

Liberty Utilities (EnergyNorth)
Step Increase - EnergyNorth and Keene

Line	Description	Misc. Intangible Plant	LNG Plant	Mains	Station Equipment	General-Structures	Mains	Meas. & Reg. Station Equip.	Services	Meters	Structures and Improvements	Office Equipment	Vehicles	Stores Equipment	Tools	Total
1	Capital Spending - EnergyNorth	928,977	\$ 2,088,476	\$ 8,963,879	\$ 330,866	\$ 983,721	\$ 596,863	\$ 66,176	\$ 2,471,985	\$ 2,430,395	\$ 1,613,901	\$ 710,457	\$ 2,886,787	\$ 34,159	\$ 256,298	\$ 24,328,780
2	Capital Spending - Keene	70,568		139,365				0	2,630	0		88,120	0			\$ 334,843
3	Capital Spending - Total	999,545	\$ 2,088,476	\$ 9,103,244	\$ 330,866	\$ 983,721	\$ 596,863	\$ 66,176	\$ 2,474,615	\$ 2,430,395	\$ 1,613,901	\$ 798,577	\$ 2,886,787	\$ 34,159	\$ 256,298	\$ 24,663,623
4	Deferred Tax Calculation															
6	Tax Method	MACRS15	MACRS20	MACRS20	MACRS20	MACRS19	MACRS20	MACRS20	MACRS20	MACRS20	MACRS39	MACRS7	MACRS5	MACRS7	MACRS7	
7	Tax Depreciation Rate	5.00%	3.75%	3.75%	3.75%	1.28%	3.75%	3.75%	3.75%	3.75%	1.28%	14.29%	20.00%	14.29%	14.29%	
9	Bonus Depreciation @ 0.00%	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
11	Tax Basis	999,545	\$ 2,088,476	\$ 9,103,244	\$ 330,866	\$ 983,721	\$ 596,863	\$ 66,176	\$ 2,474,615	\$ 2,430,395	\$ 1,613,901	\$ 798,577	\$ 2,886,787	\$ 34,159	\$ 256,298	\$ 24,663,623
12	MACRS Depreciation	49,977	\$ 78,318	\$ 341,372	\$ 12,407	\$ 12,612	\$ 22,382	\$ 2,482	\$ 92,798	\$ 91,140	\$ 20,691	\$ 114,082	\$ 577,357	\$ 4,880	\$ 36,614	\$ 1,457,113
14	Tax Depreciation - Federal	49,977	\$ 78,318	\$ 341,372	\$ 12,407	\$ 12,612	\$ 22,382	\$ 2,482	\$ 92,798	\$ 91,140	\$ 20,691	\$ 114,082	\$ 577,357	\$ 4,880	\$ 36,614	\$ 1,457,113
15	Tax Depreciation - State	49,977	\$ 78,318	\$ 341,372	\$ 12,407	\$ 12,612	\$ 22,382	\$ 2,482	\$ 92,798	\$ 91,140	\$ 20,691	\$ 114,082	\$ 577,357	\$ 4,880	\$ 36,614	\$ 1,457,113
17	Book Depreciation Rate - EN	16.13%	2.86%	1.92%	2.86%	2.86%	1.92%	2.86%	3.55%	3.03%	3.33%	5.28%	20.00%	3.33%	5.26%	
18	Book Depreciation - EN	149,844	\$ 59,730	\$ 172,106	\$ 9,463	\$ 28,134	\$ 11,460	\$ 1,893	\$ 87,755	\$ 73,641	\$ 53,743	\$ 37,512	\$ 577,357	\$ -	\$ 13,481	\$ 1,276,120
19	Book Depreciation Rate - Keene	16.13%	1.92%	1.92%	1.92%	1.92%	1.92%	2.86%	3.55%	3.03%	3.33%	5.28%	20.00%	3.33%	5.26%	
20	Book Depreciation - Keene	11,383	\$ -	\$ 2,676	\$ -	\$ -	\$ -	\$ -	\$ 93	\$ -	\$ -	\$ 4,653	\$ -	\$ -	\$ 1,137	\$ 19,942
21	Book Depreciation - Total	161,227	\$ 59,730	\$ 174,782	\$ 9,463	\$ 28,134	\$ 11,460	\$ 1,893	\$ 87,849	\$ 73,641	\$ 53,743	\$ 42,165	\$ 577,357	\$ 1,137	\$ 13,481	\$ 1,296,063
22	Tax over (under) Book - Federal - EN	(111,249)	\$ 18,587	\$ 166,589	\$ 2,945	\$ (15,523)	\$ 10,923	\$ 589	\$ 4,949	\$ 17,499	\$ (33,052)	\$ 71,918	\$ -	\$ 3,742	\$ 23,133	\$ 161,050
24	Tax over (under) Book - State - EN	(111,249)	18,587	166,589	2,945	(15,523)	10,923	589	4,949	17,499	(33,052)	71,918	0	3,742	23,133	161,050
25	Deferred Taxes - Federal @ 19.28% - EN	(21,447)	3,583	32,115	568	(2,992)	2,106	114	954	3,373	(6,372)	13,864	0	721	4,460	31,047
26	Deferred Taxes - State @ 8.20% - EN	(9,122)	1,524	13,660	241	(1,273)	896	48	406	1,435	(2,710)	5,897	0	307	1,897	13,206
27	Deferred Tax Balance @ 27.48%	(30,569)	\$ 5,107	\$ 45,775	\$ 809	\$ (4,265)	\$ 3,001	\$ 162	\$ 1,360	\$ 4,808	\$ (9,082)	\$ 19,762	\$ -	\$ 1,028	\$ 6,356	\$ 44,253
29	Rate Base Calculation															
30	Plant in Service	999,545	\$ 2,088,476	\$ 9,103,244	\$ 330,866	\$ 983,721	\$ 596,863	\$ 66,176	\$ 2,474,615	\$ 2,430,395	\$ 1,613,901	\$ 798,577	\$ 2,886,787	\$ 34,159	\$ 256,298	\$ 24,663,623
31	Accumulated Depreciation	(161,227)	(59,730)	(174,782)	(9,463)	(28,134)	(11,460)	(1,893)	(87,849)	(73,641)	(53,743)	(42,165)	(577,357)	(1,137)	(13,481)	(1,296,063)
32	Deferred Tax Balance	30,569	(5,107)	(45,775)	(809)	4,265	(3,001)	(162)	(1,360)	(4,808)	9,082	(19,762)	0	(1,028)	(6,356)	(44,253)
33	Rate Base	\$ 868,887	\$ 2,023,638	\$ 8,882,687	\$ 320,594	\$ 959,852	\$ 582,402	\$ 64,122	\$ 2,385,407	\$ 2,351,946	\$ 1,569,240	\$ 736,651	\$ 2,309,429	\$ 31,993	\$ 236,460	\$ 23,323,307
35	Revenue Requirement Calculation															
36	Return on Rate Base @ 8.60%	74,724	\$ 174,033	\$ 763,911	\$ 27,571	\$ 82,547	\$ 50,087	\$ 5,514	\$ 205,145	\$ 202,267	\$ 134,955	\$ 63,352	\$ 198,611	\$ 2,751	\$ 20,336	\$ 2,005,804
37	Depreciation Expense	161,227	59,730	174,782	9,463	28,134	11,460	1,893	87,849	73,641	53,743	42,165	577,357	1,137	13,481	1,296,063
38	Property Tax @ 2.06% - EN Capital		42,919	184,213	6,799	20,216	12,266	1,360	4,874	4,792	3,167	1,401	5,692		505	300,940
39	Insurance @ 0.20% - EN Capital		4,118	17,674	652	1,940	1,177	130	0	0	0	0	0		0	46,137
40	Property Tax @ 4.17% - Keene Capital			5,810				0	110	0		3,746	0		5,920	
41	Insurance @ 4.25% - Keene Capital			5,924				0	112	0		0	0		11,234	
42	Annual Revenue Requirement	\$ 235,951	\$ 280,800	\$ 1,152,314	\$ 44,486	\$ 132,837	\$ 74,989	\$ 8,898	\$ 298,089	\$ 280,700	\$ 225,046	\$ 110,664	\$ 781,660	\$ 5,341	\$ 34,322	\$ 4,605,341

Rate of Return Calculation	Portion	After-Tax Cost	Tax	Pre-Tax WACC
Equity	49.20%	9.40%	27.48%	6.38%
Debt (ST)	0.95%	2.49%	0.02%	
Debt (LT)	49.85%	4.42%	2.20%	
	100.00%		8.60%	

"Carry Over Cost Provision Adjustments" per DG 17-063, Knepper Direct Testimony

Unadjusted annual revenue requirement for FY 16	694,182
Adjusted annual revenue requirement for FY 16	688,807
Difference to be recovered	5,375

Estimated paving cost for FY 17	2,301,960
Recoverable paving cost for FY 17	899,390
Difference to be recovered	1,402,570
Revenue Requirement of the Difference, per CIBS model	155,703

Description - Property Tax and Insurance Rates for EnergyNorth	Reference	Amount
Property taxes (Account 408-P)	RR-StepWP2	\$ 9,386,306
Property insurance (Account 924)	RR-EN-2-1	\$ 38,113
Injuries and Damage (Casualty Insurance) (Account 925)	RR-EN-2-1	\$ 877,844
		\$ 9,386,306
Plant at Cost	RR-Step-EN-WP2	\$ 456,742,424
As % of Plant Cost		2.06%
		0.20%

Adjustments Identified in Rebuttal Testimony	Reference	Amount
Increase in Expense Portion of Pension and OPEB Costs	Response to Staff Tech 3-15	419,583
Legal Fees, 2017	Laflamme & Mullinax Direct, Schedule EN 4, Line 27	172,517
Degradation Fees, 2017	Laflamme & Mullinax Direct, Schedule EN 4, Line 35	186,065
Total Additional Expense - Goes to Line 35		778,165

New Tax Rate Analysis	
Federal Tax Rate	21.00%
State Tax Rate	8.20%
Combined Tax Rate	27.48%

Description - Property Tax and Insurance Rates for Keene	Reference	Amount
Property taxes (Account 408-P)	RR-K-2-1	153,854
Property insurance (Account 924)	RR-K-2-1	(2,183)
Injuries and Damage (Casualty Insurance) (Account 925)	RR-K-2-1	187,292
		153,854
Plant at Cost	RR-Step-K-WP2	3,690,589
		4,354,606

Priority	Project	Company	Project Description	CY2017 Capital Spending	FERC Account	CY2017 Capital Budget
LU CapEx - Growth	8840-1753	EnergyNorth	Install Main on Varney and Worthely and Rockland		367	\$ 350,000
LU CapEx - Improvement	8840-1721	EnergyNorth	Install Security Equipment - EN Facilities	61,457	391	\$ 125,000
LU CapEx - Improvement	TBD	EnergyNorth	Northeast Expansion		367	
LU CapEx - Improvement	8840-1722	EnergyNorth	Inactive Service Program		380	\$ 75,000
LU CapEx - Improvement	8840-1723	EnergyNorth	Main & Service Replacement City/State Construction	3,604,734	367	\$ 5,200,000
LU CapEx - Improvement	8840-1725	EnergyNorth	Service Replacement Fitting City/State Construction	11,400	380	\$ 60,000
LU CapEx - Improvement	8840-1726	EnergyNorth	LNG/LPG Capital Improvements	241,893	320	\$ 100,000
LU CapEx - Improvement	8840-1727	EnergyNorth	Facility Improvements & Additions - Various	28,069	375	\$ 100,000
LU CapEx - Improvement	8840-1728	EnergyNorth	Upgrade Hi Line - Concord to Tilton Phase 2		367	\$ 350,000
LU CapEx - Improvement	8840-1729	EnergyNorth	Pre-Code Stee Pipe Protection Program		367	\$ 175,000
LU CapEx - Improvement	8840-1730	EnergyNorth	IT - Software, Equipment & Infrastructure	84,091	303	\$ 50,000
LU CapEx - Improvement	8840-1731	EnergyNorth	Gas System Planning & Reliability	151,918	367	\$ 500,000
LU CapEx - Improvement	8840-1732	EnergyNorth	Gas System Control & Regulation	330,866	369	\$ 300,000
LU CapEx - Improvement	8840-1733	EnergyNorth	Facility Improvements & Additions - Manchester	228,124	391	\$ 200,000
LU CapEx - Improvement	8840-1734	EnergyNorth	Facility Improvements & Additions - Nashua		391	\$ 100,000
LU CapEx - Improvement	8840-1735	EnergyNorth	Facility Improvements & Additions - Tilton	163,968	391	\$ 200,384
LU CapEx - Improvement	8840-1736	EnergyNorth	Facility Improvements & Additions - Londonderry	57,128	391	\$ 75,000
LU CapEx - Improvement	8840-1737	EnergyNorth	Facility Improvements & Additions - Concord	61,669	391	\$ 60,000
LU CapEx - Improvement	8840-1738	EnergyNorth	IT Systems Allocations - Corporate	745,522	303	\$ 750,000
LU CapEx - Improvement	8840-1739	EnergyNorth	Dresser Coupling Replacement Program	596,863	376	\$ 300,000
LU CapEx - Improvement	8840-1740	EnergyNorth	ERP Foundation Year		303	\$ 536,463
LU CapEx - Improvement	8840-1741	EnergyNorth	EAM Foundation Year		303	\$ 536,463
LU CapEx - Improvement	TBD	EnergyNorth	CIS Foundation Year		303	\$ -
LU CapEx - Improvement	8840-1742	EnergyNorth	GIS Gas Upgrade		303	\$ 118,544
LU CapEx - Improvement	8840-1743	EnergyNorth	GIS - One Graphic Card		303	\$ 15,440
LU CapEx - Improvement	8840-1744	EnergyNorth	GIS Marketing Enhancement		303	\$ 51,177
LU CapEx - Improvement	8840-1745	EnergyNorth	Mobiletech Enhancements		303	\$ 37,054
LU CapEx - Improvement	8840-1746	EnergyNorth	Concord Office	628,404	390	\$ 500,000
LU CapEx - Improvement	8840-1755	EnergyNorth	Motorized Gate for Concord Plant	20,533	375	\$ 55,000
LU CapEx - Improvement	8840-1756	EnergyNorth	Nashua Meter Building Repointing	64,253	375	\$ 150,000
LU CapEx - Improvement	8840-1757	EnergyNorth	CNG Fast Fill Station for Manchester and Tilton Yards	1,846,583	320	\$ 1,920,000
LU CapEx - Improvement	8840-1758	EnergyNorth	Manchester Solar Install	407,034	380	\$ 190,000
LU CapEx - Improvement	8840-1759	EnergyNorth	Paving Manchester Yard	567,088	375	\$ 900,000
LU CapEx - Improvement	TBD	EnergyNorth	Paving Nashua Yard		375	\$ -
LU CapEx - Improvement	8840-1762	EnergyNorth	Tilton Office Refresh	652,960	390	\$ 600,000
LU CapEx - Improvement	8840-1763	EnergyNorth	Manchester Kitchen Refresh	30,903	390	\$ 35,000
LU CapEx - Improvement	8840-1764	EnergyNorth	Supplemental AC for Londonderry (Dispatch/Training Rms)	35,030	390	\$ 21,000
LU CapEx - Improvement	8840-1765	EnergyNorth	Tilton Yard Shelving Replacement		390	\$ 8,662
LU CapEx - Improvement	8840-1766	EnergyNorth	Chestnut Street, Nashua Regulator Station Replacement		378	\$ 325,000
LU CapEx - Improvement	8840-1769	EnergyNorth	Laconia Phase II	622,797	367	\$ 850,000
LU CapEx - Improvement	8840-1770	EnergyNorth	Daniel Webster Highway		367	\$ 650,000
LU CapEx - Improvement	8840-C18800	EnergyNorth	Upgrade Hi Line - Concord to Tilton Phase 1	1,549,408	367	\$ 700,000
LU CapEx - Replenishment	8840-1701	EnergyNorth	Reserve for Unidentified Mandated/Growth Projects		367	\$ 3,139,334
LU CapEx - Replenishment	8840-1702	EnergyNorth	Meter Protection Program	351,066	381	\$ 50,000
LU CapEx - Replenishment	8840-1703	EnergyNorth	Cathodic Protection Program	1,014,430	367	\$ 750,000
LU CapEx - Replenishment	8840-1704	EnergyNorth	Replacement Services Random (Non Leaks)	1,077,869	380	\$ 490,000
LU CapEx - Replenishment	8840-1705	EnergyNorth	Replacement Services Random (Due to Leaks)	975,682	380	\$ 300,000
LU CapEx - Replenishment	8840-1706	EnergyNorth	Meter Work Project (Changes)	64,781	381	\$ 150,000
LU CapEx - Replenishment	8840-1707	EnergyNorth	Meter Work Project (Meter Purchases)	1,720,451	381	\$ 1,300,000
LU CapEx - Replenishment	8840-1708	EnergyNorth	Corrosion & Miscellaneous Fitting	292,735	367	\$ 100,000
LU CapEx - Replenishment	8840-1709	EnergyNorth	Valve Installation/Replacement		367	\$ 50,000
LU CapEx - Replenishment	8840-1710	EnergyNorth	Leak Repairs	711,761	367	\$ 250,000
LU CapEx - Replenishment	8840-1713	EnergyNorth	Main Replacement Fitting LPP	200,000	367	\$ 200,000
LU CapEx - Replenishment	8840-1714	EnergyNorth	K Meter Replacement Program	294,096	381	\$ 100,000
LU CapEx - Replenishment	8840-1715	EnergyNorth	Aldy1-A Replacement Program	252,565	367	\$ 550,000
LU CapEx - Replenishment	8840-1716	EnergyNorth	Main Replacement Reactive	106,828	367	\$ 100,000
LU CapEx - Replenishment	8840-1717	EnergyNorth	Dispatch and Control Center	2,036	375	\$ 10,000
LU CapEx - Replenishment	8840-1718	EnergyNorth	Purchase Misc Capital Equipment & Tools	256,298	394	\$ 175,000
LU CapEx - Replenishment	8840-1719	EnergyNorth	Transportation Fleet and Equipment Purchases	2,778,097	392	\$ 1,978,000
LU CapEx - Replenishment	8840-1720	EnergyNorth	SCADA Capital Improvements	8,575	303	\$ 10,000
LU CapEx - Replenishment	8840-1767	EnergyNorth	Replace Mueller Stopping Equipment w/ TD Williamson	456,702	367	\$ 500,000
LU CapEx - Replenishment		EnergyNorth	Bond Refund for Concord Training Center	(8,000)	390	\$ (8,000)
LU CapEx - Improvement	8843-1704	Keene	Facility Improvements & Additions - Keene		391	\$ 5,000
LU CapEx - Improvement	8843-1705	Keene	IT - Software, Equipment & Infrastructure	70,568	303	\$ 25,000
LU CapEx - Improvement	8843-1706	Keene	Facility Improvements & Additions - Keene		391	\$ 45,000
LU CapEx - Improvement	8843-C18750	Keene	Install Security Equipment - Keene	88,120	391	\$ 15,000
LU CapEx - Improvement	8843-ENI103	Keene	Main Replacement City/State Construction	139,365	367	\$ 50,000
LU CapEx - Improvement	8843-ENI137	Keene	Service Replacement City/State Construction		380	\$ 20,000
LU CapEx - Improvement	8843-REL105	Keene	Gas System Planning & Reliability		378	\$ 50,000
LU CapEx - Replenishment	8843-1701	Keene	Reserve for unidentified projects		367	\$ 25,000
LU CapEx - Replenishment	8843-1702	Keene	Purchase Misc. Capital Tools/Equipment	34,159	393	\$ 4,000
LU CapEx - Replenishment	8843-1703	Keene	Transportation Fleet and Equipment Purchases		392	\$ 45,000
LU CapEx - Replenishment	8843-ENI006	Keene	Cathodic Protection/Corrosion Mitigation Program		367	\$ 5,000
LU CapEx - Replenishment	8843-ENI007	Keene	Replacement Services Random	2,630	380	\$ 5,000
LU CapEx - Replenishment	8843-ENI100P	Keene	Meter Work Project (Meter Purchases)		381	\$ 10,000
LU CapEx - Replenishment	8843-ENI107	Keene	Main Replacement LPP		367	\$ 150,000
LU CapEx - Replenishment	8843-ENI117	Keene	Service Replacement LPP		380	\$ 25,000
LU CapEx - Replenishment	8843-REL109	Keene	SCADA Capital Improvements		378	\$ 5,000
LU CapEx - Replenishment	8843-REL110	Keene	Valve Installation/Replacement		367	\$ 6,000
				\$ 23,683,509		\$ 27,479,521
LU CapEx - Improvement	8840-OTH-123	EnergyNorth	E-TRACK - ELECTRONIC CUSTOMER INVOICING	16,946	303	
LU CapEx - Improvement	8840-C18844	EnergyNorth	Install Two Dispatcher Consoles - Nutfield Rm Londonderry	43,073	391	
LU CapEx - Improvement	8840-C18825	EnergyNorth	Install 2 Dispatcher Consoles	71,217	391	
LU CapEx - Improvement	8840-OTH-124	EnergyNorth	LONDONDERRY OFFICE RENOVATION	77,023	390	
LU CapEx - Improvement	8840-1789	EnergyNorth	BULLS EYE DIGITAL FIRE EXTINGUISHER	11,572	391	
LU CapEx - Improvement	8840-1780	EnergyNorth	Purchase of AEDs to Install in CRM and Production Crew Truck	12,250	391	
LU CapEx - Improvement	8840-1781	EnergyNorth	Purchase TDW Stopping Equipment Trailer	29,475	392	
LU CapEx - Improvement	8840-1773	EnergyNorth	Live Gas Inspection Camera - 60 psig (4-12")	57,643	378	
LU CapEx - Improvement	8840-C18831	EnergyNorth	GIS AND CUSTOMER DATA INTEGRATION FOR STONER MODEI	73,843	303	
LU CapEx - Improvement	8840-1779	EnergyNorth	Purchase of Three Custom Built Trailers	79,215	392	
LU CapEx - Improvement	8840-1776	EnergyNorth	Londonderry Snow Canopy	80,538	390	
LU CapEx - Improvement	8840-1783	EnergyNorth	Install 3 Sided Storage Buildings in the Nashua & Manchester	91,056	375	
LU CapEx - Improvement	8840-1775	EnergyNorth	CONCORD TRAINING CENTER CC CONTINGENCY SITE	117,043	390	
LU CapEx - Improvement	8840-1778	EnergyNorth	TILTON & MANCHESTER ROOFS	147,453	375	
LU CapEx - Replenishment	8840-REL-111	EnergyNorth	Ferry Street Regulator Station Replacement	8,533	378	
LU CapEx - Replenishment	8840-OTH-126	EnergyNorth	EMERGENCY EXIT SIGNAGE & LIGHTING - MANCHESTER	24,604	375	
LU CapEx - Replenishment	8840-OTH-127	EnergyNorth	REPLACE SECURITY GATE IN MANCHESTER	38,630	375	
			Total 2017 Non-Growth Related Capital Additions	\$ 24,663,623		