

**UNITIL ENERGY SYSTEMS, INC
NEW HAMPSHIRE FILING REQUIREMENT SCHEDULES
TABLE OF CONTENTS**

Page	Filing Requirement Schedule
1	Schedule - Computation of Revenue Deficiency
2	Schedule 1 - Operating Income Statement
3	Schedule 1 Attachment - Pro Forma Adjustment Income or Expense
4	Schedule 1A - Property Taxes
5	Schedule 1B - Payroll
6	Schedule 2 - Assets and Deferred Charges
7	Schedule 2A - Stockholders Equity & Liability
8	Schedule 2B - Materials and Supplies
9	Schedule 2 Attachment 1 - 13 Monthly balance sheets ended December 31, 2015
10	Schedule 3 - Rate Base
11	Schedule 3A - Working Capital
12	Schedule 3 Attachment - Pro Forma Adjustments to Rate Base

UNITIL ENERGY SYSTEMS, INC
SCHEDULE - COMPUTATION OF REVENUE DEFICIENCY
12 MONTHS ENDED DECEMBER 31, 2015

LINE NO.	(1) DESCRIPTION	(2) REFERENCE	(3) AMOUNT
1	Rate Base	Schedule RevReq-4	\$ 152,951,401
2	Rate Of Return	Schedule RevReq-5	8.75%
3	Income Required	Line 1 * Line 2	13,383,248
4	Adjusted Net Operating Income	Schedule RevReq-2	9,605,687
5	Deficiency	Line 3 - Line 4	3,777,561
6	Income Tax Effect	Line 7 - Line 5	2,477,715
7	Revenue Deficiency	1.6559 (Schedule RevReq-1-1) * Line 5	\$ 6,255,276

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

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 (1)	(8) CALENDAR YEAR 2013 (1)
1	Distribution Revenue ⁽²⁾	\$ 51,600,877	\$ -	\$ 51,600,877	\$ -	\$ 51,600,877	\$ 50,633,486	\$ 49,639,263
2	Flow-Through Revenue ⁽²⁾	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	331,108	9,222,823	8,684,037	9,481,446
10	Customer Accounting	3,697,008	618,642	3,078,366	515,729	3,594,095	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	337,299	8,609,949	8,507,896	8,526,780
13	Depreciation	9,639,845	-	9,639,845	546,070	10,185,915	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	1,061,915	6,367,137	5,434,398	4,891,960
16	Federal Income Tax ⁽³⁾	643,723	416,190	227,533	(542,996)	(315,463)	232,479	(132,536)
17	State Income Tax ⁽³⁾	869,095	113,713	755,382	(177,520)	577,861	(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	2,003,597	43,232,327	138,992,638	124,464,643
21	Net Operating Income	\$ 13,006,237	\$ 1,396,954	\$ 11,609,284	\$ (2,003,597)	\$ 9,605,687	\$ 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
SCHEDULE 1 ATTACHMENT - PROFORMA ADJUSTMENT INCOME OR EXPENSE
12 MONTHS ENDED DECEMBER 31, 2015

LINE NO.	(1) DESCRIPTION	(2) CLASSIFICATION	(3) SCHEDULE NO.	(4) AMOUNT
1	Operating & Maintenance Expense Adjustments			
2	Payroll	Dist	Schedule RevReq-3-1	\$ 331,108
3	Medical & Dental Insurances	A&G	Schedule RevReq-3-2	53,004
4	Pension	A&G	Schedule RevReq-3-3	(106,192)
5	PBOP	A&G	Schedule RevReq-3-3	150,564
6	401K	A&G	Schedule RevReq-3-3	44,100
7	Property & Liability Insurances	A&G	Schedule RevReq-3-4	54,228
8	Distribution Bad Debt	Cust Acct	Schedule RevReq-3-5	171,290
9	Protected Receivables Expense	Cust Acct	Schedule RevReq-3-6	344,439
10	Inflation Allowance	A&G	Schedule RevReq-3-7	141,596
11	Total Operating & Maintenance Expense Adjustments			<u>\$ 1,184,136</u>
	Depreciation & Amortization Expense Adjustments			
12	Depreciation Annualization	Depr	Schedule RevReq-3-8	\$ 546,070
13	Deferred Storm Cost Amortization	Amort	Schedule RevReq-3-9	(68,008)
14	Total Depreciation & Amortization Expense Adjustments			<u>\$ 478,062</u>
15	Taxes Other Than Income Adjustments			
16	Property Taxes	Taxes Other	Schedule RevReq-3-10	\$ 1,030,081
17	Payroll Taxes	Taxes Other	Schedule RevReq-3-11	31,834
18	Total Taxes Other Than Income Adjustments			<u>\$ 1,061,915</u>
19	Income Taxes Adjustments			
20	Federal Income Tax	FIT	Schedule RevReq-3-12 P1	\$ (649,724)
21	State Income Tax	SIT	Schedule RevReq-3-12 P1	(177,520)
22	Prior Year Federal Income Tax	FIT	Schedule RevReq-3-12 P4	106,728
23	Total Income Taxes Adjustments			<u>\$ (720,516)</u>
24	Rate Base Adjustments			
25	Kingston Substation Plant Addition	Plant	Schedule RevReq-3-8 P1	\$ 9,880,166
26	Cash Working Capital Adjustment	CWC	Schedule RevReq-4-2	212,922
27	Total Rate Base Adjustments			<u>\$ 10,093,088</u>

UNITIL ENERGY SYSTEMS, INC
SCHEDULE 1A - PROPERTY TAXES
12 MONTHS ENDED DECEMBER 31, 2015

LINE NO.	(1) MUNICIPALITY & STATE	(2) TAXATION PERIOD	(3) LOCAL TAX RATE	(4) ASSESSED VALUATION	(5) 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 ⁽¹⁾				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
SCHEDULE 1B - PAYROLL
12 MONTHS ENDED DECEMBER 31, 2015

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 ⁽¹⁾	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 ⁽²⁾	-	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 ⁽³⁾	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 ⁽⁴⁾	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 ⁽⁵⁾			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
SCHEDULE 2 - ASSETS & DEFERRED CHARGES
12 MONTHS ENDED DECEMBER 31, 2015

LINE NO.	(1) Category	(3) Year Ended December 31, 2015	(2) 13 Monthly Average Ended December 31, 2015
	<u>Electric Plant</u>		
1	In Service	\$ 272,786,688	\$ 265,069,785
2	Construction Work in Progress	17,403,595	12,777,918
3	Less: Reserve for Depreciation	(98,980,036)	(95,190,715)
4	Total Electric Plant	191,210,247	182,656,988
	<u>Other Property</u>		
5	Total Other Net Property	50,606	50,606
6	Total Other & Non Operating Plant	50,606	50,606
	<u>Current Assets</u>		
7	Cash	335,389	444,578
8	ISO Deposit	1,932,574	2,222,522
9	Accounts Receivable	14,748,150	18,919,397
10	Accounts Receivable - Other	1,372,702	870,438
11	Uncollectible Accounts	(491,260)	(828,791)
12	Accts Receivable - Assoc. Companies	3,555,926	2,260,334
13	Material and Supplies	786,127	849,400
14	Stores Expense Undistributed	136,074	145,435
15	Prepayments	7,616,460	7,678,190
16	Accrued Revenue	14,246,081	11,667,034
17	Miscellaneous Current Assets	73,405	102,636
18	Total	44,311,627	44,331,173
	<u>Deferred Charges</u>		
19	Unamortized Debt Expense	1,152,303	1,213,321
20	Other - Deferred Debits	33,791,625	31,008,112
21	Total Deferred Charges	34,943,928	32,221,432
22	Total Assets & Deferred Charges	\$ 270,516,409	\$ 259,260,200

UNITIL ENERGY SYSTEMS, INC
SCHEDULE 2A - STOCKHOLDERS EQUITY & LIABILITIES
12 MONTHS ENDED DECEMBER 31, 2015

LINE NO.	(1) Category	(3) Year Ended December 31, 2015	(2) 13 Monthly Average Ended December 31, 2015
	<u>Capitalization</u>		
1	Common Stock	\$ 2,442,426	\$ 2,442,426
2	Preferred Stock	189,800	209,977
3	Premium On Capital Stock	1,005,875	1,005,875
4	Miscellaneous Paid-In Capital	39,028,170	36,335,862
5	Capital Stock Expense	(94,845)	(94,845)
6	Retained Earnings	34,903,325	33,255,510
7	Stockholders Equity	<u>77,474,750</u>	<u>73,154,805</u>
	<u>Long Term Debt</u>		
8	Bonds and Notes	<u>77,000,000</u>	<u>79,307,692</u>
	Total	<u>77,000,000</u>	<u>79,307,692</u>
	<u>Current and Accrued Liabilities</u>		
9	Accounts Payable	13,878,447	16,069,817
10	Notes Payable to Associated Co.	8,774,322	10,024,996
11	A/P to Associated Co's	1,881,898	1,462,054
12	Customer Deposits	923,011	904,183
13	Dividends Declared	1,373,080	1,321,474
14	Interest Accrued	1,072,278	1,108,811
15	Other Tax Liabilities	1,118,735	1,930,602
16	Other Accrued Liabilities	6,040,265	2,936,212
17	Total	<u>35,062,037</u>	<u>35,758,148</u>
	<u>Deferred Credits</u>		
18	Deferred Credits	55,206,989	41,094,601
19	Customer Advances For Construction	557,928	486,609
20	Deferred Income Taxes	25,214,705	29,458,344
21	Total	<u>80,979,622</u>	<u>71,039,554</u>
22	Total Stockholders Equity & Liabilities	<u>\$ 270,516,409</u>	<u>\$ 259,260,200</u>

UNITIL ENERGY SYSTEMS, INC
SCHEDULE 2B - MATERIALS & SUPPLIES
12 MONTHS ENDED DECEMBER 31, 2015

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
1	Material and Supplies	\$ 786,127	\$ 882,780	\$ 919,322	\$ 764,079	\$ 769,389	\$ 824,339
2	Stores	136,074	121,025	143,449	198,802	117,208	143,312
3	Clearing Accounts	488,123	484,844	488,090	462,679	436,372	472,021
4	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>

UNITIL ENERGY SYSTEMS, INC.
SCHEDULE 2 ATTACHMENT 1 - 13 MONTHLY BALANCE SHEETS ENDED DECEMBER 31, 2015
12 MONTHS ENDED DECEMBER 31, 2015

LINE NO.	Account Description	2014 December	2015 January	2015 February	2015 March	2015 April	2015 May	2015 June	2015 July	2015 August	2015 September	2015 October	2015 November	2015 December
Electric Plant														
1	In Service	\$ 261,898,349	\$ 261,928,389	\$ 262,275,469	\$ 262,849,734	\$ 263,415,261	\$ 264,198,601	\$ 264,799,409	\$ 265,304,538	\$ 265,921,304	\$ 266,419,105	\$ 266,531,829	\$ 267,578,526	\$ 272,786,688
2	Construction Work in Progress	8,437,398	8,358,767	8,137,162	9,094,260	10,304,523	11,249,102	12,240,182	14,004,162	14,680,558	16,498,660	17,293,147	18,411,422	17,403,595
3	Less: Reserve for Depreciation	(91,637,975)	(91,911,096)	(92,362,851)	(93,112,510)	(93,777,556)	(94,447,632)	(95,167,155)	(95,885,721)	(96,565,311)	(97,372,325)	(97,805,351)	(98,453,771)	(98,980,036)
4	Total Electric Plant	178,697,772	178,376,060	178,049,780	178,831,484	179,942,227	181,000,071	181,872,437	183,422,978	184,036,550	185,545,441	186,019,626	187,536,177	191,210,247
Other Property														
5	Total Other Net Property	50,606	50,606	50,606	50,606	50,606	50,606	50,606	50,606	50,606	50,606	50,606	50,606	50,606
6	Total Other & Non Operating Plant	50,606	50,606	50,606	50,606	50,606	50,606	50,606	50,606	50,606	50,606	50,606	50,606	50,606
Current Assets														
7	Cash	731,357	732,063	286,446	995,653	277,477	370,019	720,307	392,638	1,169,108	420,334	(105,133)	(546,140)	335,389
8	ISO Deposit	4,585,229	3,905,450	2,584,698	1,032,121	1,333,443	1,133,654	439,562	879,715	1,745,947	2,597,403	3,445,646	3,277,338	1,932,574
9	Accounts Receivable	17,127,894	21,784,476	23,347,507	23,760,065	21,077,270	20,242,532	19,187,120	17,839,005	18,408,316	18,456,189	15,480,630	14,493,005	14,748,150
10	Accounts Receivable - Other	659,051	671,152	686,231	682,132	701,161	743,018	755,172	944,279	968,299	977,691	1,052,195	1,102,604	1,372,702
11	Uncollectible Accounts	(940,915)	(959,238)	(837,677)	(908,666)	(766,810)	(783,672)	(873,875)	(759,423)	(868,053)	(878,012)	(863,986)	(842,490)	(491,260)
12	Accts Receivable - Assoc. Companies	6,216,960	24,807	1,246	3,302,614	-	-	3,344,478	5,060,037	5,081,342	2,666,425	38,526	91,978	3,555,926
13	Material and Supplies	769,389	769,149	790,731	764,079	797,037	923,816	919,322	935,613	912,404	882,780	918,917	872,834	786,127
14	Stores Expense Undistributed	117,208	139,713	176,860	198,802	167,916	154,681	143,449	126,734	122,969	121,025	134,534	150,694	136,074
15	Prepayments	8,677,320	8,475,401	7,949,661	7,730,580	7,416,346	6,919,231	8,460,716	7,734,258	7,369,006	7,484,982	6,780,610	7,201,901	7,616,460
16	Accrued Revenue	17,960,762	13,652,416	17,159,918	21,050,725	9,392,324	7,287,972	12,852,090	7,468,804	7,168,884	12,080,115	4,897,713	6,453,644	14,246,081
17	Miscellaneous Current Assets	78,301	78,301	78,301	108,259	108,259	108,259	129,358	129,358	129,358	104,368	104,368	104,368	73,405
18	Total	55,982,556	49,273,689	52,223,723	58,716,364	40,504,422	37,099,510	46,077,700	40,751,020	42,207,579	44,913,299	31,884,019	32,359,736	44,311,627
Deferred Charges														
19	Unamortized Debt Expense	1,274,339	1,264,169	1,254,000	1,243,830	1,233,660	1,223,491	1,213,321	1,203,151	1,192,982	1,182,812	1,172,642	1,162,473	1,152,303
20	Other - Deferred Debits	37,062,491	27,829,980	28,609,011	47,327,643	27,809,612	27,483,089	35,231,443	26,743,762	26,398,426	34,071,398	25,656,830	25,090,141	33,791,625
21	Total Deferred Charges	38,336,829	29,094,150	29,863,011	48,571,473	29,043,273	28,706,579	36,444,763	27,946,913	27,591,407	35,254,210	26,829,472	26,252,613	34,943,928
22	Total Assets & Deferred Charges	\$ 273,067,764	\$ 256,794,505	\$ 260,187,120	\$ 286,169,927	\$ 249,540,529	\$ 246,856,767	\$ 264,445,506	\$ 252,171,518	\$ 253,886,143	\$ 265,763,556	\$ 244,783,724	\$ 246,199,132	\$ 270,516,409
Capitalization														
23	Common Stock	\$ 2,442,426	\$ 2,442,426	\$ 2,442,426	\$ 2,442,426	\$ 2,442,426	\$ 2,442,426	\$ 2,442,426	\$ 2,442,426	\$ 2,442,426	\$ 2,442,426	\$ 2,442,426	\$ 2,442,426	\$ 2,442,426
24	Preferred Stock	225,000	225,000	225,000	225,000	210,300	210,300	205,900	205,900	205,900	200,900	200,900	199,800	189,800
25	Premium On Capital Stock	1,005,875	1,005,875	1,005,875	1,005,875	1,005,875	1,005,875	1,005,875	1,005,875	1,005,875	1,005,875	1,005,875	1,005,875	1,005,875
26	Miscellaneous Paid-In Capital	34,028,170	34,028,170	34,028,170	34,028,170	34,028,170	34,028,170	34,028,170	39,028,170	39,028,170	39,028,170	39,028,170	39,028,170	39,028,170
27	Capital Stock Expense	(94,845)	(94,845)	(94,845)	(94,845)	(94,845)	(94,845)	(94,845)	(94,845)	(94,845)	(94,845)	(94,845)	(94,845)	(94,845)
28	Retained Earnings	32,938,577	32,059,994	32,538,088	33,197,345	32,148,337	32,720,819	33,695,185	33,108,153	33,890,816	34,228,258	33,253,475	33,639,262	34,903,325
29	Stockholders Equity	70,545,203	69,666,620	70,144,713	70,803,970	69,740,263	70,312,745	71,282,711	75,695,679	76,478,342	76,810,784	75,836,001	76,220,687	77,474,750
Long Term Debt														
30	Bonds and Notes	80,000,000	80,000,000	80,000,000	80,000,000	80,000,000	80,000,000	80,000,000	80,000,000	80,000,000	80,000,000	77,000,000	77,000,000	77,000,000
	Total	80,000,000	80,000,000	80,000,000	80,000,000	80,000,000	80,000,000	80,000,000	80,000,000	80,000,000	80,000,000	77,000,000	77,000,000	77,000,000
Current and Accrued Liabilities														
31	Accounts Payable	23,032,691	23,921,917	22,416,146	17,682,467	13,745,665	13,774,644	12,958,078	14,334,956	14,133,397	14,733,827	11,398,368	12,897,010	13,878,447
32	Notes Payable to Associated Co.	10,800,690	11,358,378	15,964,553	15,540,546	14,604,346	10,169,111	9,460,525	8,629,796	8,327,463	2,464,221	7,253,893	6,977,099	8,774,322
33	A/P to Associated Co's	1,220,898	1,972,957	1,451,417	1,810,993	934,171	1,579,996	1,364,736	1,355,531	1,676,211	1,426,492	1,446,731	884,677	1,881,898
34	Customer Deposits	933,347	921,820	916,953	887,419	871,918	868,556	886,556	886,952	904,517	913,647	915,252	922,326	923,011
35	Dividends Declared	1,455,216	1,286,966	1,288,091	1,289,216	1,317,194	1,318,246	1,319,231	1,261,839	1,262,868	1,263,898	1,371,163	1,372,156	1,373,080
36	Interest Accrued	1,124,711	1,293,223	1,412,507	1,012,413	837,923	1,001,188	1,119,813	1,286,438	1,753,063	525,102	971,186	1,072,278	1,072,278
37	Other Tax Liabilities	229,196	429	(1,419,547)	274,117	2,070,143	3,441,572	1,663,835	3,589,993	4,410,248	1,319,768	4,503,129	3,896,203	1,118,735
38	Other Accrued Liabilities	6,042,706	447,086	294,713	8,148,216	494,334	421,229	6,798,432	419,291	460,598	7,494,259	534,763	574,864	6,040,265
39	Total	44,839,454	41,202,875	42,324,833	46,645,387	34,875,693	32,574,545	35,573,205	31,764,795	32,928,366	30,620,813	27,948,401	28,495,521	35,062,037
Deferred Credits														
40	Deferred Credits	52,418,847	33,540,803	33,600,867	52,381,405	33,718,131	33,778,195	52,628,808	33,622,142	33,649,025	52,249,192	33,704,265	33,731,147	55,206,989
41	Customer Advances For Construction	471,735	458,253	460,470	454,502	454,502	454,502	449,848	448,868	482,471	547,469	542,683	542,683	557,928
42	Deferred Income Taxes	24,792,526	31,925,953	33,656,236	35,884,662	30,751,939	29,736,780	24,510,934	30,640,033	30,347,939	25,535,298	29,752,374	30,209,094	25,214,705
43	Total	77,683,107	65,925,010	67,717,574	88,720,569	64,924,573	63,969,477	77,589,590	64,711,044	64,479,435	78,331,959	63,999,323	64,482,925	80,979,622
44	Total Stockholders Equity & Liabilities	\$ 273,067,764	\$ 256,794,505	\$ 260,187,120	\$ 286,169,927	\$ 249,540,529	\$ 246,856,767	\$ 264,445,506	\$ 252,171,518	\$ 253,886,143	\$ 265,763,556	\$ 244,783,724	\$ 246,199,132	\$ 270,516,409

UNITIL ENERGY SYSTEMS, INC
SCHEDULE 3 - RATE BASE
12 MONTHS ENDED DECEMBER 31, 2015

LINE NO.	(1) DESCRIPTION	(2) REFERENCE	(3) TEST YEAR AVERAGE ⁽¹⁾	(4) 5 QUARTER AVERAGE	(6) RATE BASE AT DECEMBER 31, 2015
1	Utility Plant In Service	Schedule RevReq-4-1	\$ 267,342,518	\$ 265,750,656	\$ 272,786,687
2	Less: Reserve for Depreciation	Schedule RevReq-4-1	95,309,005	95,254,000	98,980,036
3	Net Utility Plant		172,033,513	170,496,656	173,806,651
4	Add: M&S Inventories	Schedule RevReq-4-1	\$ 1,366,647	\$ 1,439,672	\$ 1,410,324
5	Cash Working Capital (2)	Schedule RevReq-4-2	2,446,229	2,446,229	2,446,229
6	Prepayments	Schedule RevReq-4-1	8,146,890	7,994,012	7,616,460
7	SFAS 109 Net Regulatory Asset	Schedule RevReq-4-1	704,407	704,407	558,673
8	Sub-Total		12,664,172	12,584,320	12,031,686
9	Less: Net Deferred Income Taxes	Schedule RevReq-4-1	\$ 40,299,341	\$ 42,396,388	\$ 41,720,083
10	Plus: Deferred Income Taxes Debit	Schedule RevReq-4-1	712,780	2,611,694	220,997
11	Less: Customers Deposits	Schedule RevReq-4-1	928,179	909,196	923,011
12	Less: Customer Advances	Schedule RevReq-4-1	514,831	496,297	557,928
13	Rate Base		\$ 143,668,114	\$ 141,890,789	\$ 142,858,313
	Net Operating Income Applicable To Rate Base		\$ 11,609,284	\$ 11,609,284	\$ 11,609,284
	Rate of Return		8.08%	8.18%	8.13%

Notes

(1) Two Point Average

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

UNITIL ENERGY SYSTEMS, INC
SCHEDULE 3A - WORKING CAPITAL
12 MONTHS ENDED DECEMBER 31, 2015

	(1)	(2)	(3)	(4)	(5)
LINE NO.	DESCRIPTION	REFERENCE	TEST YEAR ACTUAL	PROFORMA ADJUSTMENTS	TEST YEAR AS PROFORMED
1	O&M Expense	Schedule RevReq-2	20,501,605	668,407	21,170,012
2	Taxes and Interest Expense	Schedule RevReq-2	12,263,170	2,183,474	14,446,644
3	Total		\$ 32,764,775	\$ 2,851,881	\$ 35,616,656
4	Cash Working Capital Requirement:				
5	Other O&M Expense Days Lag ⁽¹⁾ / 365	27 days	7.47%	7.47%	7.47%
6	Total Cash Working Capital	Line 5 X Line 3	\$ 2,446,229	\$ 212,922	\$ 2,659,152

Notes

(1) Per Lead Lag Study

UNITIL ENERGY SYSTEMS, INC
SCHEDULE 3 ATTACHMENT - PRO FORMA ADJUSTMENTS TO RATE BASE
12 MONTHS ENDED DECEMBER 31, 2015

LINE NO.	(1) DESCRIPTION	(2)	(3)	(4)
		RATE BASE AT DECEMBER 31, 2015	PRO FORMA ADJUSTMENTS	PRO FORMA RATE BASE AT DECEMBER 31, 2015
1	Utility Plant In Service	\$ 272,786,687	\$ 9,880,166	\$ 282,666,854
2	Less: Reserve for Depreciation	98,980,036	-	98,980,036
3	Net Utility Plant	173,806,651	9,880,166	183,686,818
4	Add: M&S Inventories	\$ 1,410,324	\$ -	\$ 1,410,324
5	Cash Working Capital ⁽¹⁾	2,446,229	212,922	2,659,151
6	Prepayments	7,616,460	-	7,616,460
7	SFAS 109 Net Regulatory Asset	558,673	-	558,673
8	Sub-Total	12,031,686	212,922	12,244,608
9	Less: Net Deferred Income Taxes	\$ 41,720,083	\$ -	\$ 41,720,083
10	Plus: Deferred Income Taxes Debit	220,997	-	220,997
11	Less: Customers Deposits	923,011	-	923,011
12	Less: Customer Advances	557,928	-	557,928
13	Rate Base	\$ 142,858,313	\$ 10,093,088	\$ 152,951,401
14	Net Operating Income Applicable To Rate Base	\$ 11,609,284		\$ 9,605,687
15	Rate of Return	8.13%		6.28%

Notes

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

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) AMOUNT
1	Rate Base	Schedule RevReq-4	\$ 152,951,401
2	Rate Of Return	Schedule RevReq-5	<u>8.75%</u>
3	Income Required	Line 1 * Line 2	13,383,248
4	Adjusted Net Operating Income	Schedule RevReq-2	<u>9,605,687</u>
5	Deficiency	Line 3 - Line 4	3,777,561
6	Income Tax Effect	Line 7 - Line 5	<u>2,477,715</u>
7	Revenue Deficiency	1.6559 (Schedule RevReq-1-1) * Line 5	<u>\$ 6,255,276</u>

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 ⁽¹⁾	(8) CALENDAR YEAR 2013 ⁽¹⁾
1	Distribution Revenue ⁽²⁾	\$ 51,600,877	\$ -	\$ 51,600,877	\$ -	\$ 51,600,877	\$ 50,633,486	\$ 49,639,263
2	Flow-Through Revenue ⁽²⁾	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	331,108	9,222,823	8,684,037	9,481,446
10	Customer Accounting	3,697,008	618,642	3,078,366	515,729	3,594,095	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	337,299	8,609,949	8,507,896	8,526,780
13	Depreciation	9,639,845	-	9,639,845	546,070	10,185,915	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	1,061,915	6,367,137	5,434,398	4,891,960
16	Federal Income Tax ⁽³⁾	643,723	416,190	227,533	(542,996)	(315,463)	232,479	(132,536)
17	State Income Tax ⁽³⁾	869,095	113,713	755,382	(177,520)	577,861	(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	2,003,597	43,232,327	138,992,638	124,464,643
21	Net Operating Income	\$ 13,006,237	\$ 1,396,954	\$ 11,609,284	\$ (2,003,597)	\$ 9,605,687	\$ 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
1	Operating & Maintenance Expense Adjustments			
2	Payroll	Dist	Schedule RevReq-3-1	\$ 331,108
3	Medical & Dental Insurances	A&G	Schedule RevReq-3-2	53,004
4	Pension	A&G	Schedule RevReq-3-3	(106,192)
5	PBOP	A&G	Schedule RevReq-3-3	150,564
6	401K	A&G	Schedule RevReq-3-3	44,100
7	Property & Liability Insurances	A&G	Schedule RevReq-3-4	54,228
8	Distribution Bad Debt	Cust Acct	Schedule RevReq-3-5	171,290
9	Protected Receivables Expense	Cust Acct	Schedule RevReq-3-6	344,439
10	Inflation Allowance	A&G	Schedule RevReq-3-7	141,596
11	Total Operating & Maintenance Expense Adjustments			<u>\$ 1,184,136</u>
	Depreciation & Amortization Expense Adjustments			
12	Depreciation Annualization	Depr	Schedule RevReq-3-8	\$ 546,070
13	Deferred Storm Cost Amortization	Amort	Schedule RevReq-3-9	(68,008)
14	Total Depreciation & Amortization Expense Adjustments			<u>\$ 478,062</u>
15	Taxes Other Than Income Adjustments			
16	Property Taxes	Taxes Other	Schedule RevReq-3-10	\$ 1,030,081
17	Payroll Taxes	Taxes Other	Schedule RevReq-3-11	31,834
18	Total Taxes Other Than Income Adjustments			<u>\$ 1,061,915</u>
19	Income Taxes Adjustments			
20	Federal Income Tax	FIT	Schedule RevReq-3-12 P1	\$ (649,724)
21	State Income Tax	SIT	Schedule RevReq-3-12 P1	(177,520)
22	Prior Year Federal Income Tax	FIT	Schedule RevReq-3-12 P4	106,728
23	Total Income Taxes Adjustments			<u>\$ (720,516)</u>
24	Rate Base Adjustments			
25	Kingston Substation Plant Addition	Plant	Schedule RevReq-3-8 P1	\$ 9,880,166
26	Cash Working Capital Adjustment	CWC	Schedule RevReq-4-2	212,922
27	Total Rate Base Adjustments			<u>\$ 10,093,088</u>

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 ⁽¹⁾	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 ⁽²⁾	-	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 ⁽³⁾	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 ⁽⁴⁾	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 ⁽⁵⁾			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.
MEDICAL AND DENTAL INSURANCE ADJUSTMENT
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-2

LINE NO.	(1) DESCRIPTION	(2) TOTAL	(3) UNITIL ENERGY SYSTEMS, INC. ⁽¹⁾	(4) UNITIL SERVICE CORP. ⁽²⁾
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.
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

UNITIL ENERGY SYSTEMS, INC.
PROPERTY & LIABILITY INSURANCE
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-4

LINE NO.	(1) DESCRIPTION	(2) TOTAL	(3) UES ⁽¹⁾	(4) UNITIL SERVICE CORP. ⁽²⁾
1	Proformed Property & Liability Insurances O&M Expense	\$ 313,896	\$ 257,763	\$ 56,133
2	Less: Test Year Property & Liability Insurances O&M Expense	259,668	233,547	26,120
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

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

Schedule RevReq-3-5

(1)		(2)
LINE NO.	DESCRIPTION	AMOUNT
1	Test Year Write-Offs as a % of Retail Delivery Billed Revenue	0.62%
2	Per Books Delivery Retail Billed Revenue	\$ 81,032,598
3	Revenue Increase from Rate Case	6,255,276
4	2015 Total Normalized Delivery Retail Billed Revenue	\$ 87,287,874
5	Uncollectible Delivery Revenue	\$ 539,518
6	Less: Test Year Bad Debt Expense	\$ 368,229
7	Increase in Bad Debt Expense	<u>\$ 171,290</u>

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 ⁽¹⁾	<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) TOTAL
1	Test Year Distribution O&M Expenses	\$ 20,724,994
	Less Normalizing Adjustments Items:	
2	Payroll	\$ 6,889,735
3	Medical and Dental Insurance	652,409
4	401K Costs	331,127
5	Property & Liability Insurance	259,668
6	Total Normalizing Adjustment Items	\$ 8,132,939
	Less Items not Subject to Inflation:	
7	Pension	\$ 1,218,569
8	Postemployment Benefits Other than Pensions	887,575
9	Bad Debts	368,229
10	Vegetation Management Expense	4,758,739
11	Amortizations - USC Charge	41,016
12	Facility Leases - USC Charge	534,263
13	Total Items not Subject to Inflation	\$ 7,808,390
14	Residual O&M Expenses	\$ 4,783,664
15	Projected Inflation Rate ⁽¹⁾	2.96%
16	Increase in Other O&M Expense for Inflation	\$ 141,596

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 ⁽¹⁾
	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 ⁽¹⁾	(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.
DEFERRED STORM COST AMORTIZATION
12 MONTHS ENDED DECEMBER 31, 2015

Schedule RevReq-3-9

LINE NO.	(1) DESCRIPTION	(2) 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 ⁽¹⁾				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.
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 ⁽¹⁾	\$ 543,810	\$ 543,810	
	Less Pay Increase Amounts in Excess of Taxable Limit ⁽²⁾			
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.
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) AMOUNT
	<u>Increases / (Decreases) To Expenses</u>	
1	Payroll	\$ 331,108
2	Medical & Dental Insurances	53,004
3	Pension	(106,192)
4	PBOP	150,564
5	401K	44,100
6	Property & Liability Insurances	54,228
7	Distribution Bad Debt	171,290
8	Protected Receivables Expense	344,439
9	Inflation Allowance	141,596
10	Depreciation Annualization	546,070
11	Deferred Storm Cost Amortization	(68,008)
12	Property Taxes	1,030,081
13	Payroll Taxes	31,834
14	Change In Interest Exp (Refer to Schedule RevReq-3-11 Page 2)	(635,640)
15	Total Expense Adjustments	\$ 2,088,473
16	Increase / (Decrease) In Taxable Income	\$ (2,088,473)
17	Effective Federal Income Tax Rate ⁽¹⁾	31.11%
18	NH State Tax Rate ⁽²⁾	8.50%
	<u>Federal Income & NH State Tax</u>	
19	Effective Federal Income Tax	\$ (649,724)
20	NH State Tax	(177,520)
21	Increase (Decrease) In Income Taxes	\$ (827,244)
	<u>Notes</u>	
22	Federal Income Tax Rate	34.00%
23	Federal Benefit of State Tax -(Line 23 * Line 26)	-2.89%
24	(1) Effective Federal Income Tax Rate	31.11%
25	(2) State Income Tax Rate	8.50%
26	Unitil Energy Systems Tax Rate (Line 25 + Line 26)	39.61%

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

Schedule RevReq-3-12
Page 2 of 4

LINE NO.	(1) DESCRIPTION	(2) AMOUNT
1	Ratemaking Interest Synchronization:	
2	Rate Base ⁽¹⁾	\$ 152,951,401
3	Cost of Debt In Proposed Rate of Return ⁽²⁾	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><u>\$ (635,640)</u></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 ⁽¹⁾	(4) 5 QUARTER AVERAGE	(5) RATE BASE AT DECEMBER 31, 2015	(6) PRO FORMA ADJUSTMENTS	(7) 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	\$ 282,666,854
2	Less: Reserve for Depreciation	Schedule RevReq-4-1	95,309,005	95,254,000	98,980,036	-	98,980,036
3	Net Utility Plant		172,033,513	170,496,656	173,806,651	9,880,166	183,686,818
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 ⁽²⁾	Schedule RevReq-4-2	2,446,229	2,446,229	2,446,229	212,922	2,659,151
6	Prepayments	Schedule RevReq-4-1	8,146,890	7,994,012	7,616,460	-	7,616,460
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	12,244,608
9	Less: Net Deferred Income Taxes	Schedule RevReq-4-1	\$ 40,299,341	\$ 42,396,388	\$ 41,720,083	-	\$ 41,720,083
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	\$ 152,951,401
14	Net Operating Income Applicable To Rate Base		\$ 11,609,284	\$ 11,609,284	\$ 11,609,284		\$ 9,605,687
15	Rate of Return		8.08%	8.18%	8.13%		6.28%

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	272,786,687	266,419,104	264,799,408	262,849,733	261,898,348	265,750,656
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	\$ 1,410,324	\$ 1,488,648	\$ 1,550,860	\$ 1,425,560	\$ 1,322,969	\$ 1,439,672
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	\$ 558,673	\$ 631,540	\$ 704,407	\$ 777,274	\$ 850,141	\$ 704,407
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	\$ 41,720,083	\$ 41,678,721	\$ 40,521,237	\$ 49,183,300	\$ 38,878,599	\$ 42,396,388
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

	(1)	(2)	(3)	(4)	(5)
LINE NO.	DESCRIPTION	REFERENCE	TEST YEAR ACTUAL	PROFORMA ADJUSTMENTS	TEST YEAR AS PROFORMED
1	O&M Expense	Schedule RevReq-2	20,501,605	668,407	21,170,012
2	Taxes and Interest Expense	Schedule RevReq-2	12,263,170	2,183,474	14,446,644
3	Total		\$ 32,764,775	\$ 2,851,881	\$ 35,616,656
4	Cash Working Capital Requirement:				
5	Other O&M Expense Days Lag ⁽¹⁾ / 365	27 days	7.47%	7.47%	7.47%
6	Total Cash Working Capital	Line 5 X Line 3	\$ 2,446,229	\$ 212,922	\$ 2,659,152

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 ⁽¹⁾	<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

LINE NO.	(1) DESCRIPTION	(2) 2014	(3) 2013	(4) 2012	(5) 2011	(6) 2010
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

LINE NO.	(1) DESCRIPTION	(2)	(3)	(4)	(5)	(6)
		2014	2013	2012	2011	2010
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) DATE ISSUED	(3) TERM	(4) FACE VALUE	(5) OUTSTANDING AMOUNT	(6) PROFORMA ADJUSTMENT	(7) PROFORMED OUTSTANDING AMOUNT	(8) ISSUANCE COSTS	(9) PROCEEDS RATIO [(5)-(9)]/(5)	(10) UNAMORTIZED ISSUANCE COSTS	(11) NET PROCEEDS OUTSTANDING (8)-(11)	(12) ANNUAL ISSUANCE COST	(13) ANNUAL INTEREST COST Rate * (8)	(14) TOTAL ANNUAL COST (13)+(14)	(15) 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

LINE NO.	(1) DESCRIPTION	(2) AMOUNT
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 ⁽¹⁾
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

LINE NO.	(1) DESCRIPTION	(2) AMOUNT
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>

UNITIL ENERGY SYSTEMS, INC.
SCHEDULE OF DEPRECIATION ACCRUAL RATES @12/31/2015
SCHEDULE A
WHOLE LIFE SCHEDULE WITH RESERVE VARIANCE

DE 10-055 Settlement ASLs & N.S. @1/20/2011
2009 Study Iowa curves

ACCOUNT NUMBER	DESCRIPTION	PLANT BALANCE @12/31/2015	DISP TYPE	ASL	ACCRUAL RATE W/O NET SALV.	ACCRUAL WITHOUT NET SALV.	NET SALV. %	SALV. FACTOR	ACCRUAL RATE W/ NET SALV.	ACCRUAL WITH NET SALV.	THEO. RSV. WITHOUT NET SALV.	THEO. RSV. WITH NET SALV.	BOOK RSV. @12/31/2015	RESERVE VARIANCE	ARL	COR RATE
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
<u>DISTRIBUTION PLANT</u>																
343.00	PRIME MOVERS	56,575	S 3.0	14.7	6.80	3,847	0	1.00	6.80	3,847	22,282	22,282	17,747	4,535	8.9	0.00%
361.00	STRUCTURES & IMPROVEMENTS	167,773	L 1.5	51.3	1.95	3,272	-28.2	1.28	2.50	4,194	87,429	112,084	143,327	-31,243	24.6	0.55%
362.00	STATION EQUIPMENT	23,730,448	S 1.5	50.1	2.00	474,609	-33.4	1.33	2.66	631,230	5,805,316	7,744,292	7,364,421	379,871	37.8	0.66%
364.00	POLES, TOWERS, & FIXTURES	54,781,196	S 1.0	40.2	2.49	1,364,052	-52.8	1.53	3.80	2,081,685	14,275,263	21,812,602	22,341,062	-528,460	29.7	1.31%
365.00	OH CONDUCTORS & DEVICES	71,213,961	L 1.0	38.3	2.61	1,858,684	-43.1	1.43	3.74	2,663,402	15,170,536	21,709,037	22,691,293	-982,256	30.1	1.13%
366.00	UNDERGROUND CONDUIT	1,841,623	R 2.5	55.1	1.81	33,333	-14.9	1.15	2.09	38,490	491,750	565,021	587,417	-22,396	40.4	0.28%
367.00	UG CONDUCTORS & DEVICES	18,242,829	R 1.5	51.1	1.96	357,559	-33.4	1.33	2.61	476,138	3,460,292	4,616,030	6,939,941	-2,323,911	41.4	0.65%
<u>LINE TRANSFORMERS</u>																
368.10	LINE TRANSFORMERS	24,590,384	R 3.0	34.3	2.92	718,039	-5.2	1.05	3.07	754,925	8,894,674	9,357,197	8,931,881	425,316	21.9	0.15%
368.20	TRANSFORMER INSTALLATIONS	<u>18,572,941</u>	R 3.0	34.3	2.92	<u>542,330</u>	-1.1	1.01	2.95	<u>547,902</u>	<u>4,725,209</u>	<u>4,777,186</u>	<u>3,997,430</u>	<u>779,756</u>	25.6	0.03%
	<u>TOTAL ACCOUNT 368</u>	43,163,325		34.3	2.92	1,260,369		1.03	3.02	1,302,827	13,619,883	14,134,383	12,929,311	1,205,072		
369.00	SERVICES	20,341,811	R 3.0	26.5	3.77	766,886	-54.4	1.54	5.83	1,185,928	7,574,947	11,695,718	13,235,456	-1,539,738	16.6	2.06%
<u>METERS</u>																
370.10	METERS	9,636,392	S 3.0	19.7	5.08	489,529	0	1.00	5.08	489,529	3,890,233	3,890,233	2,066,303	1,823,930	11.7	0.00%
370.20	METER INSTALLATIONS	<u>4,027,591</u>	S 3.0	19.7	5.08	<u>204,602</u>	0	1.00	5.08	<u>204,602</u>	<u>1,622,566</u>	<u>1,622,566</u>	<u>-2,077,150</u>	<u>3,699,716</u>	11.8	0.00%
	<u>TOTAL ACCOUNT 370</u>	13,663,983		19.7	5.08	694,131		1.00	5.08	694,131	5,512,799	5,512,799	-10,847	5,523,646		
371.00	INSTALL. ON CUSTOMERS' PREMISES	1,886,935	S -.5	16.6	6.02	113,593	-29.3	1.29	7.79	146,992	459,052	593,554	363,888	229,666	12.6	1.77%
373.00	ST. LIGHTING & SIGNAL SYSTEMS	<u>3,237,653</u>	R 1.0	16.6	6.02	<u>194,907</u>	-33.4	1.33	8.04	<u>260,307</u>	<u>1,293,815</u>	<u>1,725,949</u>	<u>1,881,836</u>	<u>-155,887</u>	10.0	2.02%
	<u>TOTAL DEPREC. DISTRIBUTION PLANT</u>	252,328,112		35.4	2.82	7,125,242		1.33	3.76	9,489,171	67,773,364	90,243,751	88,484,852	1,758,899		
<u>GENERAL PLANT</u>																
390.00	STRUCTURES & IMPROVEMENTS	3,787,332	R 2.5	43.0	2.33	88,245	10.5	0.90	2.08	78,777	1,460,323	1,306,989	1,804,666	-497,677	26.4	0.00%
391.10	OFFICE FURNITURE	267,375	L 2.0	15.0	6.67	17,834	12.5	0.88	5.83	15,588	145,657	127,450	-525,150	652,600	6.8	0.00%
393.00	STORES EQUIPMENT	79,908	R 5.0	29.0	3.45	2,757	2.5	0.98	3.36	2,685	49,002	47,777	58,463	-10,686	11.2	0.00%
394.00	TOOLS, SHOP & GARAGE EQUIPMENT	1,539,171	R 2.0	25.0	4.00	61,567	9.0	0.91	3.64	56,026	563,789	513,048	672,614	-159,566	15.8	0.00%
395.00	LABORATORY EQUIPMENT	792,711	SQ	25.0	4.00	31,708	2.5	0.98	3.90	30,916	270,938	264,165	297,321	-33,156	16.5	0.00%
397.00	COMMUNICATION EQUIPMENT	3,772,058	S 3.0	15.0	6.67	251,596	1.0	0.99	6.60	248,956	1,750,187	1,732,685	2,978,647	-1,245,962	8.0	0.00%
398.00	MISCELLANEOUS EQUIPMENT	<u>102,943</u>	R 4.0	20.0	5.00	<u>5,147</u>	2.5	0.98	4.88	<u>5,024</u>	<u>73,694</u>	<u>71,852</u>	<u>77,433</u>	<u>-5,581</u>	5.7	0.00%
	<u>TOTAL DEPREC. GENERAL PLANT</u>	10,341,498		22.6	4.44	458,854		0.95	4.24	437,972	4,313,590	4,063,966	5,363,994	-1,300,028		
	<u>TOTAL DEPREC. ELECTRIC PLANT</u>	262,669,610		34.7	2.89	7,584,096		1.31	3.78	9,927,143	72,086,954	94,307,717	93,848,846	458,871		
301.00	ORGANIZATION	380														
303.00	INTANGIBLE SOFTWARE - 5 YEAR	3,958,942											3,273,350			
303.10	INTANGIBLE SOFTWARE - 3 YEAR	87,196											87,196			
303.10	INTANGIBLE SOFTWARE - 10 YEAR	2,307,249											721,991			
360.10	DISTRIBUTION LAND	991,116														
360.20	DISTRIBUTION RIGHTS OF WAY	1,674,812														
389.00	GENERAL LAND	18,620														
391.03	COMPUTER EQUIPMENT	0											518			
392.00	TRANSPORTATION EQUIPMENT	<u>1,078,761</u>											-135,621			
	<u>TOTAL ELECTRIC PLANT</u>	272,786,686											97,796,280			

WHOLE LIFE SCHEDULE WITH RESERVE VARIANCE

EXPLANATORY NOTES

The Schedule includes indicated (theoretical) reserves both with and without net salvage, the book reserve, and the reserve variance.

The following is an explanation of each column of the Schedule:

1. Column (1) presents the book balance for each account or sub-account at the indicated date.
2. Column (2) labeled "DISP TYPE" is designated as either Forecast or some selected "Iowa" curve type as discussed in the text.
3. Column (3) indicates the direct weighted average dollar service life in years for each investment group, except where Column (3) shows "Forecast", in which instance the life is a harmonically weighted average dollar service life. Another exception is any life which is a composite of two or more locations and/or two or more accounts (or sub-accounts), in which case the composite life is a harmonically weighted composite life derived by dividing the sum of accruals for the group into the depreciable balance of Column (1).
4. Column (4) is the unadjusted whole life accrual rate developed by dividing unity by Column (3), and expressing the quotient as a percentage.
5. Column (5) is the whole life accrual with no salvage adjustment, based upon the average service life associated with each investment group. These accruals are developed by multiplying Column (1) by Column (4).
6. Column (6) is the total ASL percent net salvage expectation; net salvage equals gross salvage minus removal cost.
7. Column (7) is the total ASL net salvage factor, derived by subtracting the (signed) net salvage ratio from unity; e.g., a salvage factor of 1.10 is the result of 1.00 minus an expected net salvage ratio of minus 0.10; i.e., $1.00 - (-0.10) = 1.10$.
8. Column (8) is the whole life accrual rate, reflecting adjustment for net salvage expectations; it is developed by multiplying Column (4) by Column (7), and expressing the product as a percentage.
9. Column (9) is the whole life accrual, adjusted for net salvage expectations. It is developed by multiplying Column (8) by Column (1).

WHOLE LIFE SCHEDULE WITH RESERVE VARIANCE

EXPLANATORY NOTES

10. Column (10) shows indicated depreciation reserves, unadjusted for net salvage expectations, calculated on the basis of the average service life and dispersion characteristics (or forecasts) associated with each investment group.
11. Column (11) is the indicated depreciation reserve, adjusted for net salvage expectations by multiplying Column (10) by Column (7).
12. Column (12) "BOOK RSV. "@12/31/2015" contains the Company's book reserves by account or sub-accounts.
13. Column (13) shows the difference between adjusted indicated reserves (Column 11) and book reserves (Column 12); i.e., Column (11) minus Column (12).
14. Column (14), "ARL" (Average Dollar Remaining Life) contains the weighted average dollar remaining life.
15. The column labeled "ANNUAL COR RATE" is the cost of removal percent that is included in the accrual rate with net salvage.

UNITIL ENERGY SYSTEMS, INC.
2016 RATE PLAN OUTLINE

1.0 PURPOSE AND EFFECTIVE DATE

1.1 Purpose

The purpose of the 2016 Rate Plan is to establish a procedure that allows Unitil Energy Systems, Inc. (“Unitil Energy” or the “Company”), subject to the jurisdiction of the New Hampshire Public Utilities Commission (the “Commission”), to obtain recovery of the incremental revenue requirement associated with capital additions and the related expenses, as defined herein. Additionally, the 2016 Rate Plan provides for consumer protections, including a cap for rate increases as well as earnings sharing.

1.2 Effective Date

The rate adjustments associated with each Investment Year beginning on and after January 1, 2016 shall be effective May 1 of the following year with a compliance filing due by the last day of February as outlined below:

Investment Year	Rate Year	Compliance Filing Due
January 1-December 31, 2016	May 1, 2017-April 30, 2018	February 28, 2017 ¹
January 1-December 31, 2017	May 1, 2018-April 30, 2019	February 28, 2018
January 1-December 31, 2018	May 1, 2019-April 30, 2020	February 28, 2019
January 1-December 31, 2019	May 1, 2020-April 30, 2021	February 29, 2020
January 1-December 31, 2020	May 1, 2021-April 30, 2022	February 28, 2021

¹ The Company proposes to present Investment Year 2016 during the rate case proceeding for effect with permanent rates on May 1, 2017.

2.0 ELIGIBLE PLANT ADDITIONS

All utility Plant Additions will be eligible for recovery upon Commission review and approval of the annual compliance filing. The 2016 Rate Plan will recover the revenue requirement associated with 80% of the annual Change in Net Plant.

3.0 REVENUE REQUIREMENT

An illustrative calculation of the Revenue Requirement is provided in Schedule DLC-3. Revenue Requirement is the sum of the following for each Investment Year:

- Pre-Tax Rate of Return applied to the annual Change in Net Plant multiplied by a factor of 80%;
- Depreciation Expense on annual Plant Additions multiplied by a factor of 80%; and
- Property Taxes on the annual Change in Net Plant multiplied by a factor of 80%.

4.0 VEGETATION MANAGEMENT AND RELIABILITY ENHANCEMENT EXPENSES

In the Company's annual compliance filing, the Company will continue to reconcile actual vegetation management and reliability enhancement O&M expenses with test year costs in Docket No. DE 16-384. Any over- or under-collection shall be reflected in the Company's External Delivery Charge mechanism. With approval of the Commission, the Company may credit unspent amounts to future vegetation management program O&M expenditures.

5.0 CUSTOMER PROTECTIONS

5.1 Rate Cap

Changes to distribution rates as calculated by the 2016 Rate Plan in any Rate Year are limited to a rate cap of 2% of the Company's prior year total electric operating revenue. Any part of the Revenue Requirement that is above the cap will be deferred at the Company's cost of capital established in Docket No. DE 16-384.

5.2 Earnings Sharing

Earnings sharing will be triggered if return on equity as submitted in its annual PUC 308.11 F-1 filing exceeds 11%. If return on equity exceeds 11%, then excess earnings will be shared equally between the distribution ratepayers and the Company.

5.3 Stay Out Provision

Except as specifically provided for under the 2016 Rate Plan, the Company may not petition the Commission for distribution base rate adjustments through the end of calendar year 2021. However, if the Company's return on equity is below 7% as submitted in the Company's annual PUC 308.11 F-1 filing, then the Company may petition the Commission for a distribution base rate adjustment before 2021.

5.4 Exogenous Events

During the term of this 2016 Rate Plan, the Company will be allowed to adjust distribution rates upward or downward resulting from a singular (not collective) exogenous event, as defined herein. For any of the events defined as a State Initiated Cost Change, Federally Initiated Cost Change, Regulatory Cost Reassignment, or Externally Imposed Accounting Rule Change, during the term of this Plan, the Company will be allowed to adjust distribution rates upward or downward (to the extent that the revenue impact of such event is not otherwise captured through another rate mechanism that has been approved by the Commission) if the total distribution revenue impact (positive or negative) of such event exceeds \$200,000.

6.0 EXCESSIVE INFLATION

If the average rate of inflation for calendar years 2017, 2018, 2019 or 2020, as measured by annual changes in the "Gross Domestic Product Implicit Price Deflator," exceeds 4 percent, the Company will be allowed, pursuant to the procedure described to increase its distribution revenues effective May 1, 2018, May 1, 2019, May 1, 2020 and May 1, 2021, respectively. The amount of increase to distribution revenue shall be equal to the amount by which such average inflation rate exceeds 4 percent multiplied by actual O&M expense in calendar year 2017, 2018, 2019 and 2020, respectively.

7.0 RATE DESIGN

For the rate adjustments in section 3.0 above, the revenue requirement increase shall be applied proportionally to all customer classes based on distribution revenue, using current distribution rates and test year billing determinants established in Docket No. DE 16-384. The increase shall be collected through customer, demand or energy charges as applicable for all rate classes, except for outdoor lighting, where the increase shall be applied on an equal percentage basis to all luminaire charges.

For earnings sharing and exogenous events in section 5.0 above, rate adjustments shall also be applied proportionally to all customer classes based on distribution revenue, using current distribution rates and test year billing determinants established in Docket No. DE 16-384. The charge or credit shall be made through demand or energy usage charges, as applicable, for all

rate classes, except for outdoor lighting, where the amount shall be applied on an equal percentage basis to all luminaire charges. There will be no change in the customer charge.

8.0 DEFINITIONS

- 1) Accumulated Depreciation is the cumulative net credit balance arising from the provision for Depreciation Expense.
- 2) Change in Net Plant is the change in Ending Net Utility Plant from one Investment Year to the next which accounts for Plant Additions as well as Accumulated Depreciation.
- 3) Depreciation Expense is established at 3.74% and is based on the average depreciation rate provided in Docket No. DE 16-384
- 4) Ending Net Utility Plant is the “per books” utility Plant Additions for plant in service after Accumulated Depreciation is deducted. Ending Net Utility Plant will match that supplied on the Company’s FERC Form 1.
- 5) Externally Imposed Accounting Rule Change shall be deemed to have occurred if the Financial Accounting Standards Board or the Securities and Exchange Commission adopts a rule that requires utilities to use a new accounting rule that is not being utilized by the Company as of January 1, 2017.
- 6) Federally Initiated Cost Change shall mean any externally imposed changes in the federal tax rates, laws, regulations, or precedents governing income, revenue, or sales taxes or any changes in federally imposed fees, which impose new obligations, duties or undertakings, or remove existing obligations, duties or undertakings, and which individually decrease or increase the Company’s distribution costs, revenue, or revenue requirement.
- 7) Investment Year is the annual period beginning January 1 and ending December 31 of each calendar year 2016 through 2020 for which capital investments are made by the Company and placed in service.
- 8) Plant Additions are the capitalized costs of plant placed in service as recorded on the Company’s books during the Investment Year. In Investment Year 2016, the Kingston substation addition is excluded as it is embedded in base rates via Docket No. DE 16-384.

- 9) Pre-Tax Rate of Return is 12.19% which is established based on the cost of capital and a tax gross up on common stock equity per Docket No. DE 16-384.
- 10) Property Taxes are established at a rate of 3.11%, representing the average system property taxes paid as a percent of net plant in the test year for Docket No. DE 16-384. This percentage will be updated annually to reflect the most recent property tax costs.
- 11) Rate Year is the annual period May 1 through April 30, following the Investment Year.
- 12) State Initiated Cost Change shall mean any externally imposed changes in state or local law or regulatory mandates or changes in other precedents governing income, revenue, sales, franchise, or property or any new or amended regional, state or locally imposed fees (but excluding the effects of routine annual changes in municipal, county and state property tax rates and revaluations), which impose new obligations, duties or undertakings, or remove existing obligations, duties or undertakings, and which individually decrease or increase the Company's distribution costs, revenue, or revenue requirement.
- 13) Regulatory Cost Reassignment shall mean the reassignment of costs and/or revenues now included in the generation, transmission, or distribution functions to or away from the distribution function by the Commission, FERC, NEPOOL, the ISO or any other official agency having authority over such matters.

Illustrative Revenue Requirement - 2016 Rate Plan

Line No.	Description	Rate Effective Date				
		5/1/2017	5/1/2018	5/1/2019	5/1/2020	5/1/2021
		Investment Year 2016	Investment Year 2017	Investment Year 2018	Investment Year 2019	Investment Year 2020
1	Beginning Utility Plant ⁽¹⁾	\$ 282,666,854	\$ 297,088,901	\$ 318,917,357	\$ 337,774,896	\$ 355,199,165
2	Plant Additions ⁽²⁾	14,422,048	21,828,456	18,857,539	17,424,269	20,104,395
3	Ending Utility Plant	297,088,901	318,917,357	337,774,896	355,199,165	375,303,560
4	Beginning Accumulated Depreciation	(98,980,036)	(109,435,643)	(120,569,135)	(132,463,455)	(145,036,244)
5	Depreciation Expense	(10,455,607)	(11,133,492)	(11,894,320)	(12,572,790)	(13,274,576)
6	Ending Accumulated Depreciation	(109,435,643)	(120,569,135)	(132,463,455)	(145,036,244)	(158,310,820)
7	Ending Net Utility Plant	187,653,258	198,348,222	205,311,442	210,162,921	216,992,740
8	Change in Net Plant	3,966,441	10,694,964	6,963,219	4,851,479	6,829,819
9	80% of Change in Net Plant	3,173,152	8,555,971	5,570,575	3,881,183	5,463,855
10	Pre-Tax Rate of Return	12.19%	12.19%	12.19%	12.19%	12.19%
11	Return and Taxes	386,848	1,043,083	679,125	473,166	666,115
12	Depreciation Expense on 80% of Plant Additions (3.74%)	431,508	653,107	564,218	521,334	601,523
13	Property Taxes on 80% Change in Net Plant (3.11%)	98,685	266,091	173,245	120,705	169,926
14	Revenue Requirement	\$ 917,041	\$ 1,962,281	\$ 1,416,587	\$ 1,115,205	\$ 1,437,564
15	Rate Cap Limit:					
16	Revenue Requirement	\$ 917,041	\$ 1,962,281	\$ 1,416,587	\$ 1,115,205	\$ 1,437,564
17	Prior Year Deferred Revenue Requirement	-	-	-	-	-
18	Total Revenue Requirement	917,041	1,962,281	1,416,587	1,115,205	1,437,564
19	Total Electric Operating Revenue	154,664,500	154,664,500	154,664,500	154,664,500	154,664,500
20	Percent Limit	2.00%	2.00%	2.00%	2.00%	2.00%
21	Maximum Revenue Requirement Increase	3,093,290	3,093,290	3,093,290	3,093,290	3,093,290
22	Allowable Revenue Requirement (Min of Line 18 or 21)	\$ 917,041	\$ 1,962,281	\$ 1,416,587	\$ 1,115,205	\$ 1,437,564

Notes:

(1) Beginning utility plant corresponds to RevReq-4 pro forma rate base and includes \$9.88 mm related to Kingston substation which went into service in April 2016

(2) Forecasted plant additions less Kingston substation. See Page 2 Line 3

Forecasted Plant Additions and Depreciation for the Year Ended December 31, 20XX

Line No.	Description	2016	2017	2018	2019	2020
1	Projected Capital Expenditures	24,302,214	21,828,456	18,857,539	17,424,269	20,104,395
2	Less: Kingston Substation	9,880,166	-	-	-	-
3	Net Capital Expenditures	14,422,048	21,828,456	18,857,539	17,424,269	20,104,395
4	Annual Depreciation	3.74%				
5	2015 Depreciation	10,185,915	10,185,915	10,185,915	10,185,915	10,185,915
6	2016 Plant Additions	269,692	539,385	539,385	539,385	539,385
7	2017 Plant Additions		408,192	816,384	816,384	816,384
8	2018 Plant Additions			352,636	705,272	705,272
9	2019 Plant Additions				325,834	651,668
10	2020 Plant Additions					375,952
11	Total	10,455,607	11,133,492	11,894,320	12,572,790	13,274,576

Pre-Tax Rate of Return
December 31, 2015 Pro Forma

Line No.	Description	Amount	Proforma Adjustment	Proformed Amount	Weight	Cost of Capital	Weighted Cost of Capital	Tax Factor	Pre-Tax Cost
1	Common Stock Equity	\$ 77,284,950	\$ -	\$ 77,284,950	50.97%	10.30%	5.25%	1.6559	8.69%
2	Preferred Stock Equity	189,800	-	189,800	0.13%	6.00%	0.01%		0.01%
3	Long Term Debt	77,000,000	(3,000,000)	74,000,000	48.80%	7.15%	3.49%		3.49%
4	Short Term Debt	161,783	-	161,783	0.11%	1.54%	0.00%		0.00%
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>		<u>12.19%</u>

UNITIL ENERGY SYSTEMS, INC.
COMPUTATION OF REVENUE REQUIREMENT FOR TEMPORARY RATES
12 MONTHS ENDED DECEMBER 31, 2015

LINE NO.	(1) DESCRIPTION	(2) REFERENCE	(3) AMOUNT	
1	Rate Base	2015 Test Year-End Rate Base ⁽¹⁾	\$ 152,738,479	
2	Rate of Return ⁽²⁾	Current Allowed Overall Return	8.43%	Schedule DLC-4 Page 2 of 3
3	Income Required	Line 1 * Line 2	12,875,854	
4	Adjusted Net Operating Income ⁽³⁾	Schedule RevReq 2 Line 21	11,057,776	
5	Deficiency	Line 3 - Line 4	1,818,078	
6	Income Tax Effect	Line 7 - Line 5	1,192,483	
7	Revenue Deficiency for Temporary Rates	1.6559 (Schedule RevReq 1-1) * Line 5	\$ 3,010,561	

Notes:

(1) 2015 test year-end rate base plus Kingston substation

(2) Assumes current rate case capital structure and debt costs. ROE set at 9.67% currently allowed in rates

(3) Per books Distribution Operating Income adjusted for Kingston substation and interest synchronization

UNITIL ENERGY SYSTEMS, INC.
WEIGHTED AVERAGE COST OF LONG-TERM DEBT
DECEMBER 31, 2015 PRO FORMA ROE SET AT CURRENTLY AUTHORIZED

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%	9.67%	4.93%	Amount Currently Authorized
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>8.43%</u>	

Proposed Temporary Rate

Temporary Rate Increase	\$3,010,561
Test Year kWh Sales	1,214,203,082
Temporary Rate \$/kWh	\$0.00248
\$ Impact on a 600 kWh residential bill	\$1.49

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
OPERATING REVENUES															
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	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
Total Electric Service Revenue	2,072,022.29	204,007.66	763,243.94	24,695,328.46	177,556.11	61,713,979.62	4,163,730.15	3,186,035.48	238,077.84	(123,191.98)	2,682,028.98	(6,701.58)	99,766,116.97	52,938,677.94	152,704,794.91
Other Operating Revenues:															
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
Total Other Operating Revenues	561,698.84	-	-	-	-	-	-	-	-	154,168.09	-	6,701.58	722,568.51	1,237,136.49	1,959,705.00
TOTAL OPERATING REVENUES	2,633,721.13	204,007.66	763,243.94	24,695,328.46	177,556.11	61,713,979.62	4,163,730.15	3,186,035.48	238,077.84	30,976.11	2,682,028.98	-	100,488,685.48	54,175,814.43	154,664,499.91
OPERATING EXPENSES															
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
Total O & M Expenses	2,411,322.13	204,007.66	763,243.94	24,284,293.64	177,556.11	61,639,991.51	4,166,638.21	3,279,284.59	245,174.41	46,088.68	-	-	97,217,600.88	20,724,993.67	117,942,594.55
Other Operating Expenses:															
Deprtn. & amort. (403)	-	-	-	-	-	-	-	-	-	-	-	-	-	9,639,845.25	9,639,845.25
Amort. (404-407)	-	-	-	-	-	-	-	-	-	-	2,682,028.98	-	2,682,028.98	1,748,355.45	4,430,384.43
Taxes-Other Than Inc. (408)	-	-	-	-	-	-	-	-	-	-	-	-	-	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
Total Other Operating Expenses	-	-	-	-	-	-	-	-	-	-	2,682,028.98	-	2,682,028.98	21,028,862.40	23,710,891.38
TOTAL OPERATING EXPENSES	2,411,322.13	204,007.66	763,243.94	24,284,293.64	177,556.11	61,639,991.51	4,166,638.21	3,279,284.59	245,174.41	46,088.68	2,682,028.98	-	99,899,629.86	41,753,856.07	141,653,485.93
NET UTILITY OPERATING INCOME	222,399.00	-	-	411,034.82	-	73,988.11	(2,908.06)	(93,249.11)	(7,096.57)	(15,112.57)	-	-	589,055.62	12,421,958.36	13,011,013.98
OTHER INCOME & DEDUCTIONS															
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
Net Other Income & Deductions	-	-	-	(411,034.82)	-	(73,988.11)	2,908.06	93,249.11	7,096.57	-	-	-	(381,769.19)	560,442.96	178,673.77
GROSS INCOME	222,399.00	-	-	-	-	(0.00)	0.00	0.00	(0.00)	(15,112.57)	-	-	207,286.43	12,982,401.32	13,189,687.75
Interest Charges (427 - 432)	-	-	-	-	-	-	-	-	-	-	-	-	-	5,979,810.74	5,979,810.74
NET INCOME	222,399.00	-	-	-	-	(0.00)	0.00	0.00	(0.00)	(15,112.57)	-	-	207,286.43	7,002,590.58	7,209,877.01
Less: Pref. Dividend Req.	-	-	-	-	-	-	-	-	-	-	-	-	-	12,178.50	12,178.50
EARN. AVAIL. FOR COMMON STOCK	\$ 222,399.00	\$ -	\$ -	\$ -	\$ -	\$ (0.00)	\$ 0.00	\$ 0.00	\$ (0.00)	\$ (15,112.57)	\$ -	\$ -	\$ 207,286.43	\$ 6,990,412.08	\$ 7,197,698.51

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
Net Regulatory Asset	\$ 850,141	\$ 825,852	\$ 801,563	\$ 777,274	\$ 752,985	\$ 728,696	\$ 704,407	\$ 680,118	\$ 655,829	\$ 631,540	\$ 607,251	\$ 582,962	\$ 558,673
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	1,987,782
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 - DEF 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
10-20-00-00-2820149 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)	(4,597,805)	(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)	(8,055,075)	(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	167,695	158,016	158,016	153,227	148,437	143,646	122,257	117,468	112,678	99,588	94,799	90,009	76,949
10-20-00-00-2820167 DEF FIT - STORM RESTORATION	3,621,378	3,548,163	3,708,971	3,515,414	3,474,681	3,386,020	3,307,386	3,226,195	3,118,835	3,028,346	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	561,111	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 - DEF 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	17,222	16,894	16,546	16,208	15,869	15,531	15,193	14,854	14,516	14,178	13,840	13,501	13,161
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)
10-20-00-00-2820261 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	39,174	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	37,939	36,630	35,321	34,012	32,703	31,394	30,085
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	788,949	767,217
10-20-00-00-2820300 DEF SIT (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 DEBTS	(292,716)	(298,416)	(260,661)	(282,684)	(238,552)	(243,798)	(271,860)	(236,254)	(270,049)	(273,147)	(268,784)	(262,096)	(152,828)
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	40,938	120,226	40,938	198,505	402,427
10-20-00-00-2821238 CURRENT - DEF SIT - BAD DEBTS	(79,979)	(81,536)	(77,221)	(77,238)	(65,180)	(65,613)	(74,281)	(64,552)	(73,796)	(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	(452,926)	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	(169,129)	0	0	47,073	0	0	(234,824)
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	(281,418)
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	(65,398)	0	0	(53,516)	0	0	(57,704)	0	0	(79,623)
Total Deferred Income Taxes (Before subtraction of SFAS 158)	(10,181,066)	(3,306,061)	(1,836,821)	(0)	(5,216,769)	(6,497,166)	(13,622,357)	(6,037,414)	(6,528,659)	(14,140,190)	(7,533,326)	(6,929,969)	(14,396,403)
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 SIT - 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
Total: Accum. Deferred Inc. Taxes - Other Prop	34,973,591	35,232,014	35,493,057	35,884,662	35,968,708	36,233,946	38,133,291	36,677,447	36,876,597	39,675,488	37,285,701	37,139,064	39,611,108
Total Deferred Income Taxes	\$ 24,792,526	\$ 31,925,953	\$ 33,656,236	\$ 35,884,662	\$ 30,751,939	\$ 29,736,780	\$ 24,510,934	\$ 30,640,033	\$ 30,347,939	\$ 25,535,298	\$ 29,752,374	\$ 30,209,094	\$ 25,214,705
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)
Total Rate Base Deferred Taxes	\$ 38,878,599	\$ 37,857,624	\$ 37,905,423	\$ 49,183,300	\$ 38,116,901	\$ 38,112,855	\$ 40,521,237	\$ 38,948,973	\$ 38,856,139	\$ 41,678,721	\$ 39,031,923	\$ 39,024,723	\$ 41,720,083
Plus:													
Deferred Taxes Debt													
10-20-00-00-1900130 DEF FIT - CIAC	\$ 146,760	\$ 142,566	\$ 143,256	\$ 141,399	\$ 141,399	\$ 141,399	\$ 139,951	\$ 139,646	\$ 150,100	\$ 170,321	\$ 168,832	\$ 168,832	\$ 173,575
10-20-00-00-1900189 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	(40,936.02)	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
Total: Deferred Taxes Debts	\$ 1,204,563	\$ 181,516	\$ 182,394	\$ 11,237,870	\$ 180,030	\$ 180,030	\$ 178,187	\$ 177,798	\$ 191,109	\$ 216,854	\$ 214,959	\$ 214,959	\$ 220,997

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 ⁽¹⁾	<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 ⁽²⁾	<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 ⁽¹⁾				2016 Rates ⁽²⁾				- 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 ⁽³⁾									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 ⁽⁴⁾									(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 - UNITIL SERVICE CORP
 FOR THE 12 MONTHS ENDED DECEMBER 31, 2015

Line No.	Coverage	Employee Census ⁽¹⁾				2016 Rates ⁽²⁾				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 ⁽³⁾									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 ⁽⁴⁾									(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													\$ 49,999

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.
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	
<u>Calculation of Pension Expense, net of amounts chargeable to capital</u>				
<u>A. UES Pension Expense, net:</u>				
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>
<u>B. Unitil Service Pension Expense allocated to UES, net:</u>				
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	
<u>Calculation of PBOP Expense, net of amounts chargeable to capital</u>				
<u>A. UES PBOP Expense, net:</u>				
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>
<u>B. Unitil Service PBOP Expense allocated to UES, net:</u>				
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 ⁽¹⁾	\$ 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 ⁽¹⁾
	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 4.2

LINE NO.	DESCRIPTION	UNITIL SERVICE CORP. TOTAL ⁽¹⁾	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

Casualty & Property Insurance

Workpaper 4.3

		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/b ⁽¹⁾	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 ⁽²⁾	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 ⁽¹⁾	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 ⁽²⁾	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

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

Workpaper 4.4

DESCRIPTION	TOTAL
USC O&M Test Year	
12-30-08-00-9240100 PROPERTY INSURANCE	\$ 6,401
12-30-08-00-9250100 INJURIES & DAMAGES	122,741
Total	<u>\$ 129,142</u>
UES Apportionment	<u>28.32%</u>
UES Amount	\$ 36,573
Capitalization Rate	<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
Macroeconomic																								
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
Weather																								
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
Macroeconomic																								
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
Weather																								
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-010

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

	2015
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	8,043
Total	\$ 144,829
 UES Allocation	 28.32%
 Amount Billed to UES	 41,016

**Inflation Adjustment
Test Year Facility Leases**

Workpaper 5.3

	2015
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	59,888
Total	\$ 1,886,522
 UES Allocation	 28.32%
 Amount Billed to UES	 534,263

**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.
PAYROLL TAX ADJUSTMENT
12 MONTHS ENDED DECEMBER 21, 2015**

Workpaper 7.1

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

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
UNITIL SERVICE CORP.
12 MONTHS ENDED DECEMBER 31, 2015**

Workpaper 7.2

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

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%