities (EnergyNorth Natural Gas) Corp. Fiscal Year 2017 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)
	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
 Plant in Service Depreciation and Amortization Reserve Net Plant 	258,573	272,678	289,379	305,221	319,737	332,049	344,966	356,165	381,214	419,215	451,950	494,511
	(82,363)	(88,564)	(94,562)	(102,587)	(108,270)	(114,294)	(119,973)	(121,047)	(129,209)	(137,656)	(149,943)	(163,209)
	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 7 Depreciation Reserve 8 Net Plant		265,625 (85,463) 180,162	281,028 (91,563) 189,465	297,300 (98,575) 198,726	312,479 (105,429) 207,051	325,893 (111,282) 214,611	338,508 (117,133) 221,375	350,565 (120,510) 230,056	368,690 (125,128) 243,562	400,214 (133,432) 266,782	435,582 (143,799) 291,783	473,230 (156,576) 316,654
9 10 Municipal Taxes 11 12 % Municipal Taxes to Net Plant	-	3,534 1.96%	3,641 1.92%	3,771 1.90%	4,294 2.07%	5,459 2.54%	5,776 2.61%	5,321 2.31%	6,835 2.81%	8,560 3.21%	7,644 2.62%	9,596 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 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
	F 1 2009	F 1 2010	F 1 2011	F 1 2012	F 1 2013	F 12014	F 1 2013	F 1 2010	F12017	Estimate F12016
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	696,368	1,668,949
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
Increase Factor	\$0.0017	\$0.0047	\$0.0034	(\$0.0006)	\$0.0009	\$0.0021	\$0.0018	\$0.0011	\$0.0037	\$0.0089
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
9 Annual Percent Increase	0.15%	0.47%	0.40%	-0.06%	0.12%	0.24%	0.25%	0.12%	0.58%	1.39%
1 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
2 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
3 Total Miles of Cast Iron/Bare Steel Main Remaining 4	149.8	142.0	137.4	132.1	126.30	120.88	113.96	106.46	93.18	77.48
5 Services Replaced Annually ²	101	127	282	81	84	174	316	291	572	689
6 Cumulative Number of Services Replaced	101	228	510	591	675	849	1,165	1,456	2,028	2,717
7 Typical Residential bill	\$1,292	\$1,107	\$1,118	\$1,059	\$1,020	\$1,123	\$1,309	\$1,309	\$1,078	\$1,078
0 Typical Usage	800	800	800	800	800	800	800	800	763	763
2 Annual Increase for Residential Heating customer 3	\$1.36	\$3.79	\$2.73	(\$0.45)	\$0.74	\$1.66	\$1.45	\$0.91	\$2.84	\$6.81
42 Percent Bill Increase 55	0.10%	0.34%	0.24%	-0.04%	0.07%	0.15%	0.11%	0.07%	0.26%	0.63%
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
18 19 Typical Usage	2,167	2,167	2,167	2,167	2,167	2,167	2,167	2,167	2,029	2,029
11 Annual Increase for G-41 customer	\$3.67	\$10.26	\$7.39	(\$1.22)	\$2.02	\$4.51	\$3.93	\$2.46	\$7.56	\$18.12
12 13 Percent Bill Increase 14	0.11%	0.35%	0.26%	-0.05%	0.08%	0.15%	0.11%	0.07%	0.29%	0.68%
55 66 Typical G-42	\$22,595	\$18,926	\$18,432	\$17,516	\$16,884	\$18,853	\$22,486	\$22,486	\$16,284	\$16,284
17 18 Typical Usage	15,567	15,567	15,567	15,567	15,567	15,567	15,567	15,567	14,720	14,720
9 Annual Increase for G-42 customer	\$26.38	\$73.68	\$53.07	(\$8.76)	\$14.48	\$32.39	\$28.21	\$17.71	\$54.84	\$131.44
11 22 Percent Bill Increase	0.12%	0.39%	0.29%	-0.05%	0.09%	0.17%	0.13%	0.08%	0.34%	0.81%
3 4 4 5 Typical G-52	\$21,973	\$16,707	\$16,605	\$16,025	\$14,629	\$16,555	\$18,667	\$18,667	\$14,087	\$14,087
15 Typical Usage	15,687	15,687	15,687	15,687	15,687	15,687	15,687	15,687	14,566	14,566
8	13,007	13,007	15,007	13,007	15,007	15,007	13,007	13,087		
Annual Increase for G-52 customer	\$26.59	\$74.25	\$53.48	(\$8.83)	\$14.59	\$32.64	\$28.43	\$17.84	\$54.27	\$130.06
Percent Bill Increase	0.12%	0.44%	0.32%	-0.06%	0.10%	0.20%	0.15%	0.10%	0.39%	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

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Liberty Utilities (EnergyNorth Natural Gas) Corp.
d/b/a Liberty Utilities
Docket No. DG 17-XXX
Attachment DBS-3
April 14, 2017

Liberty Utilities (EnergyNorth Natural Gas) Corp. Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program Computation of Estimated Revenue Requirement Impact of Refund of Degradation Fees - Informational Only April 14, 2017

Computation of Estimated Revenue Requirement Refund on Degradation Fees - Informational Only	1
Vintage Year Book Depreciation Schedule	2
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 2017 Cast Iron/Bare Steel Replacement Program Computation of Estimated Revenue Requirement Refund on Degradation Fees - Informational Only

(b)

(a)

43

44 45 Common Equity

	· · ·		Refund Year				
	Incremental Investment	•					
1	CIBS Progam Actual - Refund of Degradation Fees		(1,143,789)				
2	Base Spending Amount						
3	Incremental Amount		(1,143,789)				
4 5	Cumulative CIBS Program - Refund of Degradation Fees		(1,143,789)				
6	Deferred Tax Calculation						
7	Annual Tax Depreciation		(1,143,789)				
8 9	Cumulative Tax Depreciation on Degradation Fees		(1,143,789)				
10	Annual Book Depreciation		(21,961)				
11	Cumulative Book Depreciation on Degradation Fees		(21,961)				
12	r		(, , , ,				
13	Annual Book/Tax Timer		(1,121,828)				
14	Cummualative Book/Tax Timer		(1,121,828)				
15	Effective Tax Rate	•	39.61%				
16							
17	Estimated Deferred Tax Reserve		(444,356)				
18		•					
19	Rate Base Calculation						
20	Plant In Service		(1,143,789)				
21	Accumulated Depreciation		21,961				
22	Net Plant in Service		(1,121,828)				
23	Deferred Tax Reserve		444,356				
24	Year End Rate Base	:	(677,472)				
25							
26	Revenue Requirement Calculation						
27	Year End Rate Base		(677,472)				
28	Pre-Tax ROR		9.87%				
29	Return and Taxes		(66,867)				
30	Book Depreciation		(21,961)				
31	Property Taxes	3.03%	(33,991)				
32	Revenue Requirement Reduction		(122,819)				
33							
34							
35			Capital Structure/ROR				
36							(current federal
37					W7-1-1-7		tax rate of 34%
38					Weighted		and state rate
39 40			Datio	Data	often ter	of 8.5%)	of 8.5%)
40	Long Town Dobt		Ratio	Rate	after-tax	Pre Tax	Pre Tax
41 42	Long Term Debt Short Term Debt		50.00% 0.00%	4.43% 0.00%	2.215%	2.215%	2.215%
42	Short Term Debt		0.00%	0.00%	0.00%	0.00%	0.00%

50.00%

100.00%

9.25%

4.625%

6.840%

7.777%

9.992%

7.659%

9.874%

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Liberty Utilities (EnergyNorth Natural Gas) Corp. Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program Computation of Estimated Revenue Requirement Impact of Refund of Degradation Fees - Informational Only

Vintage Year Book Depreciation Schedule

	Book Depreciation Schedule-Mains		Refund Year
1	Actual CIBS spending		(1,143,789)
2	Incremental CIBS spending		(1,143,789)
4			
5	Book Depreciation Rate:		
6	Year 1	1.92%	(21,961)
7	Year 2	1.92%	
8	Year 3	1.92%	
9	Year 4	1.92%	
10		_	
11	Book Depreciation Expense-Mains		(21,961)
12			
13	Accumulated Depreciation-Beginning of Year		_
14	Accumulated Depreciation-End of Year		(21,961)

Degradation Fees by Year by City:											
<u>F/Y 2011</u> <u>F/Y 2012</u> <u>F/Y 2013</u> <u>F/Y 2014</u> <u>F/Y 2015</u> <u>F/Y 2016</u> <u>F/Y 2017</u> <u>Totals</u>											
Concord	19,856	37,960	9,747	48,350	75,541	129,773	125,308	446,534			
Manchester	275,035	39,885	382,335	-	-	-	-	697,255			
Totals	294,891	77,845	392,082	48,350	75,541	129,773	125,308	1,143,789			

Liberty Utilities (EnergyNorth Natural Gas) Corp.
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Liberty Utilities (EnergyNorth Natural Gas) Corp. Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program Computation of Estimated Revenue Requirement Impact of Refund of Degradation Fees - Informational Only

Municipal Taxes as a Percentage of Net Plant

	(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.

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Liberty Utilities (EnergyNorth Natural Gas) Corp. Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program Computation of Estimated Revenue Requirement Impact of Refund of Degradation Fees - Informational Only

Bill Impacts due to Cast Iron and Bare Steel Replacement Program

	Bill Impacts due to Cast Iron and Bare Steel Replacement Program	
	(a)	(b)
		Refund Year
1	Decrease Related to Refund of Degradation Fees	(122,819)
2	Annual Throughput (see Summer COG filing - schedule 10B)	186,909,214
4 5	Decrease Factor	(\$0.0007)
7	Annual Calendar Year Gross Revenues (Annual Report - Page 11, line 2)	\$156,933,825
9	Annual Percent Decrease	-0.08%
10 11		
12	Typical Residential bill	\$1,078
14 15 16	Typical Usage	763
17 18	Annual Decrease for Residential Heating customer	(\$0.50)
19 20	Percent Bill Decrease	-0.05%
21		
22 23	Typical G-41	\$2,651
24 25	Typical Usage	2,029
26 27	Annual Decrease for G-41 customer	(\$1.33)
28 29	Percent Bill Decrease	-0.05%
30 31	Typical G-42	\$16,284
32 33 34	Typical Usage	14,566
35 36	Annual Decrease for G-42 customer	(\$9.57)
37 38	Percent Bill Decrease	-0.06%
39		
40 41	Typical G-52	\$14,087
42 43	Typical Usage	14,566
44 45	Annual Decrease for G-52 customer	(\$9.57)
	Percent Bill Decrease	-0.07%

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Liberty Utilities (EnergyNorth Natural Gas) Corp.
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Liberty Utilities (EnergyNorth Natural Gas) Corp. Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program Computation of Estimated Revenue Requirement Impact if the Company Does Not Prevail in the Degradation Fee Litigation - Informational Only April 14, 2017

Computation of Estimated Revenue Requirement Refund on Degradation Fees - Informational Only	1
Vintage Year Book Depreciation Schedule	2
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 2017 Cast Iron/Bare Steel Replacement Program Computation of Estimated Revenue Requirement Refund on Degradation Fees - Informational Only

(b)

(a)

44 45

	(a)	_	Refund Year				
	<u>Incremental Investment</u>	_					
1	CIBS Progam Actual - Charge of Degradation Fees		1,198,059				
2	Base Spending Amount	_					
3	Incremental Amount		1,198,059				
4 5	Cumulative CIBS Program - Charge of Degradation Fees		1,198,059				
6	Deferred Tax Calculation						
7	Annual Tax Depreciation		1,198,059				
8 9	Cumulative Tax Depreciation on Degradation Fees		1,198,059				
10	Annual Book Depreciation		23,003				
11	Cumulative Book Depreciation on Degradation Fees		23,003				
12							
13	Annual Book/Tax Timer		1,175,056				
14	Cummualative Book/Tax Timer	_	1,175,056				
15	Effective Tax Rate		39.61%				
16							
17	Estimated Deferred Tax Reserve	_	465,440				
18							
19	Rate Base Calculation						
20	Plant In Service		1,198,059				
21	Accumulated Depreciation	_	(23,003)				
22	Net Plant in Service		1,175,056				
23	Deferred Tax Reserve	_	(465,440)				
24	Year End Rate Base	=	709,617				
25	D D						
26	Revenue Requirement Calculation Year End Rate Base		700 (17				
27 28	Pre-Tax ROR		709,617 9.87%				
29	Return and Taxes	-	70,039				
30	Book Depreciation		23,003				
31	Property Taxes	3.03%	35,604				
32	Revenue Requirement Increase	3.0370	128,646				
33	Revenue Requirement increase		120,040				
34							
35			Capital Structure/ROR				
36						(prior federal	(current federal
37						-	tax rate of 34%
38					Weighted	and state rate	and state rate
39					Č	of 8.5%)	of 8.5%)
40			Ratio	Rate	after-tax	Pre Tax	Pre Tax
41	Long Term Debt		50.00%	4.43%	2.215%	2.215%	2.215%
42	Short Term Debt		0.00%	0.00%	0.00%	0.00%	0.00%
43	Common Equity		50.00%	9.25%	4.625%	7.777%	7.659%
4.4							

100.00%

9.874%

6.840%

9.992%

Liberty Utilities (EnergyNorth Natural Gas) Corp. Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program Computation of Estimated Revenue Requirement Impact if the Company Does Not Prevail in the Degradation Fee Litigation - Informational Only

Vintage Year Book Depreciation Schedule

	Book Depreciation Schedule-Mains		Refund
		-	Year
1	Actual CIBS spending		1,198,059
2		-	
3	Incremental CIBS spending		1,198,059
4			
5	Book Depreciation Rate:		
6	Year 1	1.92%	23,003
7	Year 2	1.92%	
8	Year 3	1.92%	
9	Year 4	1.92%	
10			
11	Book Depreciation Expense-Mains	·	23,003
12			
13	Accumulated Depreciation-Beginning of Year		-
14	Accumulated Depreciation-End of Year	-	23,003
		=	

Uncharged Degradation Fees by Year by City:											
F/Y 2011 F/Y 2012 F/Y 2013 F/Y 2014 F/Y 2015 F/Y 2016 F/Y 2017 To											
Concord	-	-	-	-	-	-	-	-			
Manchester	-	-	-	246,449	236,710	202,250	512,650	1,198,059			
Totals	-	-	-	246,449	236,710	202,250	512,650	1,198,059			

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Liberty Utilities (EnergyNorth Natural Gas) Corp. Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program

Computation of Estimated Revenue Requirement Impact if the Company Does Not Prevail in the Degradation Fee Litigation - Informational Only

Municipal Taxes as a Percentage of Net Plant

	(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) 12/31/2015
												<u> </u>
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.

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(b)

Liberty Utilities (EnergyNorth Natural Gas) Corp. Fiscal Year 2017 Cast Iron/Bare Steel Replacement Program

Computation of Estimated Revenue Requirement Impact if the Company Does Not Prevail in the Degradation Fee Litigation - Informational Only

Bill Impacts due to Cast Iron and Bare Steel Replacement Program

	(4)	Charge Year
1 2	Increase Related to Unpaid Degradation Fees	128,646
3		186,909,214
5		\$0.0007
7 8	Annual Calendar Year Gross Revenues (Annual Report - Page 11, line 2)	\$156,933,825
9 10	Annual Percent Increase	0.08%
11		
12 13	Typical Residential bill	\$1,078
14 15 16	Typical Usage	763
17 18	Annual Increase for Residential Heating customer	\$0.53
19 20	Percent Bill Increase	0.05%
21 22		\$2,651
23 24		2,029
25 26		\$1.40
27 28 29	Percent Bill Increase	0.05%
30 31	Typical G-42	\$16,284
32 33	Typical Usage	14,720
34 35	Annual Increase for G-42 customer	\$10.13
36 37 38	Percent Bill Increase	0.06%
39 40		\$14,087
41 42	Typical Usage	14,566
	Annual Increase for G-52 customer	\$10.03
45 46	Percent Bill Increase	0.07%