

**Calculation of Amount to be Returned to Customers Effective June 1, 2018**

		<u>Reference</u>
1 Revenue Reduction - 7/1/2017 Permanent Rates	\$ (1,256,082)	Att. 2, line 15
2 Revenue Reduction - 7/1/2017 Step Adjustment	(187,231)	Att. 2, line 31
3 Total Revenue Reduction	<u>(1,443,313)</u>	
4 DE 16-383 Step Adj. - Rev. Req. for Capital Additions	289,348	Att. 2, line 40
5 DE 16-383 Step Adj. - Add'l rate case expenses (annualized)	82,353	Att. 2, line 43
6 DE 18-034 REP/VMP - VMP O&M	552,414	Att. 2, line 48
7 DE 18-034 REP/VMP - Rev. Req. for Capital Additions	<u>76,833</u>	Att. 2, line 52
8 Amount to be returned to customers beginning June 1, 2018	\$ (442,365)	
9 Annual Base Distribtuion Revenues (DE 18-034, Schedule DBS-2, page 2 of 4)	\$ 41,831,737	
10 Percentage Reduction to Distribution Rates and Charges	<u><u>-1.06%</u></u>	

**Part 1 - July 1, 2017, Permanent Increase**

	Proposed increase	Income Taxes	
Company Rebuttal	5,685,306	3,595,535	
Staff Testimony	1,196,150	2,120,309	
Differences	4,489,156	1,475,226	32.86%
<b>Settlement increase</b>	<b>3,750,000</b>	<b>2,959,555</b>	

**Estimated Tax Calculation**

Change from Rebuttal	(1,935,306)	
	32.86%	
	(635,980)	
	3,595,535	
Income Taxes for Settlement	<u>2,959,555</u>	A
Change from Staff Position	2,553,850	
	32.86%	
	839,246	
	2,120,309	
Income Taxes for Settlement	<u>2,959,555</u>	A

**Revenue Reduction Per FERC Formula**

Estimated Income Taxes per Settlement	A	\$ 2,959,555	
New Effective Tax Rate Factor	B	0.3744 = 1 / (1 - new tax rate) - 1	
Old Effective Tax Rate Factor	C	0.6504 = 1 / (1 - old tax rate) - 1	
<b>Revenue Reduction</b>	<b>D</b>	<b>\$ (1,256,082)</b>	A - (A * B / C)

**Revenue Requirement at Lower Tax Rate**

Settlement Revenue Deficiency	\$ 3,750,000	
Revenue Reduction Due to Lower Tax Rate	(1,256,082)	D
Revenue Deficiency After Lower Tax Rate	<u>\$ 5,006,082</u>	

**Part 2 - July 1, 2017, Step Adjustment**

Revenue Requirement - As Approved	2,473,723	DE 16-383 Settlement Agreement, Attachment 1, line 26
Rate Base (as approved)	14,184,186	DE 16-383 Settlement Agreement, Attachment 1, line 19
Return Component (Incl. Taxes)	1,520,934	DE 16-383 Settlement Agreement, Attachment 1, line 22
Pre-Tax ROR (as approved)	10.72%	
Pre-Tax ROR (new tax rates)	9.40%	
Difference	-1.32%	
<b>Reduction to Return</b>	<u><b>(187,231)</b></u>	

Rate increases to be Offset

**Part 3 - DE 16-383 Step Adjustment (Effective May 1, 2018, Postponed to June 1, 2018)**

Revenue Requirement - Capital Additions	314,404	As filed, DE 16-383, March 16, 2018, filing, Attachment B, line 26
Reduction in Return due to tax rate changes	(25,056)	
<b>Revised Step Adjustment Rev. Requirement</b>	<u><b>289,348</b></u>	See Attachment 3
Additional Rate Case Expenses per Audit	72,058	As filed (\$48,039, annualized over recovery period of 8 months)
<b>Revised Annualized Add'l Rate Case Expenses</b>	<u><b>82,353</b></u>	(\$48,039 / 7 * 12 = \$82,353)

**Part 4 - DE 18-034 Reliability Enhancement Program/Vegetation Management Program (Effective May 1, 2018, Postponed to June 1, 2018)**

<b>Vegetation Management O&amp;M Component</b>	<b>552,414</b>	As filed, DE 18-034, Schedule DBS-1, Page 2 of 14 (Bates 052), line 7
REP Capital - Revenue Requirement	166,322	As filed, DE 18-034, Schedule DBS-1, Page 3 of 14 (Bates 053), line 60
Reduction in Return due to tax rate changes	(89,489)	
<b>Revised REP Capital Revenue Requirement</b>	<u><b>76,833</b></u>	See Attachment 4

**Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities**  
**Step Adjustment - 2017 Pelham Substation Capital Investment**  
**Docket No. DE 16-383 Compliance**

Line	Description	Substation			
	<u>FERC Account</u>	362			
1	Deferred Tax Calculation				
2	Capital Spending	2,400,000			
3					
4	Tax method	MACRS20			
5	Tax Depr. Rate, 20-year MACRS	3.75%			
6					
7	Annual Tax Depreciation- Year 1	90,000			
8	Bonus Year 1	1,155,000			
9	Book Depreciation Rate- Year 1	2.80%			
10	Annual Book Depreciation	67,200			
11	Tax over (under) Book- Fed	1,177,800			
12	Tax over (under) Book- State	22,800			
13	<b>Deferred Tax Balance</b>	<u>401,685</u>			
14					
15	<u>Rate Base Calculation</u>				
16	Plant in Service	2,400,000			
17	Accumulated Depreciation	(67,200)			
18	Deferred Tax Balance	<u>(401,685)</u>			
19	<b>Rate Base</b>	<u><u>1,931,115</u></u>			
20					
21	<u>Revenue Requirement Calculation</u>				
22	Return on Rate Base @ 8.74%	168,868			
23	Depreciation Expense	67,200			
24	Property Tax, Insurance @ 2.22%	<u>53,280</u>			
25	<b>Annual Revenue Requirement</b>	<u>289,348</u>			
26		<u><b>289,348</b></u>			
27					
28	<u>Rate of Return Calculation</u>	Portion	After-Tax Cost	WACC	Pre-Tax WACC
29	Equity	50.0%	9.40%	4.700%	6.46%
30	Debt	50.0%	4.57%	2.29%	2.29%
31		<u>100.0%</u>		<u>6.99%</u>	<u>8.74%</u>
32					
33	Property Taxes and Insurance as % of Plant Cost				2.22%

Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities  
Docket No DE 18-xxx  
Schedule DBS-1  
Page 3 of 14

Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities  
REP/VMP Revenue Requirement  
Computation of REP Revenue Requirement  
CY 2017 Actual

	Revised FY 2008	Revised FY 2009	Revised FY 2010	Revised FY 2011	Revised FY 2012	Actual FY 2013	Actual CYS 2013	Actual CY 2014	Actual CY 2015	Actual CY 2016	Actual CY 2017
<b>Deferred Tax Calculation</b>											
1 REP Program Annual Spend	\$950,000	\$500,000	\$876,243	\$610,835	\$398,239	\$545,916	\$416,755	\$2,201,899	\$1,321,456	\$849,390	\$1,699,030
2 Cumulative REP Program Spend	\$950,000	\$1,450,000	\$2,326,243	\$2,937,078	\$3,335,317	\$3,881,233	\$4,297,988	\$6,499,887	\$7,821,343	\$8,670,733	\$10,369,763
3											
4 Book Depreciation Rate (a)	3.70%	3.72%	3.71%	3.73%	3.72%	3.33%	3.72%	2.88%	2.86%	2.86%	2.76%
5 FEDERAL Vintage Year Tax Depreciation:											
6 FY 2008 Spend	\$429,887	\$39,010	\$36,081	\$33,379	\$30,872	\$28,559	\$14,858	\$19,810	\$24,112	\$24,106	\$24,112
7 FY 2009 Spend		\$338,156	\$12,139	\$11,227	\$10,387	\$9,606	\$4,999	\$6,665	\$8,219	\$7,503	\$7,501
8 FY 2010 Spend			\$550,022	\$24,467	\$22,630	\$20,936	\$10,892	\$14,522	\$17,913	\$16,567	\$15,123
9 FY 2011 Spend				\$481,705	\$9,685	\$8,958	\$4,662	\$6,215	\$7,665	\$7,090	\$6,558
10 FY 2012 Spend					\$377,329	\$2,968	\$1,544	\$2,059	\$2,539	\$2,349	\$2,173
11 FY 2013 Spend						\$332,964	\$11,900	\$15,867	\$14,676	\$13,577	\$12,557
12 CYS 2013 Spend							\$212,773	\$5,861	\$15,043	\$13,913	\$12,871
13 CY 2014 Spend								\$1,142,236	\$79,478	\$73,510	\$68,006
14 CY 2015 Spend									\$685,505	\$47,698	\$44,117
15 CY 2016 Spend										\$440,621	\$30,659
16 CY 2017 Spend											\$881,372
15 Annual Tax Depreciation	\$429,887	\$377,166	\$598,242	\$550,778	\$450,902	\$403,992	\$261,627	\$1,213,235	\$855,149	\$646,934	\$1,105,049
16 Cumulative Tax Depreciation	\$429,887	\$807,053	\$1,405,295	\$1,956,073	\$2,406,975	\$2,810,967	\$3,072,594	\$4,285,829	\$5,140,977	\$5,787,911	\$6,892,960
17											
18 STATE Vintage Year Tax Depreciation:											
19 FY 2008 Spend	\$334,991	\$46,127	\$42,664	\$39,469	\$36,504	\$33,770	\$17,568	\$23,425	\$28,511	\$28,504	\$28,511
20 FY 2009 Spend		\$176,311	\$24,277	\$22,455	\$20,773	\$19,213	\$9,998	\$13,330	\$16,438	\$15,006	\$15,002
21 FY 2010 Spend			\$223,801	\$48,935	\$45,261	\$41,872	\$21,784	\$29,045	\$35,825	\$33,134	\$30,246
22 FY 2011 Spend				\$199,462	\$30,854	\$28,538	\$14,850	\$19,800	\$24,417	\$22,588	\$20,891
23 FY 2012 Spend					\$181,087	\$19,837	\$10,320	\$13,761	\$16,973	\$15,698	\$14,522
24 FY 2013 Spend						\$179,810	\$20,395	\$27,193	\$25,151	\$23,268	\$21,520
25 CYS 2013 Spend							\$8,791	\$11,721	\$30,086	\$27,827	\$25,743
26 CY 2014 Spend								\$82,571	\$158,955	\$147,021	\$136,011
27 CY 2015 Spend									\$49,555	\$95,396	\$88,234
28 CY 2016 Spend										\$31,852	\$61,317
29 CY 2017 Spend											\$63,714
28 Annual Tax Depreciation	\$334,991	\$222,438	\$290,742	\$310,320	\$314,480	\$323,039	\$103,706	\$220,846	\$385,912	\$440,294	\$505,712
29 Cumulative Tax Depreciation	\$334,991	\$557,429	\$848,171	\$1,158,492	\$1,472,971	\$1,796,010	\$1,899,716	\$2,120,562	\$2,506,473	\$2,946,767	\$3,452,479
30											
31 Book Depreciation	\$35,150	\$53,940	\$86,304	\$109,645	\$124,074	\$129,109	\$119,933	\$140,398	\$223,690	\$247,983	\$286,205
32 Cumulative Book Depreciation	\$35,150	\$89,090	\$175,394	\$285,039	\$409,113	\$538,222	\$658,155	\$798,553	\$1,022,243	\$1,270,226	\$1,556,431
33											
34 Book/Tax Timer (Federal)	\$394,737	\$717,963	\$1,229,901	\$1,671,034	\$1,997,862	\$2,272,745	\$2,414,439	\$3,487,276	\$4,118,734	\$4,517,685	\$5,336,528
35 less: Deferred Tax Reserve (State)	\$25,486	\$39,809	\$57,186	\$74,243	\$90,428	\$106,912	\$105,533	\$112,371	\$126,160	\$142,506	\$155,476
36 Net Book/Tax Timer (Federal)	\$369,251	\$678,154	\$1,172,715	\$1,596,791	\$1,907,435	\$2,165,833	\$2,308,906	\$3,374,905	\$3,992,575	\$4,375,179	\$5,181,052
37 Effective Tax Rate (Federal)	35.00%	35.00%	35.00%	35.00%	35.00%	35.00%	34.00%	34.00%	34.00%	34.00%	34.00%
38 Deferred Tax Reserve (Federal)	\$129,238	\$237,354	\$410,450	\$558,877	\$667,602	\$758,041	\$785,028	\$1,147,468	\$1,357,475	\$1,487,561	\$1,761,558
39 Book/Tax Timer (State)	\$299,841	\$468,339	\$672,778	\$873,453	\$1,063,859	\$1,257,788	\$1,241,561	\$1,322,009	\$1,484,231	\$1,676,542	\$1,896,048
40 Effective Tax Rate (State)	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.20%
41 Deferred Tax Reserve (State)	\$25,486	\$39,809	\$57,186	\$74,243	\$90,428	\$106,912	\$105,533	\$112,371	\$126,160	\$142,506	\$155,476
42 TOTAL Deferred Tax Reserve	\$154,724	\$277,163	\$467,636	\$633,120	\$758,030	\$864,953	\$890,561	\$1,259,839	\$1,483,635	\$1,630,067	\$1,917,034
43											
44 <b>Rate Base Calculation</b>											
45 Plant In Service	\$950,000	\$1,450,000	\$2,326,243	\$2,937,078	\$3,335,317	\$3,881,233	\$4,297,988	\$6,499,887	\$7,821,343	\$8,670,733	\$10,369,763
46 Accumulated Book Depreciation	(\$35,150)	(\$89,090)	(\$175,394)	(\$285,039)	(\$409,113)	(\$538,222)	(\$658,155)	(\$798,553)	(\$1,022,243)	(\$1,270,226)	(\$1,556,431)
47 Deferred Tax Reserve	(\$154,724)	(\$277,163)	(\$467,636)	(\$633,120)	(\$758,030)	(\$864,953)	(\$890,561)	(\$1,259,839)	(\$1,483,635)	(\$1,630,067)	(\$1,917,034)
48 Year End Rate Base	\$760,126	\$1,083,747	\$1,683,213	\$2,018,919	\$2,168,174	\$2,478,057	\$2,749,272	\$4,441,496	\$5,315,465	\$5,770,440	\$6,896,298
49											
50 <b>Revenue Requirement Calculation</b>											
51 Year End Rate Base	\$760,126	\$1,083,747	\$1,683,213	\$2,018,919	\$2,168,174	\$2,478,057	\$2,749,272	\$4,441,496	\$5,315,465	\$5,770,440	\$6,896,298
52 Pre-Tax ROR	11.91%	11.91%	11.91%	11.91%	11.91%	11.91%	11.36%	11.36%	11.36%	11.36%	8.74%
53 Return and Taxes	\$90,515	\$129,051	\$200,435	\$240,410	\$258,183	\$295,084	\$312,413	\$504,338	\$603,837	\$655,522	\$603,059
54 Book Depreciation	\$35,150	\$53,940	\$86,304	\$109,645	\$124,074	\$129,109	\$119,933	\$140,398	\$223,690	\$247,983	\$286,205
55 Property Taxes (b)	\$21,773	\$27,218	\$66,676	\$89,904	\$110,318	\$118,343	\$149,961	\$190,995	\$161,819	\$232,376	\$323,449
56 Annual Revenue Requirement	\$147,438	\$210,209	\$353,415	\$439,960	\$492,575	\$542,536	\$582,307	\$835,730	\$1,015,862	\$1,135,881	\$1,212,714
57 Prior Period Change for Repairs Tax Deduct & Bonus Depreciation (FY 08 - 14) (e)					(\$73,471)	\$2,397					
58 Adjusted Annual Revenue Requirement	\$147,438	\$210,209	\$353,415	\$439,960	\$419,104	\$544,933	\$582,307	\$835,730	\$1,015,862	\$1,135,881	\$1,212,714
59 <b>Annual Rate Adjustment</b>											
60 Incremental Annual Rate Adjustment	\$147,438	\$62,771	\$143,205	\$86,545	(\$20,856)	\$125,829	\$37,374	\$253,423	\$180,132	\$120,019	\$76,833
61											
62 <b>Imputed Capital Structure (c)</b>											
63											
64 Long Term Debt	Ratio	Rate	Weighted Rate	Pre Tax							
65 Common Equity	50.00%	7.54%	3.77%	3.77%							
66											
67											
68											
69 <b>Imputed Capital Structure (d)</b>											
70											
71 Long Term Debt	Ratio	Rate	Weighted Rate	Pre Tax							
72 Common Equity	45.00%	5.95%	2.68%	2.68%							
73											
74											
75											
76 <b>Imputed Capital Structure (e)</b>											
77											
78 Long Term Debt	Ratio	Rate	Weighted Rate	Pre Tax							
79 Common Equity	50.00%	9.40%	4.70%	6.46%							
80											
81											

- (a) Actual Calendar Year Composite Depreciation rate for distribution property.  
(b) Actual Calendar Year ratio of municipal tax expense to net plant in service, reference Schedule DBS-5  
(c) Capital structure per Merger Settlement in Docket DG 06-107, Exhibit 1, Section 3(c).  
(d) Capital structure per Rate Case Settlement in Docket DE 13-063, Attachment A, Schedule 1B.  
(e) Capital structure per Rate Case Settlement in Docket DE 16-383, Section II A. Updated LT debt rate as of Q3 2017.