

**UNITIL ENERGY SYSTEMS, INC.**  
**DOCKET DE 16-384**  
**REVENUE REQUIREMENT SCHEDULES**  
**PUC UPDATE**  
**1/3/2017**

UNITIL ENERGY SYSTEMS, INC.  
COMPUTATION OF REVENUE DEFICIENCY AND REVENUE REQUIREMENT  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-1

LINE NO.	(1) DESCRIPTION	(2) REFERENCE	(3) AS FILED	(4) 9/16/2016 PUC UPDATE	(5) 1/3/2017 PUC UPDATE	(6) CHANGE FROM PRIOR UPDATE
1	Rate Base	Schedule RevReq-4	\$ 152,951,401	\$ 153,674,473	\$ 152,234,533	\$ (1,439,940)
2	Rate Of Return	Schedule RevReq-5	8.75%	8.75%	8.75%	0.00%
3	Income Required	Line 1 * Line 2	13,383,248	13,446,516	13,317,544	(128,972)
4	Adjusted Net Operating Income	Schedule RevReq-2	9,605,687	9,470,010	9,354,854	(115,155)
5	Deficiency	Line 3 - Line 4	3,777,561	3,976,506	3,962,690	(13,817)
6	Income Tax Effect	Line 7 - Line 5	2,477,715	2,608,204	2,599,141	(9,062)
7	Revenue Deficiency	1.6559 (Schedule RevReq-1-1) * Line 5	\$ 6,255,276	\$ 6,584,710	\$ 6,561,831	\$ (22,879)

UNITIL ENERGY SYSTEMS, INC.  
COMPUTATION OF GROSS-UP FACTOR FOR REVENUE REQUIREMENT  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-1-1

LINE NO.	(1) DESCRIPTION	(2) RATE	(3) AMOUNT
1	Federal Income Tax Rate	34.00%	0.3400
2	State Income Tax Rate	8.50%	0.0850
3	Federal Benefit of State Income Tax	-(Line 1 * Line 2)	<u>(0.0289)</u>
4	Effective Tax Rate	(Line 1 + Line 2 + Line 3)	<u>0.3961</u>
5	Gross-Up Factor	(1 / 1 - Line 4)	<u><u>1.6559</u></u>

UNITIL ENERGY SYSTEMS, INC.  
OPERATING INCOME STATEMENT  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-2

LINE NO.	(1) DESCRIPTION	(2) TEST YEAR 12 MONTHS ENDED 12/31/2015	(3) TEST YEAR FLOW-THROUGH	(4) TEST YEAR DISTRIBUTION	(5) PROFORMA ADJUSTMENTS	(6) TEST YEAR DISTRIBUTION AS PROFORMED	(7) CALENDAR YEAR 2014 <sup>(1)</sup>	(8) CALENDAR YEAR 2013 <sup>(1)</sup>
1	Distribution Revenue <sup>(2)</sup>	\$ 51,600,877	\$ -	\$ 51,600,877	\$ -	\$ 51,600,877	\$ 50,633,486	\$ 49,639,263
2	Flow-Through Revenue <sup>(2)</sup>	101,103,918	101,103,918	-	-	-	98,264,450	84,096,175
3	Electric Service Revenue	152,704,795	101,103,918	51,600,877	-	51,600,877	148,897,936	133,735,438
4	Other Operating Revenue	1,959,705	722,569	1,237,136	-	1,237,136	2,068,566	2,805,732
5	Total Operating Revenues	154,664,500	101,826,486	52,838,013	-	52,838,013	150,966,502	136,541,169
6	Operating Expenses:							
7	Purchased Power	68,228,194	67,946,756	281,438	-	281,438	69,461,648	55,029,488
8	Transmission	25,531,654	25,332,267	199,387	-	199,387	22,547,382	23,869,042
9	Distribution	8,891,715	-	8,891,715	296,985	9,188,700	8,684,037	9,481,446
10	Customer Accounting	3,697,008	618,642	3,078,366	517,624	3,595,990	3,894,576	3,763,383
11	Customer Service	2,469,443	2,468,005	1,438	-	1,438	3,090,750	2,900,872
12	Administrative & General	9,124,580	851,931	8,272,649	850,992	9,123,641	8,507,896	8,526,780
13	Depreciation	9,639,845	-	9,639,845	313,768	9,953,613	9,268,970	8,874,050
14	Amortizations	4,430,384	2,682,029	1,748,355	(68,008)	1,680,347	4,327,011	3,202,432
15	Taxes Other Than Income	5,305,221	-	5,305,221	1,211,693	6,516,914	5,434,398	4,891,960
16	Federal Income Tax <sup>(3)</sup>	643,723	416,190	227,533	(659,321)	(431,788)	232,479	(132,536)
17	State Income Tax <sup>(3)</sup>	869,095	113,713	755,382	(209,303)	546,078	(1,566,692)	(138,392)
18	Deferred Federal & State Income Taxes	2,822,623	-	2,822,623	-	2,822,623	5,079,378	4,159,926
19	Interest On Customers Deposits	4,777	-	4,777	-	4,777	30,807	36,193
20	Total Operating Expenses	141,658,263	100,429,533	41,228,730	2,254,429	43,483,159	138,992,638	124,464,643
21	Net Operating Income	\$ 13,006,237	\$ 1,396,954	\$ 11,609,284	\$ (2,254,429)	\$ 9,354,854	\$ 11,973,863	\$ 12,076,526

**Notes**

(1) Calendar Years 2014 and 2013 Represents Total Company (i.e., Flow-Through and Distribution).

(2) Calendar Year 2015 Reflects \$1.3 mm of Unbilled Revenue Re-classed from Distribution to Flow-Through Revenue

(3) Test Year Flow-Through Column Reflects Federal and State Income Taxes on \$1.3 mm Unbilled Revenue Reclassification.

UNITIL ENERGY SYSTEMS, INC.  
SUMMARY OF ADJUSTMENTS  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3

LINE NO.	(1) DESCRIPTION	(2) CLASSIFICATION	(3) SCHEDULE NO.	(4) AMOUNT	(5) 9/16/2016 PUC UPDATE	(6) 1/3/2017 PUC UPDATE	(6) TOTAL ADJUSTMENT	(7) REASON FOR 09/16/2016 UPDATE	(8) REASON FOR 01/3/2017 UPDATE
1	Operating & Maintenance Expense Adjustments								
2	Payroll	Dist	Schedule RevReq-3-1	\$ 331,108	-	\$ (25,522)	\$ 305,585		To reflect actual 2017 payroll increases
3	Medical & Dental Insurances	A&G	Schedule RevReq-3-2	53,004	-	53,722	106,726		To reflect actual 2017 medical and dental working rates
4	Pension	A&G	Schedule RevReq-3-3	(106,192)	-	-	(106,192)		
5	PBOP	A&G	Schedule RevReq-3-3	150,564	-	-	150,564		
6	401K	A&G	Schedule RevReq-3-3	44,100	-	-	44,100		
7	Property & Liability Insurances	A&G	Schedule RevReq-3-4	54,228	-	(11,902)	42,326		To reflect insurance premiums renewing in 2016
8	Distribution Bad Debt	Cust Acct	Schedule RevReq-3-5	171,290	2,036	(141)	173,184	To account for additional bad debt due to change in revenue deficiency	To reflect additional bad debt due to change in revenue deficiency
9	Protected Receivables Expense	Cust Acct	Schedule RevReq-3-6	344,439	-	-	344,439		
10	Inflation Allowance	A&G	Schedule RevReq-3-7	141,596	(4,865)	-	136,731	To account for changes to inflation-subject adjustments - see RevReq 3 7 for detail	
11	Regulatory Commission Expenses	A&G		-	462,683	-	462,683	To move 2017 PUC assessment to base rates - see Workpaper 8.0	
12	Customer Communication (930)	A&G		-	18,567	-	18,567	Amortize marketing expenses for Kingston substation video per PUC Audit Issue 2	
13	Employee Pensions and Benefits (926)	A&G		-	(150)	-	(150)	Removal of donations from revenue requirement per PUC Audit Issue 5	
14	VMP Storm Hardening (593)	Dist		-	(8,600)	-	(8,600)	Removal of Arbor Day Foundation expense per PUC Audit Issue 6	
15	Customer Record and Collections (903)	A&G		-	(565)	-	(565)	Removal of sales tax charged by vendor per PUC Audit Issue 7	
16	Outside Services (923)	A&G		-	(2,951)	-	(2,951)	Removal of legal expenses reclassified to CWIP per PUC Audit Issue 8	
17	Outside Services (923)	A&G		-	(833)	-	(833)	Removal of donations from revenue requirement per PUC Audit Issue 9	
18	Office Supplies & Expenses (921)	A&G		-	(13)	-	(13)	Removal of alcohol reimbursement from revenue requirement per PUC Audit Issue 10	
19	Total Operating & Maintenance Expense Adjustments			<u>\$ 1,184,136</u>	<u>\$ 465,309</u>	<u>\$ 16,156</u>	<u>\$ 1,665,601</u>		
20	Depreciation & Amortization Expense Adjustments								
21	Depreciation Annualization	Depr	Schedule RevReq-3-8	\$ 546,070	\$ (242,115)	\$ -	\$ 303,955	Depreciation adjustment due to revision of accrual rates; Difference of RevReq 3-8 and 3-8 REVISED	
22	Deferred Storm Cost Amortization	Amort	Schedule RevReq-3-9	(68,008)	-	-	(68,008)		
23	Depreciation-Kingston Actual Costs	Depr		-	12,063	-	12,063	Depreciation for incremental adjustments to Kingston costs - see Workpaper 8.3	
24	Depreciation-Transformer Retirement	Depr		-	(\$2,250)	-	(2,250)	Depreciation expense reduction for \$75,000 transformer retirement per Audit Issue 3	
25	Total Depreciation & Amortization Expense Adjustments			<u>\$ 478,062</u>	<u>\$ (232,302)</u>	<u>\$ -</u>	<u>\$ 245,760</u>		
26	Taxes Other Than Income Adjustments								
27	Property Taxes	Taxes Other	Schedule RevReq-3-10	\$ 1,030,081	\$ (2,524)	\$ 142,002	\$ 1,169,559	Removal of overpayment of property taxes from the Revenue Requirement per PUC Audit Issue 12	To reflect actual 2016 property taxes
28	Payroll Taxes	Taxes Other	Schedule RevReq-3-11	31,834	-	(191)	31,643		To reflect changes for 2017 payroll taxes
29	Property Taxes-Kingston Actual Costs	Taxes Other		-	10,741	(251)	10,491	Adjustment to recognize actual Kingston project costs (\$456,115 of additional costs * \$23.55 mills per Schedule RevReq 3-10)	To reflect actual 2016 property taxes
30	Total Taxes Other Than Income Adjustments			<u>\$ 1,061,915</u>	<u>\$ 8,218</u>	<u>\$ 141,560</u>	<u>\$ 1,211,693</u>		
31	Income Taxes Adjustments								
32	Federal Income Tax	FIT	Schedule RevReq-3-12 P1	\$ (649,724)	\$ (82,898)	\$ (33,427)	\$ (766,049)	Revise income taxes for adjustments - see RevReq 3-12 P1	To reflect income taxes for adjustments - see RevReq 3-12 P1
33	State Income Tax	SIT	Schedule RevReq-3-12 P1	(177,520)	(22,650)	\$ (9,133)	(209,303)	Revise income taxes for adjustments - see RevReq 3-12 P1	To reflect income taxes for adjustments - see RevReq 3-12 P1
34	Prior Year Federal Income Tax	FIT	Schedule RevReq-3-12 P4	106,728	-	-	106,728		
35	Total Income Taxes Adjustments			<u>\$ (720,516)</u>	<u>\$ (105,547)</u>	<u>\$ (42,560)</u>	<u>\$ (868,624)</u>		
36	Rate Base Adjustments								
37	Kingston Substation Plant Addition	Plant	Schedule RevReq-3-8 P1	\$ 9,880,166	\$ 456,115	\$ -	\$ 10,336,281	Adjust for Kingston actual project costs - see Workpaper 8.3	
38	Cash Working Capital Adjustment	CWC	Schedule RevReq-4-2	212,922	38,948	4,179	256,049	Adjust for change in rate base and interest synch - see RevReq 4-2	To reflect the change in rate base working capital- see RevReq 4-2
39	Accumulated Depreciation - Accrual Rate Differences	Acc Dep		-	1,040,451	0	1,040,451	Accrual rate differences due to depreciation revision - see Workpaper 8.2	
40	Accumulated Depreciation - Reserve Variance Amortization	Acc Dep		-	(662,890)	0	(662,890)	Reserve variance amortization due to depreciation revision - see Workpaper 8.2	
41	Accumulated Depreciation - Transformer	Acc Dep		-	75,000	0	75,000	Remove transformer accumulated depreciation balance per Audit Issue 3	
42	Accumulated Deferred Taxes - Accrual Rate Differences	RB DIT		-	(149,552)	0	(149,552)	Booktax timing due to depreciation accrual rate revision - see Workpaper 8.2	
43	Plant in Service - Transformer	Plant		-	(75,000)	0	(75,000)	Remove retired transformer from Plant in Service per PUC Audit Issue 3	
44	Prepaid Insurance	Prepay				(65,064)	(65,064)		To remove prepaid items from the rate base that are included in Cash Working Capital
45	Prepaid Property Tax	Prepay				(1,293,561)	(1,293,561)		To remove prepaid items from the rate base that are included in Cash Working Capital
46	Prepaid Postage	Prepay				(67,244)	(67,244)		To remove prepaid items from the rate base that are included in Cash Working Capital
47	Prepaid Line Maintenance	Prepay				(18,250)	(18,250)		To remove prepaid items from the rate base that are included in Cash Working Capital
48	Total Rate Base Adjustments			<u>\$ 10,093,088</u>	<u>\$ 723,072</u>	<u>\$ (1,439,940)</u>	<u>\$ 9,376,220</u>		
				Income Statement Check	\$ -				
				Rate Base Check	\$ -				

UNITIL ENERGY SYSTEMS, INC.  
PAYROLL ADJUSTMENT  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-1

LINE NO.	(1) DESCRIPTION	(2)	(3)	(4)	(5)	(6)
		NONUNION	UES UNION	SUBTOTAL	FROM USC	TOTAL
1	Test Year Payroll, Adjusted for Target Incentive Compensation	\$ 1,375,944	\$ 3,547,731	\$ 4,923,674	\$ 6,799,578	\$ 11,723,252
2	Less: Capitalized Payroll <sup>(1)</sup>	867,120	2,235,780	3,102,900	1,943,319	5,046,219
3	Test Year Payroll Amount to O&M Expense	508,824	1,311,951	1,820,775	4,856,258	6,677,033
4	2015 Rate Increase, Annualized <sup>(2)</sup>	-	16,098	16,098	-	16,098
5	Payroll Annualized for 2015 Rate Increase	508,824	1,328,049	1,836,873	4,856,258	6,693,131
6	2016 Rate Increase <sup>(3)</sup>	19,335	39,841	59,177	203,963	263,140
7	Payroll Proformed for 2015 and 2016 Rate Increases	528,159	1,367,890	1,896,050	5,060,221	6,956,271
8	2017 Rate Increases <sup>(4)</sup>	21,126	41,037	62,163	202,409	264,572
9	Payroll Proformed for 2015, 2016 and 2017 Rate Increases	549,286	1,408,927	1,958,213	5,262,630	7,220,843
10	Less: Test Year O&M Payroll, Adjusted for Target Incentive Comp			1,820,775	4,856,258	6,677,033
11	Increase in O&M Payroll due to Annual Rate Increases			137,438	406,372	543,810
12	Less: Incentive Compensation Target Adjustment <sup>(5)</sup>			13,947	198,754	212,702
13	Net Adjustment to O&M Payroll / Compensation			\$ 123,491	\$ 207,617	\$ 331,108

Notes

(1) UES payroll capitalization rate, 63.02%; USC payroll capitalization rate 28.58%

(2) UES Union increase of 3.0% effective June 1, 2015

(3) UES Non-union increase of 3.8% effective January 1, 2016, Union increase of 3.0% effective June 1, 2016 and USC increase of 4.2% effective January 1, 2016

(4) UES Non-union increase of 4% effective January 1, 2017, Union increase of 3.0% effective June 1, 2017 and USC increase of 4% effective January 1, 2017

(5) See Workpaper 1.1

UNITIL ENERGY SYSTEMS, INC.  
PAYROLL ADJUSTMENT  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-1 Revised 1/3/2017

LINE NO.	(1) DESCRIPTION	(2)	(3)	(4)	(5)	(6)
		NONUNION	UES UNION	SUBTOTAL	FROM USC	TOTAL
1	Test Year Payroll, Adjusted for Target Incentive Compensation	\$ 1,375,944	\$ 3,547,731	\$ 4,923,674	\$ 6,799,578	\$ 11,723,252
2	Less: Capitalized Payroll <sup>(1)</sup>	867,120	2,235,780	3,102,900	1,943,319	5,046,219
3	Test Year Payroll Amount to O&M Expense	508,824	1,311,951	1,820,775	4,856,258	6,677,033
4	2015 Rate Increase, Annualized <sup>(2)</sup>	-	16,098	16,098	-	16,098
5	Payroll Annualized for 2015 Rate Increase	508,824	1,328,049	1,836,873	4,856,258	6,693,131
6	2016 Rate Increase <sup>(3)</sup>	19,335	39,841	59,177	203,963	263,140
7	Payroll Proformed for 2015 and 2016 Rate Increases	528,159	1,367,890	1,896,050	5,060,221	6,956,271
8	2017 Rate Increases <sup>(4)</sup>	15,845	41,037	56,881	182,168	239,049
9	Payroll Proformed for 2015, 2016 and 2017 Rate Increases	544,004	1,408,927	1,952,931	5,242,389	7,195,320
10	Less: Test Year O&M Payroll, Adjusted for Target Incentive Comp			1,820,775	4,856,258	6,677,033
11	Increase in O&M Payroll due to Annual Rate Increases			132,156	386,131	518,287
12	Less: Incentive Compensation Target Adjustment <sup>(5)</sup>			13,947	198,754	212,702
13	Net Adjustment to O&M Payroll / Compensation			\$ 118,209	\$ 187,376	\$ 305,585

Notes

(1) UES payroll capitalization rate, 63.02%; USC payroll capitalization rate 28.58%

(2) UES Union increase of 3.0% effective June 1, 2015

(3) UES Non-union increase of 3.8% effective January 1, 2016, Union increase of 3.0% effective June 1, 2016 and USC increase of 4.2% effective January 1, 2016

(4) UES Non-union increase of 3.0% effective January 1, 2017, Union increase of 3.0% effective June 1, 2017 and USC increase of 3.6% effective January 1, 2017

(5) See Workpaper 1.1

UNITIL ENERGY SYSTEMS, INC.  
MEDICAL AND DENTAL INSURANCE ADJUSTMENT  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-2

	(1)	(2)	(3)	(4)
LINE NO.	DESCRIPTION	TOTAL	UNITIL ENERGY SYSTEMS, INC. <sup>(1)</sup>	UNITIL SERVICE CORP. <sup>(2)</sup>
1	Proformed Medical and Dental O&M Expense	\$ 705,413	\$ 171,290	\$ 534,123
2	Less: Test Year Medical And Dental Insurance O&M Expense	652,409	168,285	484,124
3	Proformed 2016 And 2017 O&M Increase	\$ 53,004	\$ 3,005	\$ 49,999

Notes

(1) See Workpapers W2.1

(2) See Workpapers W2.2



UNITIL ENERGY SYSTEMS, INC.  
MEDICAL AND DENTAL INSURANCE ADJUSTMENT  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-2 Revised 1/3/2017

LINE NO.	(1)	(2)	(3)	(4)
	DESCRIPTION	TOTAL	UNITIL ENERGY SYSTEMS, INC. <sup>(1)</sup>	UNITIL SERVICE CORP. <sup>(2)</sup>
1	Proformed Medical and Dental O&M Expense	\$ 759,135	\$ 186,634	\$ 572,501
2	Less: Test Year Medical And Dental Insurance O&M Expense	652,409	168,285	484,124
3	Proformed 2016 And 2017 O&M Increase	\$ 106,726	\$ 18,349	\$ 88,377

Notes

(1) See Workpapers W2.1

(2) See Workpapers W2.2

Unitil Energy Systems, Inc.  
Pension, PBOP and 401(k) Expense, Proforma Adjustment  
2015 Test Year

Schedule RevReq-3-3

LINE NO.	(1) DESCRIPTION	(2) TOTAL	(3) UNITIL ENERGY SYSTEMS, INC.	(4) UNITIL SERVICE CORP.
1	Test Year Pension Expense, as Pro-Formed	1,112,377	543,153	569,224
2	Test Year PBOP Expense, as Pro-Formed	1,038,139	624,015	414,124
3	Test Year 401K Expense, as Pro-Formed	375,227	74,735	300,492
4	Total Test Year Pension, PBOP and 401K Expense, as Pro-Formed	2,525,743	1,241,903	1,283,840
5	Test Year Pension Expense	\$ 1,218,569	\$ 599,857	\$ 618,712
6	Test Year PBOP Expense	887,575	432,005	455,570
7	Test Year 401K Expense	331,127	67,243	263,884
8	Total Test Year Pension, PBOP and 401K Expense	2,437,272	1,099,105	1,338,166
9	Test Year Pension Expense, Pro-Forma Adjustment	(106,192)	(56,704)	(49,488)
10	Test Year PBOP Expense, Pro-Forma Adjustment	150,564	192,010	(41,447)
11	Test Year 401K Expense, Pro-Forma Adjustment	44,100	7,492	36,608
12	Total Test Year Pension, PBOP and 401K Expense, Pro-Forma Adjustment	\$ 88,471	\$ 142,798	\$ (54,326)

Notes

See Workpaper 3.1 for pension related expenses

See Workpaper 3.2 for PBOP related expenses

See Workpaper 3.3 for 401k related expenses

**PROPERTY & LIABILITY INSURANCE**  
**12 MONTHS ENDED DECEMBER 31, 2015**

LINE NO.	(1) DESCRIPTION	(2) TOTAL	(3) UES <sup>(1)</sup>	(4) UNITIL SERVICE CORP. <sup>(2)</sup>
1	Proformed Property & Liability Insurances O&M Expense	\$ 313,896	\$ 257,763	\$ 56,133
2	Less: Test Year Property & Liability Insurances O&M Expense	<u>259,668</u>	<u>233,547</u>	<u>26,120</u>
3	Proformed 2016 And 2017 O&M Increase	<u>\$ 54,228</u>	<u>\$ 24,216</u>	<u>\$ 30,012</u>

**Notes**

(1) See Workpaper W4.1

(2) See Workpaper W4.2

PROPERTY & LIABILITY INSURANCE  
12 MONTHS ENDED DECEMBER 31, 2015

LINE NO.	(1) DESCRIPTION	(2) TOTAL	(3) UES <sup>(1)</sup>	(4) UNITIL SERVICE CORP. <sup>(2)</sup>
1	Proformed Property & Liability Insurances O&M Expense	\$ 301,994	\$ 248,712	\$ 53,282
2	Less: Test Year Property & Liability Insurances O&M Expense	<u>259,668</u>	<u>233,547</u>	<u>26,120</u>
3	Proformed 2016 And 2017 O&M Increase	<u>\$ 42,326</u>	<u>\$ 15,164</u>	<u>\$ 27,161</u>

Notes

(1) See Workpaper W4.1

(2) See Workpaper W4.2

UNITIL ENERGY SYSTEMS, INC.  
DISTRIBUTION BAD DEBT ADJUSTMENT  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-5

	(1)	(2)	(3)	(4)	(5)
LINE NO.	DESCRIPTION	AMOUNT AS FILED	09/16/2016 UPDATE	1/3/2017 UPDATE	TOTAL
1	Test Year Write-Offs as a % of Retail Delivery Billed Revenue	0.62%	0.62%	0.62%	0.62%
2	Per Books Delivery Retail Billed Revenue	\$ 81,032,598	\$ -	\$ -	\$ 81,032,598
3	Revenue Increase from Rate Case	6,255,276	329,434	(22,879)	6,561,831
4	2015 Total Normalized Delivery Retail Billed Revenue	\$ 87,287,874	\$ 329,434	\$ (22,879)	\$ 87,594,429
5	Uncollectible Delivery Revenue	\$ 539,518	\$ 2,036	\$ (141)	\$ 541,413
6	Less: Test Year Bad Debt Expense	\$ 368,229	\$ -	\$ -	\$ 368,229
7	Increase in Bad Debt Expense	\$ 171,290	\$ 2,036	\$ (141)	\$ 173,184

UNITIL ENERGY SYSTEMS, INC.  
 PROTECTED RECEIVABLES  
 12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-6

LINE NO.	(1) DESCRIPTION	(2) TOTAL
	<u>Protected Receivables Amortization:</u>	
1	Base Distribution Active Hardship Accounts Over 360 Days Past Due at 12/31/2015	\$ 925,083
2	Amortization Period	<u>5 years</u>
3	Annual Recovery of Base Distribution Active Hardship Accounts	185,017
4	Average Migration Increase During 2015 <sup>(1)</sup>	<u>159,423</u>
5	Adjusted Base Distribution Active Hardship Accounts Over 360 Days Past Due	<u><u>\$ 344,439</u></u>

Notes

(1) 4 Year Average Increase of Base Distribution Active Hardship Accounts  
 Over 360 Day Past Due

UNITIL ENERGY SYSTEMS, INC.  
INFLATION ALLOWANCE  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-7  
Page 1 of 2

LINE NO.	(1) DESCRIPTION	(2) AMOUNT AS FILED	(3) 9/16/2016 PUC UPDATE	(4) 1/3/2017 PUC UPDATE	(5) TOTAL
1	Test Year Distribution O&M Expenses	\$ 20,724,994	\$ 5,455	\$ 16,297	\$ 20,730,448
	Less Normalizing Adjustments Items:				
2	Payroll	\$ 6,889,735	\$ -	\$ (25,522)	\$ 6,889,735
3	Medical and Dental Insurance	652,409	-	\$ 53,722	652,409
4	401K Costs	331,127	-	-	331,127
5	Property & Liability Insurance	259,668	-	(11,902)	259,668
6	PUC Assessment	-	169,818	-	169,818
6	Total Normalizing Adjustment Items	\$ 8,132,939	\$ 169,818	\$ 16,297	\$ 8,302,757
	Less Items not Subject to Inflation:				
7	Pension	\$ 1,218,569	\$ -	\$ -	\$ 1,218,569
8	Postemployment Benefits Other than Pensions	887,575	-	-	887,575
9	Bad Debts	368,229	-	-	368,229
10	Vegetation Management Expense	4,758,739	-	-	4,758,739
11	Amortizations - USC Charge	41,016	-	-	41,016
12	Facility Leases - USC Charge	534,263	-	-	534,263
13	Total Items not Subject to Inflation	\$ 7,808,390	\$ -	\$ -	\$ 7,808,390
14	Residual O&M Expenses	\$ 4,783,664	\$ (164,363)	\$ -	\$ 4,619,301
15	Projected Inflation Rate <sup>(1)</sup>	2.96%	2.96%	2.96%	2.96%
16	Increase in Other O&M Expense for Inflation	\$ 141,596	\$ (4,865)	\$ -	\$ 136,731

Notes

(1) Refer to Schedule RevReq-3-7, Page 2 of 2

UNITIL ENERGY SYSTEMS, INC.  
INFLATION ALLOWANCE  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-7  
Page 2 of 2

LINE NO.	(1) DESCRIPTION	(2) INDEX <sup>(1)</sup>
	GDPIPD Index Value at the end of the Test Year:	
1	June 2015 Index-GDP	109.8
2	July 2015 Index-GDP	110.0
3	July 1, 2015 (Midpoint of Test Year) Index	109.9
	GDPIPD Index Value at date of permanent rates :	
4	April 2017 Index-GDP	113.1
5	May 2017 Index-GDP	113.2
6	May 1, 2017 (Date of Permanent Rates) Index	113.2
7	Projected Inflation Rate	2.96%

Notes

(1) Refer to Workpaper W5.1 for GDPIPD Indices



UNITIL ENERGY SYSTEMS, INC.  
DEPRECIATION ANNUALIZATION  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-8

LINE NO.	(1) DESCRIPTION	(2) PLANT BALANCE 12/31/2015	(3) ADJUSTMENTS <sup>(1)</sup>	(4) LESS NON DEPRECIABLE	(5) DEPRECIABLE PLANT	(6) LESS ITEMS CHARGED TO CLEARING ACCOUNT	(7) DEPRECIABLE PLANT CHARGED TO DEPRECIATION EXPENSE	(8) DEPRECIATION RATES	(9) PROFORMED EXPENSE
	Intangible Plant								
1	301-Organization	\$ 380	\$ -	\$ 380	\$ -	\$ -	-	N/A	N/A
2	303-Misc Intangible Plant	6,353,387	-	6,353,387	-	-	-	N/A	N/A
3	Total Intangible Plant	6,353,767	-	6,353,767	-	-	-	N/A	N/A
	Distribution Plant								
4	343-Movers	56,575	-	-	56,575	-	56,575	6.80%	3,847
5	360-Land & Land Rights	2,665,928	-	2,665,928	-	-	-	N/A	N/A
6	361-Structures & Improvements	167,773	4,591,246	-	4,759,019	-	4,759,019	2.50%	118,975
7	362-Station Equipment	23,730,448	4,988,435	-	28,718,883	-	28,718,883	2.66%	763,922
8	364-Poles, Towers & Fixtures	54,781,196	100,161	-	54,881,358	-	54,881,358	3.80%	2,085,492
9	365-Overhead Conductors & Devices	71,213,961	200,323	-	71,414,284	-	71,414,284	3.74%	2,670,894
10	366-Underground Conduit	1,841,623	-	-	1,841,623	-	1,841,623	2.09%	38,490
11	367-Underground Conductors & Devices	18,242,829	-	-	18,242,829	-	18,242,829	2.61%	476,138
12	368.1-Line Transformers	24,590,384	-	-	24,590,384	-	24,590,384	3.07%	754,925
13	368.2-Line Transformer Installations	18,572,941	-	-	18,572,941	-	18,572,941	2.95%	547,902
14	369-Services	20,341,811	-	-	20,341,811	-	20,341,811	5.83%	1,185,928
15	370.1-Meters	9,636,392	-	-	9,636,392	-	9,636,392	5.08%	489,529
16	370.2-Meter Installations	4,027,591	-	-	4,027,591	-	4,027,591	5.08%	204,602
17	371-Installations On Customer Premises	1,886,935	-	-	1,886,935	-	1,886,935	7.79%	146,992
18	373-Street Lighting & Signal Systems	3,237,653	-	-	3,237,653	-	3,237,653	8.04%	260,307
19	Total Distribution Plant	254,994,040	9,880,166	2,665,928	262,208,278	-	262,208,278	3.72%	9,747,943
	General Plant								
20	389-Land	18,620	-	18,620	-	-	-	N/A	N/A
21	390-Structures & Improvements	3,787,332	-	-	3,787,332	-	3,787,332	2.08%	78,777
22	391.1-Office Furniture & Equipment	267,375	-	-	267,375	-	267,375	5.83%	15,588
23	391.3-Computer Equipment	-	-	-	-	-	-	18.70%	-
24	392-Transportation Equip	1,078,761	-	-	1,078,761	1,078,761	-	N/A	N/A
25	393-Stores Equip	79,908	-	-	79,908	-	79,908	3.36%	2,685
26	394-Tools, Shop & Garage Eq	1,539,171	-	-	1,539,171	-	1,539,171	3.64%	56,026
27	395-Laboratory Equipment	792,711	-	-	792,711	-	792,711	3.90%	30,916
28	397-Communication Equip	3,772,058	-	-	3,772,058	-	3,772,058	6.60%	248,956
29	398-Miscellaneous Equip	102,943	-	-	102,943	-	102,943	4.88%	5,024
30	399-Other Tangible Property	-	-	-	-	-	-	N/A	N/A
31	Total General Plant	11,438,880	-	18,620	11,420,261	1,078,761	10,341,500	4.24%	437,972
32	Total Plant in Service	\$ 272,786,687	\$ 9,880,166	\$ 9,038,315	\$ 273,628,539	\$ 1,078,761	\$ 272,549,778		\$ 10,185,915
33	Test Year Expense								9,639,845
34	Increase In Depreciation Expense								\$ 546,070

Notes

(1) Plant adjustment of \$9.88 mm related to Kingston substation coming online April, 2016

UNITIL ENERGY SYSTEMS, INC.  
DEPRECIATION ANNUALIZATION  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-8 Revised 9/16/2016

LINE NO.	(1) DESCRIPTION	(2) PLANT BALANCE 12/31/2015	(3) ADJUSTMENTS <sup>(1)</sup>	(4) LESS NON DEPRECIABLE	(5) DEPRECIABLE PLANT	(6) LESS ITEMS CHARGED TO CLEARING ACCOUNT	(7) DEPRECIABLE PLANT CHARGED TO DEPRECIATION EXPENSE	(8) REVISED DEPRECIATION RATE (2)	(9) PROFORMED 9/16/2016
	<b>Intangible Plant</b>								
1	301-Organization	\$ 380	\$ -	\$ 380	\$ -	\$ -	-	N/A	N/A
2	303-Misc Intangible Plant	6,353,387	-	6,353,387	-	-	-	N/A	N/A
3	Total Intangible Plant	6,353,767	-	6,353,767	-	-	-	N/A	N/A
	<b>Distribution Plant</b>								
4	343-Movers	56,575	-	-	56,575	-	56,575	6.67%	3,774
5	360-Land & Land Rights	2,665,928	-	2,665,928	-	-	-	N/A	N/A
6	361-Structures & Improvements	167,773	4,591,246	-	4,759,019	-	4,759,019	2.45%	116,596
7	362-Station Equipment	23,730,448	4,988,435	-	28,718,883	-	28,718,883	2.60%	746,691
8	364-Poles, Towers & Fixtures	54,781,196	100,161	-	54,881,358	-	54,881,358	3.70%	2,030,610
9	365-Overhead Conductors & Devices	71,213,961	200,323	-	71,414,284	-	71,414,284	3.64%	2,599,480
10	366-Underground Conduit	1,841,623	-	-	1,841,623	-	1,841,623	2.04%	37,569
11	367-Underground Conductors & Devices	18,242,829	-	-	18,242,829	-	18,242,829	2.55%	465,192
12	368.1-Line Transformers	24,590,384	-	-	24,590,384	-	24,590,384	3.00%	737,712
13	368.2-Line Transformer Installations	18,572,941	-	-	18,572,941	-	18,572,941	2.89%	536,758
14	369-Services	20,341,811	-	-	20,341,811	-	20,341,811	5.67%	1,153,381
15	370.1-Meters	9,636,392	-	-	9,636,392	-	9,636,392	5.00%	481,820
16	370.2-Meter Installations	4,027,591	-	-	4,027,591	-	4,027,591	5.00%	201,380
17	371-Installations On Customer Premises	1,886,935	-	-	1,886,935	-	1,886,935	7.56%	142,652
18	373-Street Lighting & Signal Systems	3,237,653	-	-	3,237,653	-	3,237,653	7.79%	252,213
19	Total Distribution Plant	254,994,040	9,880,166	2,665,928	262,208,278	-	262,208,278	3.63%	9,505,828
	<b>General Plant</b>								
20	389-Land	18,620	-	18,620	-	-	-	N/A	N/A
21	390-Structures & Improvements	3,787,332	-	-	3,787,332	-	3,787,332	2.08%	78,777
22	391.1-Office Furniture & Equipment	267,375	-	-	267,375	-	267,375	5.83%	15,588
23	391.3-Computer Equipment	-	-	-	-	-	-	18.70%	-
24	392-Transportation Equip	1,078,761	-	-	1,078,761	1,078,761	-	N/A	N/A
25	393-Stores Equip	79,908	-	-	79,908	-	79,908	3.36%	2,685
26	394-Tools, Shop & Garage Eq	1,539,171	-	-	1,539,171	-	1,539,171	3.64%	56,026
27	395-Laboratory Equipment	792,711	-	-	792,711	-	792,711	3.90%	30,916
28	397-Communication Equip	3,772,058	-	-	3,772,058	-	3,772,058	6.60%	248,956
29	398-Miscellaneous Equip	102,943	-	-	102,943	-	102,943	4.88%	5,024
30	399-Other Tangible Property	-	-	-	-	-	-	N/A	N/A
31	Total General Plant	11,438,880	-	18,620	11,420,261	1,078,761	10,341,500	4.24%	437,972
32	Total Plant in Service	\$ 272,786,687	\$ 9,880,166	\$ 9,038,315	\$ 273,628,539	\$ 1,078,761	\$ 272,549,778		\$ 9,943,800
33	Test Year Expense								9,639,845
34	Increase In Depreciation Expense								\$ 303,955
35	Change from Initial Filing								\$ (242,115)

**Notes**

(1) Plant adjustment of \$9.88 mm related to Kingston substation coming online April, 2016

(2) Source: Workpaper 8-1

UNITIL ENERGY SYSTEMS, INC.  
DEFERRED STORM COST AMORTIZATION  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-9

LINE NO.	(1)	(2)
	DESCRIPTION	TOTAL
1	Remove Deferred Storm Cost Amortization	\$ (68,008)

UNITIL ENERGY SYSTEMS, INC.  
PROPERTY TAXES  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-10

	(1)	(2)	(3)	(4)	(5)
LINE NO.	MUNICIPALITY & STATE	TAXATION PERIOD	LOCAL TAX RATE	ASSESSED VALUATION	TAXES
1	Allenstown	4/1 - 3/31	\$ 30.35	\$ 77,300	\$ 2,343
2	Atkinson	4/1 - 3/31	16.65	4,850,900	85,832
3	Boscawen	1/1 - 12/31	26.99	5,654,700	148,002
4	Bow	4/1 - 3/31	26.16	16,734,000	428,759
5	Brentwood	4/1 - 3/31	20.98	187,500	3,556
6	Canterbury	4/1 - 3/31	24.28	2,318,800	60,906
7	Chichester	1/1 - 12/31	23.84	3,581,200	87,489
8	Concord	7/1 - 6/30	24.73	40,052,700	950,275
9	Concord	7/1 - 6/30	26.81	807,550	24,097
10	Concord	7/1 - 6/30	29.83	6,775,900	199,857
11	Concord	7/1 - 6/30	32.26	92,400	3,371
12	Danville	4/1 - 3/31	27.44	3,551,800	98,337
13	Dunbarton	1/1 - 12/31	21.21	815,800	14,910
14	East Kingston	4/1 - 3/31	22.52	4,492,100	108,937
15	Epsom	4/1 - 3/31	21.59	6,027,900	104,991
16	Exeter	4/1 - 3/31	22.99	14,507,000	355,617
17	Hampstead	4/1 - 3/31	20.08	318,500	6,043
18	Hampton--Class 4000	4/1 - 3/31	16.67	13,825,100	239,085
19	Hampton--Class 5000	4/1 - 3/31	17.45	6,809,400	123,165
20	Hampton Falls	4/1 - 3/31	19.77	4,396,300	83,936
21	Hopkinton	4/1 - 3/31	31.11	406,700	12,394
22	Kensington	4/1 - 3/31	20.65	5,712,679	118,881
23	Kingston	4/1 - 3/31	23.55	7,699,800	177,435
24	Loudon	4/1 - 3/31	18.47	754,900	13,151
25	Newton	4/1 - 3/31	24.05	5,576,700	134,291
26	North Hampton	4/1 - 3/31	15.01	58,100	925
27	Pembroke	4/1 - 3/31	26.56	340,700	8,620
28	Plaistow	4/1 - 3/31	21.67	7,215,000	159,698
29	Salisbury	4/1 - 3/31	21.79	1,300,000	25,082
30	Seabrook	4/1 - 3/31	12.42	20,169,400	237,678
31	South Hampton	4/1 - 3/31	17.49	1,652,200	28,459
32	Stratham	4/1 - 3/31	17.60	7,434,900	138,936
33	Webster	4/1 - 3/31	21.59	2,604,300	43,041
34	State Property Tax	4/1 - 3/31	6.60	163,908,368	1,169,024
35	Total			\$ 360,710,597	\$ 5,397,120
36	Property Tax Increase <sup>(1)</sup>				7.97%
37	Total Adjusted Annualized Taxes				\$ 5,827,031
38	Kingston Substation Adjustment		\$ 23.55	\$ 9,880,166	\$ 232,678
39	Test Year Property Taxes				\$ 5,397,120
40	Less: Test Year Property Tax Abatements				\$ 367,492
41	Total Test Year Property Tax Expense				\$ 5,029,628
42	Total Property Tax Increase (Line 37 + Line 38 - Line 41)				\$ 1,030,081

Notes

(1) Average annual change in taxes between calendar years 2012 and 2015 applied. See Workpaper 6.1

UNITIL ENERGY SYSTEMS, INC.  
PROPERTY TAXES  
UPDATED FOR ACTUAL PROPERTY TAX EXPENSE-2016

Schedule RevReq-3-10 Revised 1/3/2017

	(1)	(2)	(3)	(4)	(5)
LINE NO.	MUNICIPALITY & STATE	TAXATION PERIOD	LOCAL TAX RATE	ASSESSED VALUATION	TAXES
1	Allenstown	4/1 - 3/31	\$ 31.42	\$ 77,300	\$ 2,429
2	Atkinson	4/1 - 3/31	15.68	5,789,400	90,778
3	Boscawen	1/1 - 12/31	26.25	6,101,900	160,175
4	Bow	4/1 - 3/31	24.07	16,202,400	389,992
5	Brentwood	4/1 - 3/31	22.01	168,000	3,698
6	Canterbury	4/1 - 3/31	22.77	2,264,500	51,563
7	Chichester	1/1 - 12/31	24.94	3,581,200	89,315
8	Concord	7/1 - 6/30	25.28	43,317,700	1,095,071
9	Concord	7/1 - 6/30	26.87	1,454,200	39,074
10	Concord	7/1 - 6/30	31.09	7,351,900	228,571
11	Concord	7/1 - 6/30	31.09	91,200	2,835
12	Danville	4/1 - 3/31	24.47	3,309,800	80,991
13	Dunbarton	1/1 - 12/31	21.59	694,200	14,988
14	East Kingston	4/1 - 3/31	22.40	4,492,100	100,623
15	Epsom	4/1 - 3/31	22.84	6,027,900	137,677
16	Exeter	4/1 - 3/31	23.83	15,883,300	378,499
17	Hampstead	4/1 - 3/31	21.83	298,100	6,508
18	Hampton--Class 4000	4/1 - 3/31	13.92	17,753,700	247,132
19	Hampton--Class 5000	4/1 - 3/31	14.66	8,744,300	128,191
20	Hampton Falls	4/1 - 3/31	19.03	4,540,900	86,413
21	Hopkinton	4/1 - 3/31	31.03	406,700	12,620
22	Kensington <sup>(2)</sup>	4/1 - 3/31	21.07	5,712,746	110,368
23	Kingston <sup>(2)</sup>	4/1 - 3/31	23.00	17,024,800	385,697
24	Loudon	4/1 - 3/31	18.70	678,700	12,692
25	Newton	4/1 - 3/31	23.93	5,800,800	138,813
26	North Hampton	4/1 - 3/31	15.28	61,500	940
27	Pembroke	4/1 - 3/31	26.66	330,000	8,798
28	Plaistow	4/1 - 3/31	20.28	10,010,100	203,005
29	Salisbury	4/1 - 3/31	22.18	1,300,000	28,834
30	Seabrook	4/1 - 3/31	12.48	21,416,700	267,280
31	South Hampton	4/1 - 3/31	15.88	1,652,200	26,237
32	Stratham	4/1 - 3/31	18.07	6,500,000	117,455
33	Webster	4/1 - 3/31	20.73	2,604,300	53,987
34	State Property Tax <sup>(2)</sup>	4/1 - 3/31	6.60	192,151,000	1,270,697
35	Total			\$ 413,793,546	\$ 5,971,944
36	Property Tax Increase <sup>(1)</sup>				NA
37	Total Adjusted Annualized Taxes				\$ 5,971,944
38	Kingston Substation Adjustment		\$ 23.00	\$ 9,880,166	\$ 227,244
39	Test Year Property Taxes				\$ 5,397,120
40	Less: Test Year Property Tax Abatements				\$ 367,492
41	Total Test Year Property Tax Expense				\$ 5,029,628
42	Total Property Tax Increase (Line 37 + Line 38 - Line 41)				\$ 1,169,559

**Notes**

(1) N/A as updated for actual property taxes in 2016

(2) Kensington includes a deduction for a \$10,000 abatement, Kingston includes a discount of \$5873.56 and State Property Taxes

UNITIL ENERGY SYSTEMS, INC.  
PAYROLL TAX ADJUSTMENT  
12 MONTHS ENDED DECEMBER 21, 2015

Schedule RevReq-3-11

LINE NO.	(1) DESCRIPTION	(2) Social Security	(3) Medicare	(4) Total
1	Increase in O&M Payroll / Compensation due to Annual Rate Increases <sup>(1)</sup>	\$ 543,810	\$ 543,810	
	Less Pay Increase Amounts in Excess of Taxable Limit <sup>(2)</sup>			
2	Unitil Energy Systems	(24,430)		
3	Unitil Service Corp.	(133,107)		
4	O&M Payroll / Compensation Increase Subject to Payroll Taxes	386,272	543,810	
5	Payroll Tax Rates	6.20%	1.45%	
6	Increase in Payroll Taxes	\$ 23,949	\$ 7,885	\$ 31,834

**Notes**

(1) See Schedule RevReq 3-2

(2) 2016 Social Security Wage Limit of \$118,500.

**UNITIL ENERGY SYSTEMS, INC.**  
**PAYROLL TAX ADJUSTMENT**  
**12 MONTHS ENDED DECEMBER 21, 2015**

Schedule RevReq-3-11 Revised 1/3/2017

LINE NO.	(1) DESCRIPTION	(2) Social Security	(3) Medicare	(4) Total
1	Increase in O&M Payroll / Compensation due to Annual Rate Increases <sup>(1)</sup>	\$ 518,287	\$ 518,287	
	Less Pay Increase Amounts in Excess of Taxable Limit <sup>(2)</sup>			
2	Unitil Energy Systems	(16,618)		
3	Unitil Service Corp.	(112,514)		
4	O&M Payroll / Compensation Increase Subject to Payroll Taxes	<u>389,155</u>	<u>518,287</u>	
5	Payroll Tax Rates	<u>6.20%</u>	<u>1.45%</u>	
6	Increase in Payroll Taxes	<u>\$ 24,128</u>	<u>\$ 7,515</u>	<u>\$ 31,643</u>

**Notes**

(1) See Schedule RevReq 3-2

(2) 2016 Social Security Wage Limit of \$118,500.

UNITIL ENERGY SYSTEMS, INC.  
COMPUTATION OF FEDERAL AND STATE INCOME TAXES  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-12  
Page 1 of 4

LINE NO.	(1) DESCRIPTION	(2) AS FILED	(2) 9/16/2016 UPDATE	(3) 1/3/2017 UPDATE	(4) TOTAL
	<u>Increases / (Decreases) To Expenses</u>				
1	Payroll	\$ 331,108	\$ -	\$ (25,522)	\$ 305,585
2	Medical & Dental Insurances	53,004	-	53,722	106,726
3	Pension	(106,192)	(150)	-	(106,342)
4	PBOP	150,564	-	-	150,564
5	401K	44,100	-	-	44,100
6	Property & Liability Insurances	54,228	-	(11,902)	42,326
7	Distribution Bad Debt	171,290	2,036	(141)	173,184
8	Protected Receivables Expense	344,439	-	-	344,439
9	Inflation Allowance	141,596	(4,865)	-	136,731
10	Depreciation Adjustments	546,070	(232,302)	-	313,768
11	Deferred Storm Cost Amortization	(68,008)	-	-	(68,008)
12	Property Taxes	1,030,081	8,218	141,751	1,180,050
13	Payroll Taxes	31,834	-	(191)	31,643
14	Change In Interest Exp (Refer to Schedule RevReq-3-11 Page 2)	(635,640)	25,242	(50,267)	(660,665)
15	Regulatory Commission Expenses	-	462,683	-	462,683
16	Customer Communication (930)	-	18,567	-	18,567
17	VMP Storm Hardening (593)	-	(8,600)	-	(8,600)
18	Customer Record and Collections (903)	-	(565)	-	(565)
19	Outside Services (923)	-	(3,784)	-	(3,784)
20	Office Supplies & Expenses (921)	-	(13)	-	(13)
21	Total Expense Adjustments	\$ 2,088,473	\$ 266,466	\$ 107,449	\$ 2,462,389
22	Increase / (Decrease) In Taxable Income	\$ (2,088,473)	\$ (266,466)	\$ (107,449)	\$ (2,462,389)
23	Effective Federal Income Tax Rate <sup>(1)</sup>	31.11%	31.11%	31.11%	31.11%
24	NH State Tax Rate <sup>(2)</sup>	8.50%	8.50%	8.50%	8.50%
	<u>Federal Income &amp; NH State Tax</u>				
25	Effective Federal Income Tax	\$ (649,724)	\$ (82,898)	\$ (33,427)	\$ (766,049)
26	NH State Tax	(177,520)	(22,650)	(9,133)	(209,303)
27	Increase (Decrease) In Income Taxes	<u>\$ (827,244)</u>	<u>\$ (105,547)</u>	<u>\$ (42,560)</u>	<u>\$ (975,352)</u>
	<u>Notes</u>				
28	Federal Income Tax Rate	34.00%	34.00%	34.00%	34.00%
29	Federal Benefit of State Tax -(Line 23 * Line 26)	-2.89%	-2.89%	-2.89%	-2.89%
30	(1) Effective Federal Income Tax Rate	31.11%	31.11%	31.11%	31.11%
31	(2) State Income Tax Rate	8.50%	8.50%	8.50%	8.50%
32	Unitil Energy Systems Tax Rate (Line 25 + Line 26)	<u>39.61%</u>	<u>39.61%</u>	<u>39.61%</u>	<u>39.61%</u>



UNITIL ENERGY SYSTEMS, INC.  
CHANGE IN INTEREST EXPENSE APPLICABLE TO INCOME TAX COMPUTATION  
12 MONTHS ENDED DECEMBER 31, 2015

LINE NO.	(1) DESCRIPTION	(2) AMOUNT
1	Ratemaking Interest Synchronization:	
2	Rate Base <sup>(1)</sup>	\$ 152,951,401
3	Cost of Debt In Proposed Rate of Return <sup>(2)</sup>	3.49%
4	Interest Expense for Ratemaking	<u>5,339,394</u>
5	Test Year Interest Expense:	
6	Interest Charges (427-432)	<u>\$ 5,975,034</u>
7	Increase / (Decrease) in Interest Expense	<u>\$ (635,640)</u>

Notes

(1) Schedule RevReq-4

(1) Schedule RevReq-5

UNITIL ENERGY SYSTEMS, INC.  
COMPUTATION OF FEDERAL AND STATE INCOME TAXES  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-12  
Page 3 of 4

LINE NO	(1) DESCRIPTION	(2) TEST YEAR ACTUAL	(3) PRO-FORMA ADJUSTMENTS	(4) TEST YEAR UTILITY
1	Net Income	\$ 7,209,877	\$ -	\$ 7,209,877
2	Federal Income Tax-Current	735,767	-	735,767
3	NH State Income Tax-Current	894,243	-	894,243
4	NH State Business Enterprise Credit Against NH BPT	126,000	-	126,000
5	Deferred Federal Income Tax	2,837,423	-	2,837,423
6	Deferred State Income Tax	(14,801)	-	(14,801)
7	Net Income Before Income Taxes	11,788,509	-	11,788,509
	<u>Permanent Items</u>			
8	Drug Subsidies	-	-	-
9	Lobbying	39,865	-	39,865
10	Penalties	274	-	274
11	State Regulatory Asset Amortization	-	-	-
12	Unallowable Meals	84	-	84
13	Total Permanent Items	40,223	-	40,223
	<u>Temporary Differences</u>			
14	Accrued Revenue	1,144,639	-	1,144,639
15	Bad Debt	(449,655)	-	(449,655)
16	Bad Debt Reg Asset	144,840	-	144,840
17	Debt Discount	1,920	-	1,920
18	DER Investment Amortization	47,757	-	47,757
19	Indenture Costs	28,704	-	28,704
20	FASB 87-Pensions	847,104	-	847,104
21	Prepaid Property Taxes	58,021	-	58,021
22	PBOP SFAS 106	725,367	-	725,367
23	State Regulatory Asset Amortization	291,468	-	291,468
24	Storm Restoration	2,614,488	-	2,614,488
25	Utility Plant Differences	(7,176,412)	-	(7,176,412)
26	Total Temporary Differences	(1,721,759)	-	(1,721,759)
	<u>Federal And State Tax Differences</u>			
27	Tax Depreciation	1,895,887	-	1,895,887
28	Total Federal And State Tax Differences	1,895,887	-	1,895,887
29	State Taxable Base Income	12,002,860	-	12,002,860
30	State Business Profits Tax - Current	1,020,243	-	1,020,243
31	Less: Business Enterprise Tax	126,000	-	126,000
32	Total State Tax Expense	894,243	-	894,243
33	Federal Taxable Income Base Before Federal And State Tax Differences	10,982,617	-	10,982,617
34	Less: Federal And State Tax Differences	1,895,887	-	1,895,887
35	Federal Taxable Income Base	9,086,730	-	9,086,730
36	Federal Income Tax-Current	3,089,488	-	3,089,488
	<u>Summary Of Utility Income Taxes:</u>			
37	Federal Income Tax-Current	2,997,446	-	2,997,446
38	Federal Income Tax-Prior	(106,728)	-	(106,728)
39	Federal Income Tax-NOL	(2,246,993)	-	-
40	Federal Amount To Non-Distribution Operations	92,042	(92,042)	-
41	State Business Profits Tax-Current	869,094	-	869,094
42	State Business Profits Tax-Prior	-	-	-
43	State Amount To Non-Distribution Operations	25,149	(25,149)	-
44	Deferred Federal Income Tax	590,430	-	590,430
45	Deferred Federal Income Tax-Prior	-	-	-
46	Deferred Federal Income Tax-NOL	2,246,993	-	-
47	Deferred State Business Profits Tax	(14,801)	-	(14,801)
48	Deferred State Business Profits Tax-Prior	-	-	-
49	Total Income Taxes	\$ 4,452,632	\$ (117,191)	\$ 4,335,441

UNITIL ENERGY SYSTEMS, INC.  
PRIOR YEAR INCOME TAXES  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-12  
Page 4 of 4

LINE NO.	(1) DESCRIPTION	(2) TOTAL
1	Remove Prior Year Federal Income Taxes	\$ 106,728

UNITIL ENERGY SYSTEMS, INC.  
RATE BASE  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-4

LINE NO.	(1) DESCRIPTION	(2) REFERENCE	(3) TEST YEAR AVERAGE <sup>(1)</sup>	(4) 5 QUARTER AVERAGE	(5) RATE BASE AT DECEMBER 31, 2015	(6) PRO FORMA ADJUSTMENTS	(6) 9/16/2016 PUC UPDATE	(7) 1/2/2017 PUC UPDATE	(8) PRO FORMA RATE BASE AT DECEMBER 31, 2015
1	Utility Plant In Service	Schedule RevReq-4-1	\$ 267,342,518	\$ 265,750,656	\$ 272,786,687	\$ 9,880,166	\$ 381,115	\$ -	\$ 283,047,968
2	Less: Reserve for Depreciation	Schedule RevReq-4-1	95,309,005	95,254,000	98,980,036	-	(452,561)	-	98,527,475
3	Net Utility Plant		172,033,513	170,496,656	173,806,651	9,880,166	833,676	-	184,520,493
4	Add: M&S Inventories	Schedule RevReq-4-1	\$ 1,366,647	\$ 1,439,672	\$ 1,410,324	\$ -	\$ -	\$ -	\$ 1,410,324
5	Cash Working Capital <sup>(2)</sup>	Schedule RevReq-4-2	2,446,229	2,446,229	2,446,229	212,922	38,948	4,179	2,702,278
6	Prepayments	Schedule RevReq-4-1	8,146,890	7,994,012	7,616,460	-	-	(1,444,119)	6,172,341
7	SFAS 109 Net Regulatory Asset	Schedule RevReq-4-1	704,407	704,407	558,673	-	-	-	558,673
8	Sub-Total		12,664,172	12,584,320	12,031,686	212,922	38,948	(1,439,940)	10,843,616
9	Less: Net Deferred Income Taxes	Schedule RevReq-4-1	\$ 40,299,341	\$ 42,396,388	\$ 41,720,083	\$ -	\$ 149,552	\$ -	\$ 41,869,635
10	Plus: Deferred Income Taxes Debit	Schedule RevReq-4-1	712,780	2,611,694	220,997	-	-	-	220,997
11	Less: Customers Deposits	Schedule RevReq-4-1	928,179	909,196	923,011	-	-	-	923,011
12	Less: Customer Advances	Schedule RevReq-4-1	514,831	496,297	557,928	-	-	-	557,928
13	Rate Base		\$ 143,668,114	\$ 141,890,789	\$ 142,858,313	\$ 10,093,088	\$ 723,072	\$ (1,439,940)	\$ 152,234,533
14	Net Operating Income Applicable To Rate Base		\$ 11,609,284	\$ 11,609,284	\$ 11,609,284				\$ 9,354,854
15	Rate of Return		8.08%	8.18%	8.13%				6.15%

Notes

(1) Two Point Average

(2) Computed Working Capital Based on Test Year O&M Expenses

UNITIL ENERGY SYSTEMS, INC.  
RATE BASE ITEMS  
QUARTERLY BALANCES

Schedule RevReq-4-1

LINE NO.	(1) DESCRIPTION	(2) DECEMBER 31 2015	(3) SEPTEMBER 30 2015	(4) JUNE 30 2015	(5) MARCH 31 2015	(6) DECEMBER 31 2014	(7) 5 QUARTER AVERAGE
	Utility Plant in Service						
1	Classified	\$ 267,967,744	\$ 264,578,453	\$ 262,662,031	\$ 259,980,628	\$ 257,687,497	\$ 262,575,271
2	Completed Construction Not Classified	4,818,943	1,840,651	2,137,377	2,869,104	4,210,852	3,175,385
3	Total Utility Plant in Service	<u>272,786,687</u>	<u>266,419,104</u>	<u>264,799,408</u>	<u>262,849,733</u>	<u>261,898,348</u>	<u>265,750,656</u>
4	Depreciation & Amortization Reserves	\$ (98,980,036)	\$ (97,372,325)	\$ (95,167,155)	\$ (93,112,510)	\$ (91,637,975)	\$ (95,254,000)
	Add:						
	M&S Inventories						
5	Materials and Supplies	786,127	882,780	919,322	764,079	769,389	824,339
6	Stores	136,074	121,025	143,449	198,802	117,208	143,312
7	Clearing Accounts	488,123	484,844	488,090	462,679	436,372	472,021
8	Total M&S Inventories	<u>\$ 1,410,324</u>	<u>\$ 1,488,648</u>	<u>\$ 1,550,860</u>	<u>\$ 1,425,560</u>	<u>\$ 1,322,969</u>	<u>\$ 1,439,672</u>
9	Prepayments	7,616,460	7,484,982	8,460,716	7,730,580	8,677,320	7,994,012
10	Cash Working Capital	2,446,229	2,446,229	2,446,229	2,446,229	2,446,229	2,446,229
	SFAS 109 Net Regulatory Asset						
11	SFAS 109 - Federal Tax Reg Asset	769,040	869,360	969,680	1,070,000	1,170,320	969,680
12	Less: SFAS 109 Federal Tax Reg Liability	(210,367)	(237,820)	(265,273)	(292,726)	(320,179)	(265,273)
13	Total Net Regulatory Asset	<u>\$ 558,673</u>	<u>\$ 631,540</u>	<u>\$ 704,407</u>	<u>\$ 777,274</u>	<u>\$ 850,141</u>	<u>\$ 704,407</u>
14	Less: Rate Base Deferred Taxes						
15	Total Deferred Income Taxes	25,214,705	25,535,298	24,510,934	35,884,662	24,792,526	27,187,625
16	Less: Storm Damage DFIT	(3,575,227)	(3,855,767)	(4,211,045)	(4,475,911)	(4,610,826)	(4,145,755)
17	Less: SFAS 158 DFIT	18,629,221	17,206,462	17,644,530	17,602,857	17,698,907	17,756,395
18	Less: Accrued Revenue - Purchased Power	1,451,384	2,792,729	2,576,818	171,691	997,992	1,598,123
19	Total Rate Base Deferred Taxes	<u>\$ 41,720,083</u>	<u>\$ 41,678,721</u>	<u>\$ 40,521,237</u>	<u>\$ 49,183,300</u>	<u>\$ 38,878,599</u>	<u>\$ 42,396,388</u>
20	Plus: Deferred Taxes Debit	\$ 220,997	\$ 216,854	\$ 178,187	\$ 11,237,870	\$ 1,204,563	\$ 2,611,694
21	Customer Deposits	\$ 923,011	\$ 913,647	\$ 888,556	\$ 887,419	\$ 933,347	\$ 909,196
22	Customer Advances	\$ 557,928	\$ 547,469	\$ 449,848	\$ 454,502	\$ 471,735	\$ 496,297
23	Rate Base	<u>\$ 142,858,313</u>	<u>\$ 138,175,195</u>	<u>\$ 141,113,011</u>	<u>\$ 142,829,513</u>	<u>\$ 144,477,915</u>	<u>\$ 141,890,789</u>

UNITIL ENERGY SYSTEMS, INC.  
CASH WORKING CAPITAL  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-4-2

LINE NO.	(1) DESCRIPTION	(2) REFERENCE	(3) TEST YEAR ACTUAL	(4) PROFORMA ADJUSTMENTS	(5) 9/16/2016 PUC UPDATE	(5) 1/3/2017 PUC UPDATE	(6) TEST YEAR AS PROFORMED
1	O&M Expense	Schedule RevReq-2	20,501,605	668,407	463,273	16,297	21,649,582
2	Taxes and Interest Expense	Schedule RevReq-2	12,263,170	2,183,474	58,401	39,670	14,544,715
3	Total		<u>\$ 32,764,775</u>	<u>\$ 2,851,881</u>	<u>\$ 521,673</u>	<u>\$ 55,967</u>	<u>\$ 36,194,297</u>
4	Cash Working Capital Requirement:						
5	Other O&M Expense Days Lag <sup>(1)</sup> / 365	27 days	<u>7.47%</u>	<u>7.47%</u>	<u>7.47%</u>	<u>7.47%</u>	<u>7.47%</u>
6	Total Cash Working Capital	Line 5 X Line 3	<u>\$ 2,446,229</u>	<u>\$ 212,922</u>	<u>\$ 38,948</u>	<u>\$ 4,179</u>	<u>\$ 2,702,278</u>

**Notes**

(1) Per Lead Lag Study

UNITIL ENERGY SYSTEMS, INC.  
WEIGHTED AVERAGE COST OF LONG-TERM DEBT  
DECEMBER 31, 2015 PRO FORMA

Schedule RevReq-5

LINE NO.	(1) DESCRIPTION	(2) AMOUNT	(3) PROFORMA ADJUSTMENT	(4) PROFORMED AMOUNT	(5) WEIGHT	(6) COST OF CAPITAL	(7) WEIGHTED COST OF CAPITAL	(8) REFERENCE
1	Common Stock Equity	\$ 77,284,950	\$ -	\$ 77,284,950	50.97%	10.30%	5.25%	Schedule RevReq 5-1
2	Preferred Stock Equity	189,800	-	189,800	0.13%	6.00%	0.01%	Schedule RevReq 5-1 and 5-6
3	Long Term Debt	77,000,000	(3,000,000)	74,000,000	48.80%	7.15%	3.49%	Schedule RevReq 5-1 and 5-4
4	Short Term Debt	161,783	-	161,783	0.11%	1.54%	0.00%	Schedule RevReq 5-1 and 5-5
5	Total	<u>\$ 154,636,533</u>	<u>\$ (3,000,000)</u>	<u>\$ 151,636,533</u>	<u>100.00%</u>		<u>8.75%</u>	

UNITIL ENERGY SYSTEMS, INC.  
CAPITAL STRUCTURE FOR RATEMAKING PURPOSES  
DECEMBER 31, 2015 PRO FORMA

Schedule RevReq-5-1

LINE NO.	(1) DESCRIPTION	(2) AMOUNT	(3) PROFORMA ADJUSTMENT	(4) PROFORMA AMOUNT	(5) PERCENT
1	Common Stock Equity				
2	Common Stock	\$ 2,442,426	\$ -	2,442,426	
3	Premium on Capital Stock	1,005,875	-	1,005,875	
4	Misc. Paid In Capital	39,028,170	-	39,028,170	
5	Common Stock Expense	(94,845)	-	(94,845)	
6	Retained Earnings	<u>34,903,325</u>	<u>-</u>	<u>34,903,325</u>	
7	Total Common Stock Equity	77,284,950	-	77,284,950	50.97%
8	Preferred Stock Equity	189,800	-	189,800	0.13%
9	Long-Term Debt	77,000,000	(3,000,000)	74,000,000	48.80%
10	Short-Term Debt <sup>(1)</sup>	<u>161,783</u>	<u>-</u>	<u>161,783</u>	<u>0.11%</u>
11	Total	<u>\$ 154,636,533</u>	<u>\$ (3,000,000)</u>	<u>\$ 151,636,533</u>	<u>100.0%</u>
12	(1) Reference Schedule RevReq-5-5 P1				



**UNITIL ENERGY SYSTEMS, INC.  
HISTORICAL CAPITAL STRUCTURE  
DECEMBER 31, 200X**

Schedule RevReq-5-2

<b>LINE NO.</b>	<b>(1) DESCRIPTION</b>	<b>(2) 2014</b>	<b>(3) 2013</b>	<b>(4) 2012</b>	<b>(5) 2011</b>	<b>(6) 2010</b>
1	Common Stock Equity	\$ 70,320,203	\$ 69,814,107	\$ 69,579,081	\$ 64,416,822	\$ 64,492,734
2	Preferred Stock Equity	225,000	225,000	225,000	225,000	225,000
3	Long-Term Debt	<u>80,000,000</u>	<u>80,000,000</u>	<u>80,000,000</u>	<u>80,000,000</u>	<u>80,000,000</u>
4	Total	<u>\$ 150,545,203</u>	<u>\$ 150,039,107</u>	<u>\$ 149,804,081</u>	<u>\$ 144,641,822</u>	<u>\$ 144,717,734</u>
5	Short-Term Debt (Year-End)	10,800,690	10,598,394	11,724,767	14,392,194	12,092,694

**UNITIL ENERGY SYSTEMS, INC.**  
**HISTORICAL CAPITALIZATION RATIOS**  
**DECEMBER 31, 200X**

**Schedule RevReq-5-3**

<b>LINE NO.</b>	<b>(1) DESCRIPTION</b>	<b>(2) 2014</b>	<b>(3) 2013</b>	<b>(4) 2012</b>	<b>(5) 2011</b>	<b>(6) 2010</b>
1	Common Stock Equity	46.71%	46.53%	46.45%	44.54%	44.56%
2	Preferred Stock Equity	0.15%	0.15%	0.15%	0.16%	0.16%
3	Long-Term Debt	53.14%	53.32%	53.40%	55.31%	55.28%
4	Total	100.00%	100.00%	100.00%	100.00%	100.00%

UNITIL ENERGY SYSTEMS, INC.  
WEIGHTED AVERAGE COST OF LONG-TERM DEBT  
DECEMBER 31, 2015 PRO FORMA

Schedule RevReq-5-4

LINE NO.	(1) ISSUE	(2) Series	(3) DATE ISSUED	(4) TERM	(5) FACE VALUE	(6) OUTSTANDING AMOUNT	(7) PROFORMA ADJUSTMENT	(8) PROFORMED OUTSTANDING AMOUNT	(9) ISSUANCE COSTS	(10) NET PROCEEDS RATIO [(5)-(9)/(5)]	(11) UNAMORTIZED ISSUANCE COSTS	(12) NET PROCEEDS OUTSTANDING (8)-(11)	(13) ANNUAL ISSUANCE COST	(14) ANNUAL INTEREST COST Rate * (8)	(15) TOTAL ANNUAL COST (13)+(14)	(16) COST RATE BASED ON NET PROCEEDS (15)/[(8)-(11)]
1	8.49%	Series I	10/14/1994	30 Yrs	\$ 6,000,000	\$ 4,800,000	\$ (1,200,000)	\$ 3,600,000	\$ 141,750	97.64%	\$ 41,815	\$ 3,558,185	\$ 4,756	\$ 305,640	\$ 310,396	8.72%
2	6.96%	Series J	9/1/1998	30 Yrs	10,000,000	10,000,000	-	10,000,000	343,727	96.56%	145,409	9,854,591	11,480	696,000	707,480	7.18%
3	8.00%	Series K	5/1/2001	30 Yrs	7,500,000	7,500,000	-	7,500,000	236,989	96.84%	74,759	7,425,241	4,876	600,000	604,876	8.15%
4	8.49%	Series L	10/14/1994	30 Yrs	9,000,000	7,200,000	(1,800,000)	5,400,000	193,809	97.85%	57,038	5,342,962	6,488	458,460	464,948	8.70%
5	6.96%	Series M	9/1/1998	30 Yrs	10,000,000	10,000,000	-	10,000,000	230,507	97.69%	97,604	9,902,396	7,706	696,000	703,706	7.11%
6	8.00%	Series N	5/1/2001	30 Yrs	7,500,000	7,500,000	-	7,500,000	111,917	98.51%	59,770	7,440,230	3,898	600,000	603,898	8.12%
7	6.32%	Series O	9/26/2006	30 Yrs	15,000,000	15,000,000	-	15,000,000	280,242	98.13%	193,444	14,806,556	9,341	948,000	957,341	6.47%
8	5.24%	Series P	3/2/2010	10 Yrs	15,000,000	15,000,000	-	15,000,000	504,042	96.64%	216,291	14,783,709	51,910	786,000	837,910	5.67%
9	12th Supplemental		12/1/2002	24 Yrs					464,633		266,172	(266,172)	21,582		21,582	
10	Total				\$ 80,000,000	\$ 77,000,000	\$ (3,000,000)	\$ 74,000,000	\$ 2,507,615		\$ 1,152,303	\$ 72,847,697			\$ 5,212,136	7.15%

**UNITIL ENERGY SYSTEMS, INC.**  
**DISTRIBUTION SHORT-TERM DEBT**  
**AVERAGE TWELVE MONTHS ENDED DECEMBER 31, 2015 PRO FORMA**

Schedule RevReq-5-5  
Page 1 of 2

<b>LINE NO.</b>	<b>(1)</b>		<b>(2)</b>	
	<b>DESCRIPTION</b>		<b>AMOUNT</b>	
1	Average Short-Term Debt Balance		\$	8,311,291
2	Average Accrued Revenue			(7,967,773)
3	Average Power Supply Working Capital			(181,735)
4	Proforma Short-Term Debt Balance		\$	161,783

UNITIL ENERGY SYSTEMS, INC.  
COST OF SHORT-TERM DEBT  
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-5-5  
Page 2 of 2

LINE NO.	(1) MONTH	(2) MONTH-END AMOUNT OUTSTANDING	(3) AVERAGE DAILY BORROWINGS	(4) MONTHLY SHORT-TERM INTEREST	(5) INTEREST RATE <sup>(1)</sup>
1	January 2015	\$ 11,358,378	\$ 9,240,229	\$ 12,281	1.56%
2	February 2015	15,964,553	11,391,529	13,705	1.57%
3	March 2015	15,540,546	11,010,735	14,698	1.57%
4	April 2015	14,604,346	12,712,997	16,475	1.58%
5	May 2015	10,169,111	11,130,271	14,939	1.58%
6	June 2015	9,460,525	7,764,068	10,101	1.58%
7	July 2015	8,629,796	8,470,508	11,177	1.55%
8	August 2015	8,327,463	7,130,855	8,876	1.47%
9	September 2015	2,464,221	4,486,019	5,424	1.47%
10	October 2015	7,253,893	4,425,970	5,508	1.47%
11	November 2015	6,977,099	5,233,155	6,343	1.47%
12	December 2015	8,774,322	<u>6,739,156</u>	9,257	<u>1.62%</u>
13	Average for the Year		8,311,291		1.54%

**Notes**

(1) The Interest Rate is calculated as follows: [Column (4) / # of days in month \* 365] / Column (3).

UNITIL ENERGY SYSTEMS, INC.  
WEIGHTED AVERAGE COST OF PREFERRED STOCK  
DECEMBER 31, 2015

Schedule RevReq-5-6

LINE NO.	(1) SERIES	(2) DATE ISSUED	(3) FACE VALUE	(4) ISSUANCE COSTS	(5) NET PROCEEDS RATIO [(3)-(4)/(3)]	(6) OUTSTANDING AMOUNT	(7) UNAMORTIZED ISSUANCE COSTS	(8) NET PROCEEDS OUTSTANDING (6)-(7)	(9) ANNUAL ISSUANCE COST	(10) ANNUAL DIVIDEND EXPENSE Rate * (6)	(11) TOTAL ANNUAL COST (11)+(12)	(12) COST RATE BASED ON NET PROCEEDS (11)/[(6)-(7)]
1	6.00%	1905-1926	\$ 189,800	N/A	100.00%	\$ 189,800	N/A	\$ 189,800	\$ -	\$ 11,388	\$ 11,388	6.00%
2	Total		<u>\$ 189,800</u>	<u>\$0</u>		<u>\$ 189,800</u>	<u>\$0</u>	<u>\$ 189,800</u>	<u>\$ -</u>	<u>\$ 11,388</u>	<u>\$ 11,388</u>	<u>6.00%</u>

**UNITIL ENERGY SYSTEMS, INC.  
COST OF COMMON EQUITY CAPITAL  
12 MONTHS ENDED DECEMBER 31, 2015**

**Schedule RevReq-5-7**

**THE INFORMATION CONCERNING THE COST OF COMMON EQUITY CAPITAL IS PROVIDED  
IN THE TESTIMONY AND EXHIBITS OF MR. ROBERT HEVERT**

**UNITIL ENERGY SYSTEMS, INC.  
RATE CASE EXPENSE COSTS  
PROJECTED THROUGH THE COMPLETION OF THE CASE**

**Schedule RevReq-6**

<b>LINE NO.</b>	<b>(1)</b>		<b>(2)</b>	
	<b>DESCRIPTION</b>		<b>AMOUNT</b>	
1	Accounting Cost Of Service Study		46,915	
2	Marginal Cost Study and Rate Design		63,210	
3	Lead Lag Study		33,700	
4	Return On Equity		78,760	
5	LED Program		12,915	
6	DER Rates		33,610	
7	Administration and Miscellaneous Expenses		2,890	
8	Commission Costs		65,000	
9	Total		<u>337,000</u>	



**NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
DOCKET DE 16-384  
REVENUE REQUIREMENT WORKPAPERS**

ELECTRIC FLOWTHRU INCOME STATEMENTS BY MECHANISM  
ACTUAL DATA

Workpaper - Flowthrough Detail  
For Periods Ending December 31, 2015

	EE ODR	LIEAP	Co-Gen QF	External Delivery	Stranded Cost	Default Service - Non G1	Default Service - G1	RPS Non G1	RPS G1	RGGI	Storm Recovery	EE BB	Total Flowthru	Total Base	Total Base & Flowthru
<b>OPERATING REVENUES</b>															
Electric Service Revenue:															
Residential (440)	\$ 896,257.24	\$ (702,267.49)	\$ -	\$ 9,722,641.22	\$ 89,650.17	\$ 45,301,150.30	\$ -	\$ 1,352,102.56	\$ -	\$ -	\$ 1,098,919.84	\$ -	\$ 57,758,453.84	\$ 26,615,662.41	\$ 84,374,116.25
Regular General (4421)	567,195.57	472,675.47	-	6,160,736.30	61,784.22	18,742,898.53	-	561,839.17	-	-	696,390.16	-	27,263,519.42	14,833,522.79	42,097,042.21
Large General (4422)	512,437.97	427,031.85	-	5,577,281.10	54,953.24	-	2,703,863.68	-	127,655.31	-	629,160.16	-	10,032,383.31	5,681,829.58	15,714,212.89
Public Street Light (444)	14,882.04	12,407.85	-	161,217.05	1,320.74	488,800.49	-	14,792.62	-	-	18,224.93	-	711,645.72	1,651,100.32	2,362,746.04
Sales to Public Auth (445)	194,933.11	162,445.19	-	2,118,529.69	21,079.06	689,501.21	51,357.81	19,338.46	2,053.35	-	239,333.89	-	3,498,571.77	3,041,261.94	6,539,833.71
Sales for Resale (447)	-	-	861,269.34	-	-	-	-	-	-	-	-	-	861,269.34	-	861,269.34
Other Sales (449)	(113,683.64)	(168,285.21)	(98,025.40)	954,923.10	(51,231.32)	(3,508,370.91)	1,408,508.66	1,237,962.67	108,369.18	(123,191.98)	-	(6,701.58)	(359,726.43)	1,115,300.90	755,574.47
<b>Total Electric Service Revenue</b>	<b>2,072,022.29</b>	<b>204,007.66</b>	<b>763,243.94</b>	<b>24,695,328.46</b>	<b>177,556.11</b>	<b>61,713,979.62</b>	<b>4,163,730.15</b>	<b>3,186,035.48</b>	<b>238,077.84</b>	<b>(123,191.98)</b>	<b>2,682,028.98</b>	<b>(6,701.58)</b>	<b>99,766,116.97</b>	<b>52,938,677.94</b>	<b>152,704,794.91</b>
<b>Other Operating Revenues:</b>															
Late Payment Charges (450)	-	-	-	-	-	-	-	-	-	-	-	-	-	481,632.74	481,632.74
Misc. Service Revenues (451)	-	-	-	-	-	-	-	-	-	-	-	-	-	160,502.24	160,502.24
Rent-elect. Property (454)	-	-	-	-	-	-	-	-	-	-	-	-	-	443,900.21	443,900.21
Other Electric Rev (456)	561,698.84	-	-	-	-	-	-	-	-	154,168.09	-	6,701.58	722,568.51	151,101.30	873,669.81
<b>Total Other Operating Revenues</b>	<b>561,698.84</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>154,168.09</b>	<b>-</b>	<b>6,701.58</b>	<b>722,568.51</b>	<b>1,237,136.49</b>	<b>1,959,705.00</b>
<b>TOTAL OPERATING REVENUES</b>	<b>2,633,721.13</b>	<b>204,007.66</b>	<b>763,243.94</b>	<b>24,695,328.46</b>	<b>177,556.11</b>	<b>61,713,979.62</b>	<b>4,163,730.15</b>	<b>3,186,035.48</b>	<b>238,077.84</b>	<b>30,976.11</b>	<b>2,682,028.98</b>	<b>-</b>	<b>100,488,685.48</b>	<b>54,175,814.43</b>	<b>154,664,499.91</b>
<b>OPERATING EXPENSES</b>															
Operation & Maint. Expenses:															
Purchased Power (555-557)	-	-	763,243.94	(1,619,064.07)	177,556.11	60,977,502.35	4,123,058.96	3,279,284.59	245,174.41	-	-	-	67,946,756.29	281,437.77	68,228,194.06
Transmission (560-579)	-	-	-	25,332,267.20	-	-	-	-	-	-	-	-	25,332,267.20	199,387.25	25,531,654.45
Distribution (580-599)	-	-	-	-	-	-	-	-	-	-	-	-	-	8,891,714.88	8,891,714.88
Cust. Accounting (901-905)	-	-	-	-	-	618,641.92	-	-	-	-	-	-	618,641.92	3,078,366.11	3,697,008.03
Cust. Service (907-910)	2,411,322.13	10,594.00	-	-	-	-	-	-	-	46,088.68	-	-	2,468,004.81	1,438.29	2,469,443.10
Admin. & General (920-935)	-	193,413.66	-	571,090.51	-	43,847.24	43,579.25	-	-	-	-	-	851,930.66	8,272,649.37	9,124,580.03
<b>Total O &amp; M Expenses</b>	<b>2,411,322.13</b>	<b>204,007.66</b>	<b>763,243.94</b>	<b>24,284,293.64</b>	<b>177,556.11</b>	<b>61,639,991.51</b>	<b>4,166,638.21</b>	<b>3,279,284.59</b>	<b>245,174.41</b>	<b>46,088.68</b>	<b>-</b>	<b>-</b>	<b>97,217,600.88</b>	<b>20,724,993.67</b>	<b>117,942,594.55</b>
<b>Other Operating Expenses:</b>															
Deprtn. & amort. (403)	-	-	-	-	-	-	-	-	-	-	-	-	-	9,639,845.25	9,639,845.25
Amort. (404-407)	-	-	-	-	-	-	-	-	-	-	-	-	-	1,748,355.45	4,430,384.43
Taxes-Other Than Inc. (408)	-	-	-	-	-	-	-	-	-	-	2,682,028.98	-	2,682,028.98	5,305,221.20	5,305,221.20
Income Taxes-Federal (409)	-	-	-	-	-	-	-	-	-	-	-	-	-	643,723.17	643,723.17
State Income Tax (409)	-	-	-	-	-	-	-	-	-	-	-	-	-	869,094.59	869,094.59
Def. Income Taxes (410,411)	-	-	-	-	-	-	-	-	-	-	-	-	-	2,822,622.74	2,822,622.74
<b>Total Other Operating Expenses</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,682,028.98</b>	<b>-</b>	<b>2,682,028.98</b>	<b>21,028,862.40</b>	<b>23,710,891.38</b>
<b>TOTAL OPERATING EXPENSES</b>	<b>2,411,322.13</b>	<b>204,007.66</b>	<b>763,243.94</b>	<b>24,284,293.64</b>	<b>177,556.11</b>	<b>61,639,991.51</b>	<b>4,166,638.21</b>	<b>3,279,284.59</b>	<b>245,174.41</b>	<b>46,088.68</b>	<b>2,682,028.98</b>	<b>-</b>	<b>99,899,629.86</b>	<b>41,753,856.07</b>	<b>141,653,485.93</b>
<b>NET UTILITY OPERATING INCOME</b>	<b>222,399.00</b>	<b>-</b>	<b>-</b>	<b>411,034.82</b>	<b>-</b>	<b>73,988.11</b>	<b>(2,908.06)</b>	<b>(93,249.11)</b>	<b>(7,096.57)</b>	<b>(15,112.57)</b>	<b>-</b>	<b>-</b>	<b>589,055.62</b>	<b>12,421,958.36</b>	<b>13,011,013.98</b>
<b>OTHER INCOME &amp; DEDUCTIONS</b>															
Other Income:															
Other (419, 421)	-	-	-	(411,034.82)	-	(73,988.11)	2,908.06	93,249.11	7,096.57	-	-	-	(381,769.19)	916,034.29	534,265.10
Other Income Deduc. (425, 426)	-	-	-	-	-	-	-	-	-	-	-	-	-	238,398.61	238,398.61
Income Tax, Other Inc & Ded	-	-	-	-	-	-	-	-	-	-	-	-	-	117,192.72	117,192.72
<b>Net Other Income &amp; Deductions</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(411,034.82)</b>	<b>-</b>	<b>(73,988.11)</b>	<b>2,908.06</b>	<b>93,249.11</b>	<b>7,096.57</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(381,769.19)</b>	<b>560,442.96</b>	<b>178,673.77</b>
<b>GROSS INCOME</b>	<b>222,399.00</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(0.00)</b>	<b>0.00</b>	<b>0.00</b>	<b>(0.00)</b>	<b>(15,112.57)</b>	<b>-</b>	<b>-</b>	<b>207,286.43</b>	<b>12,982,401.32</b>	<b>13,189,687.75</b>
<b>Interest Charges (427 - 432)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>5,979,810.74</b>	<b>5,979,810.74</b>
<b>NET INCOME</b>	<b>222,399.00</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(0.00)</b>	<b>0.00</b>	<b>0.00</b>	<b>(0.00)</b>	<b>(15,112.57)</b>	<b>-</b>	<b>-</b>	<b>207,286.43</b>	<b>7,002,590.58</b>	<b>7,209,877.01</b>
Less: Pref. Dividend Req.	-	-	-	-	-	-	-	-	-	-	-	-	-	12,178.50	12,178.50
<b>EARN. AVAIL. FOR COMMON STOCK</b>	<b>\$ 222,399.00</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ (0.00)</b>	<b>\$ 0.00</b>	<b>\$ 0.00</b>	<b>\$ (0.00)</b>	<b>\$ (15,112.57)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 207,286.43</b>	<b>\$ 6,990,412.08</b>	<b>\$ 7,197,698.51</b>

**UNITIL ENERGY SYSTEMS, INC.**  
**BALANCE SHEET (FERC)**  
**13 MONTHS ENDED DECEMBER 31, 2015**

	December 2014	January 2015	February 2015	March 2015	April 2015	May 2015	June 2015	July 2015	August 2015	September 2015	October 2015	November 2015	December 2015
Regulatory Assets:													
10-20-00-00-1820300 REG ASSET - SFAS 109 FED	1,170,320	1,136,880	1,103,440	1,070,000	1,036,560	1,003,120	969,680	936,240	902,800	869,360	835,920	802,480	769,040
Less:													
10-20-00-00-2530000 REGULATORY LIABILITY-SFAS 109 FED	320,179	311,028	301,877	292,726	283,575	274,424	265,273	256,122	246,971	237,820	228,669	219,518	210,367
<b>Net Regulatory Asset</b>	<b>\$ 850,141</b>	<b>\$ 825,852</b>	<b>\$ 801,563</b>	<b>\$ 777,274</b>	<b>\$ 752,985</b>	<b>\$ 728,696</b>	<b>\$ 704,407</b>	<b>\$ 680,118</b>	<b>\$ 655,829</b>	<b>\$ 631,540</b>	<b>\$ 607,251</b>	<b>\$ 582,962</b>	<b>\$ 558,673</b>
Deferred Income Taxes													
10-20-00-00-2820134 DEF FIT - SFAS 106-OPEB	(816,690)	(846,976)	(877,262)	(907,548)	(937,834)	(968,120)	(998,406)	(942,538)	(962,501)	(982,464)	(1,002,426)	(1,022,389)	(1,042,352)
10-20-00-00-2820135 DEF FIT - PENSION FAS 87	2,251,316	2,229,354	2,207,393	2,185,431	2,163,470	2,141,509	2,119,548	2,097,587	2,075,626	2,053,664	2,031,703	2,009,744	1,987,762
10-20-00-00-2820136 DEF FIT - DEBT DISC EXP	5,703	5,654	5,604	5,554	5,504	5,455	5,405	5,355	5,305	5,256	5,206	5,156	5,106
10-20-00-00-2820142 DEF FIT - DEFD RATE CASE & RESTR	0	0	0	0	0	0	0	0	0	0	0	0	0
10-20-00-00-2820147 DEF FIT - PENSION FAS 87 REG ASSET	1	1	1	1	1	1	1	1	1	1	1	1	1
10-20-00-00-2820148 DEF FIT - SFAS 106 OPEB REG ASSET	1	1	1	1	1	1	1	1	1	1	1	1	1
10-20-00-00-2820150 DEF FIT - BAD DEBT REG ASSET	79,769	82,762	80,348	83,303	83,303	83,303	91,085	88,257	92,950	110,077	107,485	108,474	34,710
10-20-00-00-2820155 DEF FIT - DER INVESTMENT AMORT	64,272	63,034	61,796	60,558	59,319	58,081	56,843	55,605	54,367	53,129	51,891	50,653	49,415
10-20-00-00-2820159 DEF FIT- FAS 158 PBOP	(3,754,581)	(1,831,959)	(1,831,959)	(3,732,415)	(1,831,959)	(1,831,959)	(3,732,415)	(1,831,959)	(1,831,959)	(3,732,415)	(1,831,959)	(1,831,959)	(4,597,805)
10-20-00-00-2820160 DEF FIT- PENSION FAS 158	(8,693,220)	(6,055,075)	(6,055,075)	(8,620,894)	(6,055,075)	(6,055,075)	(8,620,894)	(6,055,075)	(6,055,075)	(8,620,894)	(6,055,075)	(6,055,075)	(8,470,877)
10-20-00-00-2820161 DEF FIT - MERGER COSTS	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
10-20-00-00-2820162 DEF FIT - INDENTURE COSTS	143,389	142,645	141,901	141,157	140,412	139,668	138,924	138,180	137,436	136,692	135,948	135,203	134,459
10-20-00-00-2820163 DEF FIT- SERP FAS 158	(642,266)	0	0	(629,128)	0	0	(629,128)	0	0	(629,128)	0	0	(659,343)
10-20-00-00-2820164 DEF FIT - SFAS 109 REG ASSET STATE	167,595	162,806	158,016	153,227	148,437	143,648	122,257	117,468	112,678	99,588	94,799	90,009	76,919
10-20-00-00-2820167 DEF FIT- STORM RESTORATION	3,621,378	3,549,163	3,708,971	3,515,414	3,474,681	3,386,020	3,307,386	3,225,195	3,118,835	3,028,349	2,955,280	2,887,182	2,808,010
10-20-00-00-2820199 DEF FIT - DEBIT BALANCE RECLASS	1,017,707	0	0	11,057,840	0	0	0	0	0	0	0	0	0
10-20-00-00-2820233 DEF SIT - RETIREMENT LOSS	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
10-20-00-00-2820234 DEF SIT - SFAS 106-OPEB	(223,139)	(231,414)	(239,689)	(247,964)	(256,239)	(264,514)	(272,788)	(257,524)	(262,978)	(268,433)	(273,887)	(279,341)	(284,796)
10-20-00-00-2820235 DEF SIT - PENSION FAS 87	615,114	609,113	603,113	597,113	591,112	585,112	579,112	573,111	567,111	561,110	555,110	549,110	543,110
10-20-00-00-2820236 DEF SIT - DEBT DISC EXP	1,558	1,544	1,531	1,517	1,504	1,490	1,476	1,463	1,449	1,436	1,422	1,408	1,395
10-20-00-00-2820242 DEF SIT - DEFD RATE CASE & RESTR	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
10-20-00-00-2820247 DEF SIT - PENSION FAS87 REG ASSET	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
10-20-00-00-2820249 DEF SIT - SFAS 106 OPEB REG ASSET	1	1	1	1	1	1	1	1	1	1	1	1	1
10-20-00-00-2820250 DEF SIT - BAD DEBT REG ASSET	21,795	22,613	21,953	22,760	22,760	22,760	24,887	24,114	25,396	30,076	29,368	29,638	9,484
10-20-00-00-2820255 DEF SIT - DER INVESTMENT AMORT	17,561	17,222	16,884	16,546	16,208	15,869	15,531	15,193	14,854	14,516	14,178	13,840	13,501
10-20-00-00-2820259 DEF SIT - FAS 158 PBOP	(1,025,842)	(500,535)	(500,535)	(1,019,787)	(500,535)	(500,535)	(1,019,787)	(500,535)	(500,535)	(1,019,787)	(500,535)	(500,535)	(1,256,233)
10-20-00-00-2820260 DEF SIT- PENSION FAS 158	(2,376,798)	(1,654,392)	(1,654,392)	(2,357,037)	(1,654,392)	(1,654,392)	(2,357,037)	(1,654,392)	(1,654,392)	(2,357,037)	(1,654,392)	(1,654,392)	(2,316,048)
10-20-00-00-2820262 DEF SIT - MERGER COSTS	3	3	3	3	3	3	3	3	3	3	3	3	3
10-20-00-00-2820262 DEF SIT - INDENTURE COSTS	39,177	38,974	38,770	38,567	38,364	38,160	37,957	37,754	37,551	37,347	37,144	36,941	36,737
10-20-00-00-2820263 DEF SIT- SERP FAS 158	(175,486)	0	0	(171,896)	0	0	(171,896)	0	0	(171,896)	0	0	(180,151)
10-20-00-00-2820264 DEF SIT- SFAS 109 REG ASSET STATE	45,791	44,482	43,173	41,865	40,556	39,248	33,403	32,095	30,786	27,209	25,901	24,592	21,016
10-20-00-00-2820267 DEF SIT- STORM RESTORATION	989,448	969,718	1,013,381	960,497	949,367	925,143	903,658	881,202	852,141	827,419	807,454	788,849	767,217
10-20-00-00-2820300 DEF FIT (SFAS 109) GROSS-UP FED	311,424	302,530	293,636	284,742	275,848	266,954	258,060	249,166	240,272	231,378	222,484	213,590	204,696
10-20-00-00-2821138 CURRENT DEF FIT - BAD DEBITS	(292,716)	(298,416)	(280,661)	(282,684)	(238,552)	(243,798)	(271,860)	(236,254)	(270,049)	(273,147)	(268,784)	(262,096)	(152,628)
10-20-00-00-2821139 CURRENT - DEF FIT - ACCRUED REVENUE	(783,831)	(320,910)	840,717	(134,848)	(1,372,146)	(2,077,622)	(2,023,853)	(1,864,068)	(1,914,208)	(2,193,431)	(2,356,476)	(1,924,012)	(1,139,928)
10-20-00-00-2821141 CURRENT DEF FIT - PREPAID PROPERTY TAX	420,478	283,707	146,936	97,307	46,496	(93,701)	409,036	264,720	120,226	188,837	198,505	402,427	
10-20-00-00-2821238 CURRENT - DEF SIT - BAD DEBITS	(79,979)	(81,536)	(71,221)	(77,238)	(65,180)	(66,613)	(74,281)	(64,552)	(73,786)	(74,632)	(73,440)	(71,613)	(41,758)
10-20-00-00-2821239 CURRENT - DEF SIT - ACCRUED REVENUE	(214,161)	(87,680)	229,705	(36,843)	(374,903)	(567,656)	(552,965)	(509,308)	(523,007)	(599,298)	(643,845)	(525,686)	(311,455)
10-20-00-00-2821241 CURRENT DEF SIT - PREPAID PROPERTY TAX	114,885	77,516	40,147	26,587	12,704	(25,601)	111,758	72,328	32,849	51,595	11,185	54,236	109,953
10-20-00-00-2829159 DEF FIT - SFAS 158 PBOP	(452,928)	0	0	(464,724)	0	0	(510,071)	0	0	(366,883)	0	0	(376,620)
10-20-00-00-2829160 DEF FIT - PENSION FAS 158	(111,708)	0	0	(136,281)	0	0	(168,129)	0	0	47,073	0	0	(234,624)
10-20-00-00-2829163 DEF FIT - SFAS 158 SERP	(245,560)	0	0	(241,331)	0	0	(195,867)	0	0	(211,194)	0	0	(291,418)
10-20-00-00-2829259 DEF SIT - SFAS 158 PBOP	(123,752)	0	0	(126,975)	0	0	(139,365)	0	0	(100,243)	0	0	(102,903)
10-20-00-00-2829260 DEF SIT - PENSION FAS 158	(29,674)	0	0	(36,451)	0	0	(45,425)	0	0	13,646	0	0	(63,375)
10-20-00-00-2829263 DEF SIT - SFAS 158 SERP	(67,094)	0	0	(65,938)	0	0	(53,516)	0	0	(57,704)	0	0	(79,623)
<b>Total Deferred Income Taxes (Before subtraction of SFAS 158)</b>	<b>(10,181,066)</b>	<b>(3,306,061)</b>	<b>(1,836,821)</b>	<b>(0)</b>	<b>(5,216,769)</b>	<b>(6,497,166)</b>	<b>(13,622,357)</b>	<b>(6,037,414)</b>	<b>(6,528,659)</b>	<b>(14,140,190)</b>	<b>(7,533,326)</b>	<b>(6,929,969)</b>	<b>(14,386,403)</b>
Accum. Deferred Inc. Taxes - Other Prop.:													
10-20-00-00-2820131 DEF FIT - ACCEL DEPR	\$ 27,721,372	\$ 27,917,044	\$ 28,114,772	\$ 28,461,675	\$ 28,473,760	\$ 28,674,784	\$ 30,210,857	\$ 29,008,521	\$ 29,157,639	\$ 31,901,106	\$ 29,464,359	\$ 29,327,350	\$ 31,969,958
10-20-00-00-2820231 DEF FIT - ACCEL DEPR	7,252,219	7,314,971	7,378,285	7,422,988	7,494,948	7,559,162	7,922,434	7,668,926	7,718,959	7,774,382	7,821,341	7,811,714	7,641,150
<b>Total: Accum. Deferred Inc. Taxes - Other Prop.</b>	<b>34,973,591</b>	<b>35,232,014</b>	<b>35,493,057</b>	<b>35,884,662</b>	<b>35,968,708</b>	<b>36,233,946</b>	<b>38,133,291</b>	<b>36,677,447</b>	<b>36,876,597</b>	<b>39,675,488</b>	<b>37,285,701</b>	<b>37,139,064</b>	<b>39,611,108</b>
<b>Total Deferred Income Taxes</b>	<b>\$ 24,792,526</b>	<b>\$ 31,925,953</b>	<b>\$ 33,656,236</b>	<b>\$ 35,884,662</b>	<b>\$ 30,751,939</b>	<b>\$ 29,736,780</b>	<b>\$ 24,510,934</b>	<b>\$ 30,640,033</b>	<b>\$ 30,347,939</b>	<b>\$ 25,535,298</b>	<b>\$ 29,752,374</b>	<b>\$ 30,209,094</b>	<b>\$ 25,214,705</b>
Less:													
Storm Damage DFIT	4,610,826	4,518,881	4,722,352	4,475,911	4,424,048	4,311,163	4,211,045	4,106,397	3,970,976	3,855,767	3,762,734	3,676,031	3,575,227
SFAS 158 DFIT	(17,698,907)	(10,041,961)	(10,041,961)	(17,602,857)	(10,041,961)	(10,041,961)	(17,644,530)	(10,041,961)	(10,041,961)	(17,206,462)	(10,041,961)	(10,041,961)	(18,629,221)
Accrued Revenue - Purchased Power	(997,992)	(408,590)	1,070,422	(171,691)	(1,747,049)	(2,645,278)	(2,576,818)	(2,373,376)	(2,437,215)	(2,792,729)	(3,000,321)	(2,449,698)	(1,451,384)
<b>Total Rate Base Deferred Taxes</b>	<b>\$ 38,678,599</b>	<b>\$ 37,857,624</b>	<b>\$ 37,905,423</b>	<b>\$ 49,183,300</b>	<b>\$ 38,116,901</b>	<b>\$ 38,112,855</b>	<b>\$ 40,521,237</b>	<b>\$ 38,948,973</b>	<b>\$ 38,856,139</b>	<b>\$ 41,678,721</b>	<b>\$ 39,031,923</b>	<b>\$ 39,024,723</b>	<b>\$ 41,720,083</b>
Plus:													
Deferred Taxes Debit													
10-20-00-00-1900130 DEF FIT - CIAC	\$ 146,760	\$ 142,566	\$ 143,256	\$ 141,399	\$ 141,399	\$ 141,399	\$ 139,861	\$ 139,646	\$ 150,100	\$ 170,321	\$ 168,832	\$ 168,832	\$ 173,575
10-20-00-00-1900199 DEF FIT - DEBIT BALANCE RECLASS	1,017,707.01	0.00	0.00	11,057,840.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-20-00-00-1900230 DEF SIT - CIAC	40,096.02	38,950.08	39,138.56	38,631.26	38,631.26	38,631.26	38,235.69	38,152.34	41,008.61	46,533.44	46,126.63	46,126.63	47,422.45
<b>Total: Deferred Taxes Debits</b>	<b>\$ 1,204,563</b>	<b>\$ 181,516</b>	<b>\$ 182,394</b>	<b>\$ 11,237,870</b>	<b>\$ 180,030</b>	<b>\$ 180,030</b>	<b>\$ 178,187</b>	<b>\$ 177,798</b>	<b>\$ 191,109</b>	<b>\$ 216,854</b>	<b>\$ 214,959</b>	<b>\$ 214,959</b>	<b>\$ 220,997</b>

UNITIL ENERGY SYSTEMS, INC.  
PAYROLL - INCENTIVE COMPENSATION ADJUSTMENT  
12 MONTHS ENDED DECEMBER 31, 2015

Workpaper 1.1

LINE NO.	(1) Description	(2) Amount
	<u>Unitil Energy Services, Inc. Payroll:</u>	
	Adjustment to reflect Incentive Compensation at Target	
1	Test Year Accrued Incentive Compensation	\$ 125,886
2	Incentive Compensation at Target	88,170
3	Test Year Accounting Adjustment to reflect Incentive Compensation at Target	<u>(37,716)</u>
4	Capitalized Payroll <sup>(1)</sup>	<u>23,769</u>
5	Test Year Incentive Comp Accounting Adjustment to O&M	<u><u>(13,947)</u></u>
	<u>USC Payroll, allocated to Unitil Energy Systems, Inc.:</u>	
	Adjustment to reflect Incentive Compensation at Target	
6	Test Year Accrued Incentive Compensation	1,058,353
7	Incentive Compensation at Target	780,064
8	Test Year Accounting Adjustment to reflect Incentive Compensation at Target	<u>(278,290)</u>
9	Capitalized Payroll <sup>(2)</sup>	<u>79,535</u>
10	Test Year Incentive Comp Accounting Adjustment to O&M	<u><u>\$ (198,754)</u></u>

Notes

(1) Capitalization Rate: 63.02% - 4 year average - 2015 Cost Allocation Manual

(2) USC Labor & Overhead Capitalized at 28.58%

UNITIL ENERGY SYSTEMS, INC.  
MEDICAL AND DENTAL INSURANCE  
FOR THE 12 MONTHS ENDED DECEMBER 31, 2015

Line No.	Coverage	Employee Census <sup>(1)</sup>				2016 Rates <sup>(2)</sup>				- Cost -				
		- Medical -		- Dental -		- Medical -		- Dental -		- Medical -		- Dental -		Total
		CDHP	PPO	Plus	Standard	CDHP	PPO	Plus	Standard	CDHP	PPO	Plus	Standard	
1	Individual	5	5	4	5	\$ 632.62	\$ 854.73	\$ 48.12	\$ 46.62	\$ 3,163	\$ 4,274	\$ 192	\$ 233	\$ 7,862
2	Two Person	3	14	5	14	1,131.36	1,590.10	89.63	86.76	3,394	22,261	448	1,215	27,318
3	Family	7	16	7	17	1,555.30	2,214.92	157.14	151.44	10,887	35,439	1,100	2,574	50,000
4	Total	15	35	16	36					17,444	61,974	1,741	4,022	85,181
5	2016 Annual Cost Based on Employee Enrollments at December 31, 2015									209,331	743,685	20,887	48,267	1,022,171
6	2017 Rate Increase <sup>(3)</sup>									10,467	37,184	1,044	2,413	51,109
7	Total Medical and Dental Cost									219,798	780,870	21,932	50,680	1,073,279
8	Employee Contribution <sup>(4)</sup>									(43,960)	(156,174)	(4,386)	(10,136)	(214,656)
9	Net Cost									175,838	624,696	17,545	40,544	858,623
10	Plus: Company Contribution to HSA									12,500	-	-	-	12,500
11	Payments to Employees to Opt out									6,110	7,180	-	-	13,290
12	Total HSA and Opt out Payments									18,610	7,180	-	-	25,790
13	Reitree Drug Subsidy									(4,501)	(15,989)	-	-	(20,490)
14	Proformed 2016 and 21017 Medical and Dental Cost									189,948	615,886	17,545	40,544	863,923
15	Amount Chargeable to Capital -		63.02%							(150,245)	(496,629)	(13,821)	(31,939)	(692,633)
16	Total Pro-formed Medical and Dental Insurance O&M Expense													171,290
17	Less Test Year O&M Expense													168,285
18	Total O&M Medical & Dental Insurance Adjustment													\$ 3,005

Notes

(1) Employee Benefit Census as of December 31, 2015.

(2) Health Plans, Inc. and Northeast Delta Dental monthly insurance rates, effective January 1, 2016.

(3) Estimated increase of 5%, effective January 1, 2017.

(4) Employee Contributions: 20%

UNITIL ENERGY SYSTEMS, INC.  
MEDICAL AND DENTAL INSURANCE  
FOR THE 12 MONTHS ENDED DECEMBER 31, 2015

Line No.	Coverage	Employee Census <sup>(1)</sup>				2016 Rates <sup>(2)</sup>				- Cost -				
		- Medical -		- Dental -		- Medical -		- Dental -		- Medical -		- Dental -		Total
		CDHP	PPO	Plus	Standard	CDHP	PPO	Plus	Standard	CDHP	PPO	Plus	Standard	
1	Individual	5	5	4	5	\$ 632.62	\$ 854.73	\$ 48.12	\$ 46.62	\$ 3,163	\$ 4,274	\$ 192	\$ 233	\$ 7,862
2	Two Person	3	14	5	14	1,131.36	1,590.10	89.63	86.76	3,394	22,261	448	1,215	27,318
3	Family	7	16	7	17	1,555.30	2,214.92	157.14	151.44	10,887	35,439	1,100	2,574	50,000
4	Total	15	35	16	36					17,444	61,974	1,741	4,022	85,181
5	2016 Annual Cost Based on Employee Enrollments at December 31, 2015									209,331	743,685	20,887	48,267	1,022,171
6	2017 Rate Increase <sup>(3)</sup>									30,730	109,173	474	1,096	141,473
7	Total Medical and Dental Cost									240,061	852,858	21,361	49,362	1,163,643
8	Employee Contribution <sup>(4)</sup>									(48,012)	(170,572)	(4,272)	(9,872)	(232,729)
9	Net Cost									192,049	682,287	17,089	39,490	930,915
10	Plus: Company Contribution to HSA									12,500	-	-	-	12,500
11	Payments to Employees to Opt out									6,110	7,180	-	-	13,290
12	Total HSA and Opt out Payments									18,610	7,180	-	-	25,790
13	Reitree Drug Subsidy									(4,501)	(15,989)	-	-	(20,490)
14	Proformed 2016 and 21017 Medical and Dental Cost									206,158	673,477	17,089	39,490	936,215
15	Amount Chargeable to Capital -		63.02%							(163,015)	(541,996)	(13,462)	(31,108)	(749,581)
16	Total Pro-formed Medical and Dental Insurance O&M Expense													186,634
17	Less Test Year O&M Expense													168,285
18	Total O&M Medical & Dental Insurance Adjustment													\$ 18,349

Notes

(1) Employee Benefit Census as of December 31, 2015.

(2) Health Plans, Inc. and Northeast Delta Dental monthly insurance rates, effective January 1, 2016.

(3) Average increase of 14.68% in medical insurance and 2.27% in dental insurance, effective January 1, 2017.

(4) Employee Contributions: 20%

UNITIL ENERGY SYSTEMS, INC.  
MEDICAL AND DENTAL INSURANCE - UNITIL SERVICE CORP  
FOR THE 12 MONTHS ENDED DECEMBER 31, 2015

Line No.	Coverage	Employee Census <sup>(1)</sup>				2016 Rates <sup>(2)</sup>				Costs				
		Medical		Dental		Medical		Dental		Medical		Dental		Total
		CDHP	PPO	Plus	Standard	CDHP	PPO	Plus	Standard	CDHP	PPO	Plus	Standard	
1	Individual	77	-	76	1	\$ 632.62	\$ 854.73	\$ 48.12	\$ 46.62	\$ 48,712	\$ -	\$ 3,657	\$ 47	\$ 52,415
2	Two Person	46	-	58	-	1,131.36	1,590.10	89.63	86.76	52,043	-	5,199	-	57,241
3	Family	68	2	93	3	1,555.30	2,214.92	157.14	151.44	105,760	4,430	14,614	454	125,259
4		191	2	227	4					206,515	4,430	23,470	501	234,915
5	2016 Annual Cost Based on Employee Enrollments at December 31, 2015									2,478,176	53,158	281,636	6,011	2,818,982
6	2017 Rate Increase <sup>(3)</sup>									123,909	2,658	14,082	301	140,949
7	Total Medical and Dental Cost									2,602,085	55,816	295,718	6,312	2,959,931
8	Employee Contribution <sup>(4)</sup>									(520,417)	(11,163)	(59,144)	(1,262)	(591,986)
9	Net Cost									2,081,668	44,653	236,574	5,049	2,367,945
10	Plus: Company Contribution to HSA									152,500	-	-	-	152,500
11	Payments to Employees to Opt out									154,440	3,590	-	-	158,030
12	Total HSA and Opt out Payments									306,940	3,590	-	-	310,530
13	Retiree Drug Subsidy									(36,927)	(792)			(37,719)
14	Proformed 2016 and 2017 Medical and Dental Cost									2,351,681	47,451	236,574	5,049	2,640,756
15	Apportionment to UES at 28.32%									665,996	13,438	66,998	1,430	747,862
16	Amount Chargeable to Capital at 28.58%									(190,342)	(3,841)	(19,148)	(409)	(213,739)
17	Total Pro-formed Medical and Dental Insurance O&M Expense													534,123
18	Less Test Year O&M Expense													484,124
19	Total O&M Medical & Dental Insurance Adjustment													<u>\$ 49,999</u>

Notes

(1) Employee Benefit Census as of December 31, 2015.

(2) Health Plans, Inc. and Northeast Delta Dental monthly insurance rates, effective January 1, 2016.

(3) Estimated increase of 5%, effective January 1, 2017.

(4) Employee Contributions: 20%

UNITIL ENERGY SYSTEMS, INC.  
MEDICAL AND DENTAL INSURANCE - UNITIL SERVICE CORP  
FOR THE 12 MONTHS ENDED DECEMBER 31, 2015

Line No.	Coverage	Employee Census <sup>(1)</sup>				2016 Rates <sup>(2)</sup>				Costs				
		Medical		Dental		Medical		Dental		Medical		Dental		Total
		CDHP	PPO	Plus	Standard	CDHP	PPO	Plus	Standard	CDHP	PPO	Plus	Standard	
1	Individual	77	-	76	1	\$ 632.62	\$ 854.73	\$ 48.12	\$ 46.62	\$ 48,712	\$ -	\$ 3,657	\$ 47	\$ 52,415
2	Two Person	46	-	58	-	1,131.36	1,590.10	89.63	86.76	52,043	-	5,199	-	57,241
3	Family	68	2	93	3	1,555.30	2,214.92	157.14	151.44	105,760	4,430	14,614	454	125,259
4		191	2	227	4					206,515	4,430	23,470	501	234,915
5	2016 Annual Cost Based on Employee Enrollments at December 31, 2015									2,478,176	53,158	281,636	6,011	2,818,982
6	2017 Rate Increase <sup>(3)</sup>									363,796	7,804	6,393	136	378,129
7	Total Medical and Dental Cost									2,841,973	60,962	288,029	6,148	3,197,111
8	Employee Contribution <sup>(4)</sup>									(568,395)	(12,192)	(57,606)	(1,230)	(639,422)
9	Net Cost									2,273,578	48,769	230,423	4,918	2,557,689
10	Plus: Company Contribution to HSA									152,500	-	-	-	152,500
11	Payments to Employees to Opt out									154,440	3,590	-	-	158,030
12	Total HSA and Opt out Payments									306,940	3,590	-	-	310,530
13	Retiree Drug Subsidy									(36,927)	(792)			(37,719)
14	Proformed 2016 and 2017 Medical and Dental Cost									2,543,591	51,567	230,423	4,918	2,830,500
15	Apportionment to UES at 28.32%									720,345	14,604	65,256	1,393	801,598
16	Amount Chargeable to Capital at 28.58%									(205,875)	(4,174)	(18,650)	(398)	(229,097)
17	Total Pro-formed Medical and Dental Insurance O&M Expense													572,501
18	Less Test Year O&M Expense													484,124
19	Total O&M Medical & Dental Insurance Adjustment													<u>\$ 88,377</u>

Notes

(1) Employee Benefit Census as of December 31, 2015.

(2) Health Plans, Inc. and Northeast Delta Dental monthly insurance rates, effective January 1, 2016.

(3) Average increase of 14.68% in medical insurance and 2.27% in dental insurance, effective January 1, 2017.

(4) Employee Contributions: 20%



Unitil Energy Systems, Inc.  
Pension Expense  
2015 Actual Expense Recorded and 2016 Forecast Expense

Workpaper 3.1

LINE NO.	(1) Description	(2) 2015 TEST YEAR	(3) 2016 FORECAST EXPENSE	(4) PROFORMA ADJUSTMENT
A1	USC Labor & Overhead Charged	28.32%	28.32%	
A2	UES Capitalization Rates	63.02%	63.02%	
A3	USC Labor & Overhead Capitalized	28.58%	28.58%	
A4	Total USC Pension Expense per Actuary	\$ 3,058,971	\$ 2,814,300	

Calculation of Pension Expense, net of amounts chargeable to capital

A. UES Pension Expense, net:

1	UES Pension Expense per Actuary	\$ 1,622,112	\$ 1,468,774	\$ (153,338)
2	Less: Amounts chargeable to capital	(1,022,255)	(925,621)	96,634
3	Total UES Pension Expense, net	<u>\$ 599,857</u>	<u>\$ 543,153</u>	<u>\$ (56,704)</u>

B. Unitil Service Pension Expense allocated to UES, net:

4	Unitil Service Pension Expense per Actuary	\$ 866,301	\$ 797,010	(69,291)
5	Less: Amounts chargeable to capital	(247,589)	(227,785)	19,803
6	Unitil Service Pension Expense allocated to UES, net	<u>\$ 618,712</u>	<u>\$ 569,224</u>	<u>\$ (49,488)</u>
7	Total UES Pension Expense	<u>\$ 1,218,569</u>	<u>\$ 1,112,377</u>	<u>\$ (106,192)</u>

Unitil Energy Systems, Inc.  
PBOP Expense  
2015 Actual Expense Recorded and 2016 Forecast Expense

Workpaper 3.2

LINE NO.	(1) Description	(2) 2015 TEST YEAR	(3) 2016 FORECAST EXPENSE	(4) PROFORMA ADJUSTMENT
A1	USC Labor & Overhead Charged	28.32%	28.32%	
A2	UES Capitalization Rates	63.02%	63.02%	
A3	USC Labor & Overhead Capitalized	28.58%	28.58%	
A4	Total USC PBOP Expense per Actuary	\$ 2,252,383	\$ 2,047,467	

Calculation of PBOP Expense, net of amounts chargeable to capital

A. UES PBOP Expense, net:

1	UES PBOP Expense per Actuary	\$ 1,168,213	\$ 1,687,440	\$ 519,227
2	Less: Amounts chargeable to capital	(736,208)	(1,063,425)	(327,217)
3	Total UES PBOP Expense, net	<u>\$ 432,005</u>	<u>\$ 624,015</u>	<u>\$ 192,010</u>

B. Unitil Service PBOP Expense allocated to UES, net:

4	Unitil Service PBOP Expense per Actuary	\$ 637,875	\$ 579,843	(58,032)
5	Less: Amounts chargeable to capital	(182,305)	(165,719)	16,586
6	Unitil Service PBOP Expense Allocated to UES, net	<u>\$ 455,570</u>	<u>\$ 414,124</u>	<u>\$ (41,447)</u>
7	Total UES PBOP Expense	<u>\$ 887,575</u>	<u>\$ 1,038,139</u>	<u>\$ 150,564</u>

Unitil Energy Systems, Inc.  
401(k) Expense  
2015 Actual Expense Recorded and 2016 Forecast Expense

Workpaper 3.3

Line No.	(1) Description	(2) 2015 TEST YEAR	(3) 2016 & 2017 FORECAST EXPENSE	(4) PROFORMA ADJUSTMENT
A1	USC Labor & Overhead Charged	28.32%	28.32%	
A2	UES Capitalization Rates	63.02%	63.02%	
A3	USC Labor & Overhead Capitalized	28.58%	28.58%	
A4	Total USC 401K Expense <sup>(1)</sup>	\$ 1,304,668	\$ 1,428,519	

Calculation of 401(k) Expense, net of Amounts Chargeable to Capital

A. UES 401(k) Expense, net:

1	UES 401(k) Expense 2016 estimated	\$ 181,837	\$ 195,678	\$ 13,841
2	UES 401(k) Expense adjusted for 2017 wage increase	-	6,418	6,418
3	Total UES 401(k) Expense - Proformed	181,837	202,096	20,259
4	Less: Amounts chargeable to capital	(114,593)	(127,361)	(12,767)
5	Total UES 401K Expense, net	\$ 67,243	\$ 74,735	\$ 7,492

B. Unitil Service 401(k) Expense allocated to UES, net:

6	Unitil Service 401(k) Expense (2016 estimated)	\$ 369,482	\$ 404,557	\$ 35,075
7	Unitil Service 401(k) adjusted for 2017 wage increase	-	16,182	16,182
8	Total USC 401(k) Expense - Proformed	369,482	420,739	51,257
9	Less: Amounts chargeable to capital	(105,598)	(120,247)	(14,649)
10	Unitil Service 401(k) Expense Allocated to UES, net	\$ 263,884	\$ 300,492	\$ 36,608
11	Total UES 401(k) Expense	\$ 331,127	\$ 375,227	\$ 44,100

Notes

(1) February 2016 expense, annualized

UNITIL ENERGY SYSTEMS, INC.  
PROPERTY AND LIABILITY INSURANCES ADJUSTMENT  
12 MONTHS ENDED DECEMBER 31, 2015

Workpaper 4.1

LINE NO.	DESCRIPTION	AMOUNT <sup>(1)</sup>
	Current Coverage Periods	
	Property:	
1	All Risk	\$ 55,969
2	Crime	1,932
3	K&E	341
4	Transit	5,267
5	Total Property	<u>\$ 63,508</u>
	Liability:	
6	Workers' Compensation	\$ 121,986
7	Excess	336,048
8	Automobile	26,296
9	Directors & Officers	59,809
10	Fiduciary	4,714
11	Total Liability	<u>\$ 548,852</u>
12	Total Property & Liability Insurances (Lines 5 Plus 11)	612,360
13	Less: Amounts Chargeable to Capital	<u>354,597</u>
14	Amount to O&M Expense	257,763
15	Less Test Year O&M Expense	<u>233,547</u>
16	O&M Property and Liability Insurance Increase	<u><u>\$ 24,216</u></u>

**NOTES**

(1) See Workpaper W4.3

UNITIL ENERGY SYSTEMS, INC.  
PROPERTY AND LIABILITY INSURANCES ADJUSTMENT  
12 MONTHS ENDED DECEMBER 31, 2015

Workpaper 4.1 Revised 1/3/2017

LINE NO.	DESCRIPTION	AMOUNT <sup>(1)</sup>
	Current Coverage Periods	
	Property:	
1	All Risk	\$ 59,005
2	Crime	1,932
3	K&E	341
4	Transit	5,267
5	Total Property	<u>\$ 66,544</u>
	Liability:	
6	Workers' Compensation	\$ 103,879
7	Excess	328,169
8	Automobile	23,218
9	Directors & Officers	58,093
10	Fiduciary	4,173
11	Total Liability	<u>\$ 517,531</u>
12	Total Property & Liability Insurances (Lines 5 Plus 11)	584,075
13	Less: Amounts Chargeable to Capital	<u>335,364</u>
14	Amount to O&M Expense	248,712
15	Less Test Year O&M Expense	<u>233,547</u>
16	O&M Property and Liability Insurance Increase	<u><u>\$ 15,164</u></u>

**NOTES**

(1) See Workpaper W4.3 REVISED

UNITIL ENERGY SYSTEMS, INC.  
PROPERTY AND LIABILITY INSURANCES ADJUSTMENT  
12 MONTHS ENDED DECEMBER 31, 2015

Workpaper 4.2

LINE NO.	DESCRIPTION	UNITIL SERVICE CORP. TOTAL <sup>(1)</sup>	AMOUNT TO UES	UES TOTAL
	USC Cost For Current Coverage Periods			
	Property:			
1	All Risk	\$ 6,313		\$ 1,788
2	Crime	655		186
3	K&E	116		33
4	Total Property	<u>\$ 7,084</u>	28.32%	<u>\$ 2,006</u>
	Liability:			
5	Workers' Compensation	\$ 130,058		\$ 36,833
6	Excess	115,769		32,786
7	Automobile	4,502		1,275
8	Directors and Officers	18,648		5,281
9	Fiduciary	1,465		415
10	Total Liability	<u>\$ 270,442</u>	28.32%	<u>\$ 76,589</u>
11	Total USC Property & Liability Insurances			78,595
12	Less Amount Chargeable to Capital		28.58%	<u>22,463</u>
13	Total Property & Liability Insurances to O&M Expense			<u>56,133</u>
14	Less Test Year O&M Expense			<u>26,120</u>
15	O&M Property and Liability Insurance Increase			<u>\$ 30,012</u>

**NOTES**

(1) See Workpaper W4.3 REVISED

UNITIL ENERGY SYSTEMS, INC.  
PROPERTY AND LIABILITY INSURANCES ADJUSTMENT  
12 MONTHS ENDED DECEMBER 31, 2015

Workpaper 4.2 Revised 1/3/2017

LINE NO.	DESCRIPTION	UNITIL SERVICE CORP. TOTAL <sup>(1)</sup>	AMOUNT TO UES	UES TOTAL
	USC Cost For Current Coverage Periods			
	Property:			
1	All Risk	\$ 6,247		\$ 1,769
2	Crime	655		186
3	K&E	116		33
4	Total Property	<u>\$ 7,018</u>	28.32%	<u>\$ 1,987</u>
	Liability:			
5	Workers' Compensation	\$ 111,442		\$ 31,560
6	Excess	117,964		33,407
7	Automobile	5,829		1,651
8	Directors and Officers	19,763		5,597
9	Fiduciary	1,416		401
10	Total Liability	<u>\$ 256,413</u>	28.32%	<u>\$ 72,616</u>
11	Total USC Property & Liability Insurances			74,604
12	Less Amount Chargeable to Capital		28.58%	<u>21,322</u>
13	Total Property & Liability Insurances to O&M Expense			<u>53,282</u>
14	Less Test Year O&M Expense			<u>26,120</u>
15	O&M Property and Liability Insurance Increase			<u>\$ 27,161</u>

**NOTES**

(1) See Workpaper W4.3

		CASUALTY												PROPERTY						TOTAL
		AL (prem)	NH-WC (prem)	MA-WC (prem)	ME-WC (prem)	NY-WC (prem)	XL* (prem)	XL (brkr)	Surplus Tax	FL (prem)	D&O (prem)	D&O Surplus Tax	D&O (brkr)	CASUALTY TOTAL	ARP (prem)	CRIME (prem)	K&E (prem)	TRANSIT (prem)	TOTAL PROP	
UES	2013a	25,199	185,514				288,519	7,014	-	5,962	57,010	-	5,471	574,689	54,905	2,043	395	5,267	62,610	637,299
	2014a	33,875	173,102				304,560	6,524	-	4,501	66,061	1,982	6,276	596,880	54,988	2,037	395	5,267	62,687	659,567
	2015a	34,149	167,594				306,691	9,937	9,201	4,285	61,990	1,860	5,974	601,680	53,304	1,939	395	5,267	60,905	662,585
	2016a/b <sup>(1)</sup>	25,789	119,636				310,580	9,676	9,317	4,714	52,290	1,569	5,949	539,520	55,969	1,932	341	5,267	63,508	603,029
	2017e <sup>(2)</sup>	26,296	121,986				316,682	9,866	9,500					548,852					63,508	612,360
USC	2013a	2,284	122,169				74,769	1,892		1,665	23,835		1,480	228,095	7,008	599	110		7,717	235,812
	2014a	2,833	126,878				82,972	1,777	-	1,226	17,997	540	1,710	235,934	5,231	555	113		5,899	241,833
	2015a	3,115	118,650				95,326	3,089	2,860	1,332	19,268	578	1,857	246,075	6,012	603	113		6,729	252,803
	2016a/b <sup>(1)</sup>	4,348	125,612				105,367	3,283	3,161	1,465	16,253	488	1,907	261,883	6,313	655	116		7,084	268,967
	2017e <sup>(2)</sup>	4,502	130,058				109,097	3,399	3,273					270,442					7,084	277,526

**NOTES**

(1) 2016 premiums reflect actuals for automobile, workers compensation, excess liability, crime, K&E and transit

2016 premiums reflect budgeted amounts for fiduciary, directors & officers and all risk property and will be updated with actuals

(2) 2017 premiums reflect annual growth rate from 2013 to 2015 for UES and USC automobile, workers compensation and excess liability

2017 premiums for these three categories above will be updated with actuals while all other categories assume 2016 premium amounts



		CASUALTY												PROPERTY						TOTAL
		AL (prem)	NH-WC (prem)	MA-WC (prem)	ME-WC (prem)	NY-WC (prem)	XL* (prem)	XL (brkr)	XL Surplus Tax	FL (prem)	D&O (prem)	D&O Surplus Tax	D&O (brkr)	CASUALTY TOTAL	ARP (prem)	CRIME (prem)	K&E (prem)	TRANSIT (prem)	TOTAL PROP	
UES	2013a	25,199	185,514				288,519	7,014	-	5,962	57,010	-	5,471	574,689	54,905	2,043	395	5,267	62,610	637,299
	2014a	33,875	173,102				304,560	6,524	-	4,501	66,061	1,982	6,276	596,880	54,988	2,037	395	5,267	62,687	659,567
	2015a	34,149	167,594				306,691	9,937	9,201	4,285	61,990	1,860	5,974	601,680	53,304	1,939	395	5,267	60,905	662,585
	2016a	25,789	119,636				310,580	9,676	9,317	4,173	50,910	1,527	5,656	537,263	59,005	1,932	341	5,267	66,544	603,808
	2017a	23,218	103,879				309,277	9,614	9,278					517,531					66,544	584,075
USC	2013a	2,284	122,169				74,769	1,892		1,665	23,835		1,480	228,095	7,008	599	110		7,717	235,812
	2014a	2,833	126,878				82,972	1,777	-	1,226	17,997	540	1,710	235,934	5,231	555	113		5,899	241,833
	2015a	3,115	118,650				95,326	3,089	2,860	1,332	19,268	578	1,857	246,075	6,012	603	113		6,729	252,803
	2016a	4,348	125,612				105,367	3,283	3,161	1,416	17,272	518	1,974	262,949	6,247	655	116		7,018	269,967
	2017a	5,829	111,442				111,173	3,456	3,335					256,413					7,018	263,431

**UNITIL SERVICE CORP.**  
**PROPERTY & LIABILITY INSURANCE TEST YEAR COSTS**  
**12 MONTHS ENDED DECEMBER 31, 2015**

**Workpaper 4.4**

<b>DESCRIPTION</b>	<b>TOTAL</b>
<b>USC O&amp;M Test Year</b>	
12-30-08-00-9240100 PROPERTY INSURANCE	\$ 6,401
12-30-08-00-9250100 INJURIES & DAMAGES	122,741
Total	<u>\$ 129,142</u>
<b>UES Apportionment</b>	<u>28.32%</u>
UES Amount	\$ 36,573
<b>Capitalization Rate</b>	<u>28.58%</u>
Capitalization Amount	\$ 10,453
O&M Expense Amount	<u><u>26,120</u></u>

UNITIL ENERGY SYSTEMS, INC.  
INFLATION ALLOWANCE  
12 MONTHS ENDED DECEMBER 31, 2015

Workpaper 5.1

Source: Energy Information Administration  
Short-Term Energy Outlook  
Publication Date: March 7, 2016

Table 1. U.S. Energy Markets Summary

	2014												2015											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Macroeconomic</b>																								
Real Gross Domestic Product (billion chained 2009 dollars - SAAR)	15,706	15,717	15,752	15,844	15,902	15,959	16,026	16,072	16,109	16,132	16,154	16,168	16,149	16,172	16,210	16,293	16,336	16,372	16,398	16,417	16,427	16,425	16,440	16,462
Percent change from prior year	1.7	1.7	1.8	2.4	2.6	2.8	2.9	2.9	2.9	2.5	2.4	2.5	2.8	2.9	2.9	2.8	2.7	2.6	2.3	2.1	2	1.8	1.8	1.8
GDP Implicit Price Deflator (Index, 2009=100)	107.9	108.0	108.2	108.4	108.6	108.8	109.0	109.1	109.1	109.1	109.1	109.1	109.0	109.1	109.2	109.5	109.7	109.8	110.0	110.1	110.1	110.2	110.3	110.4
Percent change from prior year	1.6	1.6	1.6	1.8	1.9	1.9	1.9	1.8	1.7	1.5	1.3	1.2	1.1	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	1.0	1.1	1.2
Real Disposable Personal Income (billion chained 2009 dollars - SAAR)	11,646	11,705	11,745	11,758	11,777	11,819	11,830	11,874	11,885	11,930	12,001	12,065	12,111	12,131	12,102	12,165	12,193	12,223	12,266	12,313	12,346	12,389	12,417	12,441
Percent change from prior year	2.1	2.4	2.6	2.6	2.2	2.4	2.5	2.6	2.5	3.2	3.5	4.0	4.0	3.6	3.0	3.5	3.5	3.4	3.7	3.7	3.9	3.8	3.5	3.1
Manufacturing Production Index (Index, 2007=100)	100.9	102.0	102.8	103.2	103.4	103.9	104.7	104.4	104.7	105.0	105.9	105.9	105.7	105.3	105.5	105.9	105.9	105.7	106.8	106.7	106.6	106.9	106.8	106.7
Percent change from prior year	0.2	0.8	1.9	2.5	2.6	2.9	4.5	3.2	3.3	3.3	4.2	4.2	4.7	3.2	2.6	2.7	2.4	1.8	2	2.2	1.8	1.9	0.8	0.7
<b>Weather</b>																								
U.S. Heating Degree-Days	970	799	683	325	127	28	10	13	57	221	614	706	891	868	584	300	118	24	6	11	32	227	444	580
U.S. Cooling Degree-Days	7	12	15	37	113	242	301	292	183	74	11	10	9	7	30	53	125	255	337	315	224	78	30	26
	2016												2017											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Macroeconomic</b>																								
Real Gross Domestic Product (billion chained 2009 dollars - SAAR)	16,494	16,524	16,556	16,591	16,627	16,665	16,706	16,748	16,791	16,841	16,881	16,919	16,948	16,985	17,023	17,066	17,106	17,145	17,188	17,224	17,258	17,279	17,314	17,353
Percent change from prior year	2.1	2.2	2.1	1.8	1.8	1.8	1.9	2	2.2	2.5	2.7	2.8	2.8	2.8	2.8	2.9	2.9	2.9	2.9	2.8	2.8	2.6	2.6	2.6
GDP Implicit Price Deflator (Index, 2009=100)	110.6	110.7	110.9	111.0	111.2	111.3	111.4	111.6	111.7	111.9	112.1	112.3	112.5	112.7	112.9	113.1	113.2	113.4	113.6	113.7	113.9	114.1	114.3	114.5
Percent change from prior year	1.4	1.5	1.5	1.4	1.3	1.3	1.3	1.4	1.5	1.6	1.7	1.7	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	2	2	2	2
Real Disposable Personal Income (billion chained 2009 dollars - SAAR)	12,491	12,522	12,546	12,550	12,570	12,594	12,626	12,654	12,682	12,708	12,738	12,770	12,804	12,839	12,874	12,914	12,950	12,985	13,021	13,053	13,084	13,102	13,136	13,178
Percent change from prior year	3.1	3.2	3.7	3.2	3.1	3	2.9	2.8	2.7	2.6	2.6	2.6	2.5	2.5	2.6	2.9	3	3.1	3.1	3.2	3.2	3.1	3.1	3.2
Manufacturing Production Index (Index, 2007=100)	106.8	106.6	106.4	105.9	105.8	105.7	105.8	105.9	106.1	106.4	106.8	107.1	107.7	108.0	108.2	108.1	108.4	108.7	109.2	109.5	109.9	110.3	110.6	110.9
Percent change from prior year	1	1.3	0.9	0	-0.1	0.1	-0.9	-0.8	-0.4	-0.5	0	0.4	0.9	1.3	1.7	2.1	2.4	2.8	3.2	3.4	3.6	3.6	3.6	3.5
<b>Weather</b>																								
U.S. Heating Degree-Days	871	640	545	297	125	26	5	9	55	246	491	780	868	689	563	310	136	30	6	11	59	254	503	793
U.S. Cooling Degree-Days	7	10	20	38	120	244	355	330	181	67	21	10	10	10	20	38	120	247	360	336	186	69	21	10

Notes: Prices are not adjusted for inflation.

The approximate break between historical and forecast values is shown with estimates and forecasts in italics.

**Historical data:** Latest data available from Energy Information Administration databases supporting the following reports: Petroleum Supply Monthly , DOE/EIA-0109; Petroleum Supply Annual , DOE/EIA-0340/2; Weekly Petroleum Status Report , DOE/EIA-0208; Petroleum Marketing Monthly , DOE/EIA-0380; Natural Gas Monthly , DOE/EIA-0130; Electric Power Monthly , DOE/EIA-0226; Quarterly Coal Report , DOE/EIA-0121; and International Petroleum Monthly , DOE/EIA-0520.  
Minor discrepancies with published historical data are due to independent rounding.

**Projections:** EIA Regional Short-Term Energy Model. Macroeconomic projections are based on Global Insight Model of the U.S. Economy.

Weather projections from National Oceanic and Atmospheric Administration.

**Inflation Adjustment  
Test Year USC Amortizations**

**Workpaper 5.2**

	<u>2015</u>
12-30-10-00-4040500 FLEXI AMORTIZATION	\$ 8,914
12-30-10-00-4040400 FINANCIAL REPORT WRITER AMORTIZATION	36,747
12-30-10-00-4040300 SOFTWARE AMORTIZATION - OTHER	833
12-30-10-00-4042300 POWER TAX SYSTEM AMORT	60,783
12-30-10-00-4042400 DATA PRIVACY AMORT	29,508
12-30-10-00-4042500 AMORTIZATION - PAYMENT SYSTEM	<u>8,043</u>
Total	\$ 144,829
 UES Allocation	 <u>28.32%</u>
 Amount Billed to UES	 <u><u>41,016</u></u>

**Inflation Adjustment  
Test Year Facility Leases**

**Workpaper 5.3**

	<u>2015</u>
12-30-08-00-9310100 BUILDING RENT	\$ 1,667,212
12-30-08-00-9310700 CALL CENTER RENT	159,422
12-30-08-00-9310800 PORTSMOUTH RENT EXPENSE	<u>59,888</u>
Total	\$ 1,886,522
 UES Allocation	 <u>28.32%</u>
 Amount Billed to UES	 <u><u>534,263</u></u>

**UNITIL ENERGY SYSTEMS, INC.  
PROPERTY TAX ESCALATION RATE  
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2015**

Workpaper 6.1

LINE NO.	(1) DESCRIPTION	(2) 2015	(3) 2014	(4) 2013	(5) 2012	(6) 2011
1	Total UES Property Taxes	\$5,397,120	\$5,201,699	\$4,650,051	\$4,228,297	\$3,972,108
2	Annual Percentage Change	3.76%	11.86%	9.97%	6.45%	
3	Average Annual Compound Growth Rate	7.97%				

**Notes**

The above amounts do not include any abatements received by the company.

UNITIL ENERGY SYSTEMS, INC.  
PROPERTY TAX ESCALATION RATE  
FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2015

Workpaper 6.1 Revised 9/16/2016

LINE NO.	(1) DESCRIPTION	(2) 2015	(3) 2014	(4) 2013	(5) 2012	(6) 2011
1	Total UES Property Taxes	\$5,397,120	\$5,201,699	\$4,650,051	\$4,228,297	\$3,972,108
2	Annual Percentage Change	3.76%	11.86%	9.97%	6.45%	
3	Average Annual Compound Growth Rate	7.97%				

Notes

The above amounts do not include any abatements received by the company.

**UNITIL ENERGY SYSTEMS, INC.  
PAYROLL TAX ADJUSTMENT  
12 MONTHS ENDED DECEMBER 21, 2015**

Workpaper 7.1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
LINE	2015 Wages	Union Increases			Nonunion Increases		Total	Wage
NO.	Subj. to Pay	2015	2016	2017	2016	2017	Proformed	Increase
	Increase <sup>(1)</sup>	3.0%	3.0%	3.0%	3.8%	4.0%	Wages	Exclusion
1	\$ 1,021,163	\$ 9,354	\$ 23,123	\$ 23,817	\$ 9,871	\$ 10,785	\$ 1,098,113	\$ 66,064
2	Amount Chargeable to Capital <sup>(2)</sup>							(41,634)
3	Pay Increase to O&M not subject to SS tax - above 2016 annual limit of \$118,500							\$ 24,430

**Notes**

(1) For Unitil Energy Systems employees whose pay increases exceed the wage limit of \$118,500 subject to Social Security tax.

(2) Capitalization Rate: 63.02% - 4 year average - 2015 Cost Allocation Manual



**UNITIL ENERGY SYSTEMS, INC.  
PAYROLL TAX ADJUSTMENT  
12 MONTHS ENDED DECEMBER 21, 2015**

Workpaper 7.1 Revised 1/3/2017

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
LINE	2015 Wages	Union Increases			Nonunion Increases		Total	Wage
NO.	Subj. to Pay	2015	2016	2017	2016	2017	Proformed	Increase
	Increase <sup>(1)</sup>	3.0%	3.0%	3.0%	3.8%	3.0%	Wages	Exclusion
1	\$ 1,021,163	\$ 9,354	\$ 23,123	\$ 23,817	\$ 9,871	\$ 8,089	\$ 1,095,417	\$ 44,937
2	Amount Chargeable to Capital <sup>(2)</sup>							(28,319)
3	Pay Increase to O&M not subject to SS tax - above 2017 annual limit of \$127,200							\$ 16,618

**Notes**

(1) For Unitil Energy Systems employees whose pay increases exceed the wage limit of \$127,200 subject to Social Security tax.

(2) Capitalization Rate: 63.02% - 4 year average - 2015 Cost Allocation Manual

**UNITIL ENERGY SYSTEMS, INC.  
PAYROLL TAX ADJUSTMENT  
UNITIL SERVICE CORP.  
12 MONTHS ENDED DECEMBER 31, 2015**

**Workpaper 7.2**

	(1)	(2)	(3)	(4)	(5)
LINE	2015 Wages	Pay Increases		Total	Payroll
NO.	Subj. to Pay	2016	2017	Proformed	Increase
	Increase <sup>(1)</sup>	4.20%	4.00%	Payroll	Exclusion
1	\$ 8,977,276	\$ 377,046	\$ 374,173	\$ 9,728,494	\$ 658,096
2	Amount Charged to UES <sup>(2)</sup>				186,373
3	Amount Chargeable to Capital <sup>(3)</sup>				<u>(53,265)</u>
4	Pay Increase to O&M not subject to SS Tax above 2016 annual limit of \$118,500				<u>\$ 133,107</u>

**Notes**

(1) For Unitil Service Corp. employees whose pay increases exceed the wage limit of \$118,500 subject to Social Security tax.

(2) USC Labor & Overhead Charged to UES at 28.32%

(3) USC Labor & Overhead Capitalized at 28.58%

UNITIL ENERGY SYSTEMS, INC.  
 PAYROLL TAX ADJUSTMENT  
 UNITIL SERVICE CORP.  
 12 MONTHS ENDED DECEMBER 31, 2015

Workpaper 7.2 Revised 1/3/2017

	(1)	(2)	(3)	(4)	(5)
LINE	2015 Wages	Pay Increases		Total	Payroll
NO.	Subj. to Pay	2016	2017	Proformed	Increase
	Increase <sup>(1)</sup>	4.20%	3.60%	Payroll	Exclusion
1	\$ 8,977,276	\$ 377,046	\$ 336,756	\$ 9,691,077	\$ 556,281
2	Amount Charged to UES <sup>(2)</sup>				157,539
3	Amount Chargeable to Capital <sup>(3)</sup>				<u>(45,025)</u>
4	Pay Increase to O&M not subject to SS Tax above 2017 annual limit of \$127,200				<u>\$ 112,514</u>

**Notes**

(1) For Unitil Service Corp. employees whose pay increases exceed the wage limit of \$127,200 subject to Social Security tax.

(2) USC Labor & Overhead Charged to UES at 28.32%

(3) USC Labor & Overhead Capitalized at 28.58%

**PUC Assessment Fee Adjustments**

**Workpaper 8.0**

	<b>2015</b>
<b>FY 2017 Assessment</b>	<b>\$ 642,501</b>
<b>Less: Base Amount in 2015 Test Year</b>	<b>(169,818)</b>
<b>Less: Power Supply</b>	<b>(10,000)</b>
<b>Adjustment Amount</b>	<b>\$ 462,683</b>

UNITIL ENERGY SYSTEMS, INC.  
DEPRECIATION STUDY @12/31/2015  
SCHEDULE B

Worksheet

COMPARISON OF CURRENT AND PROPOSED WHOLE LIFE DEPRECIATION RATES

DE 10-055 Settlement ASLs & N.S. @02/23/2011  
2009 Study Iowa curves

ACCOUNT NUMBER	DESCRIPTION	PLANT BALANCE @12/31/2015	CURRENT DEPREC. ACCRUAL RATES	CURRENT ANNUAL DEPREC. ACCRUAL	PROPOSED WHOLE LIFE DEPREC. ACCRUAL RATES	PROPOSED WHOLE LIFE ANNUAL DEPREC. ACCRUAL	DIFFERENCE BETWEEN PROPOSED AND CURRENT WHOLE LIFE ANNUAL ACCRUAL
		(1)	(2)	(3)	(4)	(5)	(6)
<u>DISTRIBUTION PLANT</u>							
343.00	PRIME MOVERS	56,575	0.0680	3,847	0.0667	3,774	-73
361.00	STRUCTURES & IMPROVEMENTS	167,773	0.0250	4,194	0.0245	4,110	-84
362.00	STATION EQUIPMENT	23,730,448	0.0266	631,230	0.0260	616,992	-14,238
364.00	POLES, TOWERS, & FIXTURES	54,781,196	0.0380	2,081,685	0.0370	2,026,904	-54,781
365.00	OH CONDUCTORS & DEVICES	71,213,961	0.0374	2,663,402	0.0364	2,592,188	-71,214
366.00	UNDERGROUND CONDUIT	1,841,623	0.0209	38,490	0.0204	0	0
367.00	UG CONDUCTORS & DEVICES	18,242,829	0.0261	476,138	0.0255	0	0
						157,027	-78,514
	<u>LINE TRANSFORMERS</u>					157,027	-78,514
368.10	LINE TRANSFORMERS	24,590,384	0.0307	754,925	0.0300	737,712	-17,213
368.20	TRANSFORMER INSTALLATIONS	<u>18,572,941</u>	0.0295	<u>547,902</u>	0.0289	<u>536,758</u>	<u>-11,144</u>
	<u>TOTAL ACCOUNT 368</u>	43,163,325	0.0302	1,302,827	0.0295	1,274,470	-28,357
369.00	SERVICES	20,341,811	0.0583	1,185,928	0.0567	1,153,381	-32,547
<u>METERS</u>							
370.10	METERS	9,636,392	0.0508	489,529	0.0500	481,820	-7,709
370.20	METER INSTALLATIONS	<u>4,027,591</u>	0.0508	<u>204,602</u>	0.0500	<u>201,380</u>	<u>-3,222</u>
	<u>TOTAL ACCOUNT 370</u>	13,663,983	0.0508	694,131	0.0500	683,200	-10,931
371.00	INSTALL. ON CUSTOMERS' PREMISES	1,886,935	0.0779	146,992	0.0756	142,652	-4,340
373.00	ST. LIGHTING & SIGNAL SYSTEMS	<u>3,237,653</u>	0.0804	<u>260,307</u>	0.0779	<u>252,213</u>	<u>-8,094</u>
	<u>TOTAL DEPREC. DISTRIBUTION PLANT</u>	252,328,112	0.0376	9,489,171	0.0367	9,252,645	-236,526
<u>GENERAL PLANT</u>							
390.00	STRUCTURES & IMPROVEMENTS	3,787,332	0.0208	78,777	0.0208	78,777	0
391.10	OFFICE FURNITURE	267,375	0.0583	15,588	0.0583	15,588	0
393.00	STORES EQUIPMENT	79,908	0.0336	2,685	0.0336	2,685	0
394.00	TOOLS, SHOP & GARAGE EQUIPMENT	1,539,171	0.0364	56,026	0.0364	56,026	0
395.00	LABORATORY EQUIPMENT	792,711	0.0390	30,916	0.0390	30,916	0
397.00	COMMUNICATION EQUIPMENT	3,772,058	0.0660	248,956	0.0660	248,956	0
398.00	MISCELLANEOUS EQUIPMENT	<u>102,943</u>	0.0488	<u>5,024</u>	0.0488	<u>5,024</u>	<u>0</u>
	<u>TOTAL DEPREC. GENERAL PLANT</u>	10,341,498	0.0424	437,972	0.0424	437,972	0
	<u>TOTAL DEPREC. ELECTRIC PLANT</u>	262,669,610	0.0378	9,927,143	0.0369	9,690,617	-236,526

