

Attachment PMN-LL-1
Pro Forma Lead-Lag Summary

Unitil Energy Systems, Inc.
Cash Working Capital Requirements
12 Months Ended Dec 31, 2015
Lead Lag Summary

4/13/2016
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Line No	Annual Expense (1)	Revenue (Lead) Lag Days (2)	Expense (Lead) Lag Days (3)	Net (Lead) Lag Days (4)	Net Day Weighted Amount (5)	Source (6)
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Unitil Energy Systems, Inc.
Cash Working Capital Requirements
12 Months Ended Dec 31, 2015
Revenues Lag Summary

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Line No	Revenue Lag	Revenues Billed	(Lead) Lag Days	Source	Wtg Delivery Dollar Days
1	Service Lag		15.21	See Note 1	
2					
3	Billing Lag				
4	Cycle Read Customers		1.07	W/P Supporting Page 1	
5					
6	Collection Lag		42.16	W/P Supporting Page 1	
7					
8	Total Sales Revenues with Increase	<u>\$57,856,153</u>	<u>58.44</u>		<u>\$3,381,113,605</u>
9					
10	Late Charge Revenue	\$481,633	47.56	See Note 2	\$22,906,453
11					
12	Disconnect / Reconnect Charges	\$136,867	58.44	Line 8	\$7,998,507
13					
14	Enhanced Meter Revenue	\$23,635	30.42	W/P Supporting Page 9	\$718,905
15					
16	Rent from Electric Property - CATV	\$380,559	(30.42)	W/P Supporting Page 9	-\$11,575,328
17					
18	Miscellaneous Rent	\$63,341	30.42	W/P Supporting Page 9	\$1,926,637
19					
20	Other Electric Revenues	\$97,281	58.44	Line 8	\$5,685,112
21					
22	Line Extension Surcharge	\$11,825	58.44	Line 8	\$691,055
23					
24	Revenue From Trans of Electric of Others	\$41,995	58.44	Line 8	\$2,454,192
25					
26					
27	Total Revenue Lag	<u>\$59,093,290</u>	<u>57.74</u>		<u>\$3,411,919,139</u>

Notes:

1. Computed as 365/12/2
2. Fees are assessed on the next billing. Lag is computed as the collection lag on Line 6 plus the average of 5.4 grace period days from due date.

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Unitil Energy Systems, Inc.
Cash Working Capital Requirements
12 Months Ended Dec 31, 2015
Cost of Service Lead Lag Summary

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Line No	Revenue Req Amount	(Lead) Lag Days	Source	Weighted Amount
	1923146.31			
1	Operation & Maintenance Expense			
2	Labor - UES Direct Test Year	11.08	W/P Supporting Page 10	\$19,814,221
3	Labor - UES Incentive Test Year	222.52	W/P Supporting Page 10	\$7,255,344
4	Total UES Labor Test Year			\$27,069,566
5				
6	Labor - UES Direct Pro Forma Adj	11.08	W/P Supporting Page 10	\$1,495,641
7	Labor - UES Incentive Pro Forma Adj	222.52	W/P Supporting Page 10	-\$2,555,922
8	Total UES Labor Pro Forma Adj			-\$1,060,282
9	Total UES Labor Pro Forma	13.38		\$26,009,284
10				
11				
12	Pension & Benefits	112.66	W/P Supporting Page 65	\$277,817,263
13	Medical & Dental Insurances UES Pro Forma Adj	53.89	W/P Supporting Page 65	\$161,931
14	Pension UES Pro Forma Adj	371.75	W/P Supporting Page 65	-\$21,079,858
15	PBOP UES Pro Forma Adj	14.04	W/P Supporting Page 65	\$2,696,143
16	401K UES Pro Forma Adj	11.58	W/P Supporting Page 65	\$86,788
17	Acct 925 - General Liability & Fiduciary	(180.24)	W/P Supporting Page 94	-\$70,919,136
18	Property & Liability Insurances Pro forma Adj	(180.24)	W/P Supporting Page 94	-\$9,774,183
19	Acct 928 Regulatory Commission Assessment Fees	17.62	W/P Supporting Page 97	\$2,991,528
20	Automobile Leases	9.07	W/P Supporting Page 98	\$1,715,333
21	Acct 923 Service Company Charges	37.23	W/P Supporting Page 111	\$288,148,336
22	USC Labor Pro Forma Adj	37.23	W/P Supporting Page 111	\$7,728,869
23	USC Medical & Dental Insurances Pro Forma Adj	37.23	W/P Supporting Page 111	\$1,861,293
24	USC Pension Pro Forma Adj	37.23	W/P Supporting Page 111	-\$1,842,248
25	USC PBOP Pro Forma Adj	37.23	W/P Supporting Page 111	-\$1,542,913
26	USC 401K Pro Forma Adj	37.23	W/P Supporting Page 111	\$1,362,776
27	Inflation Adjustment	31.60	W/P Supporting Page 124	\$4,473,918
28	Other O&M Expenses	41.47	W/P Supporting Page 124	\$320,202,902
29	Total Oper & Maint Exp for Cash Working Capital	39.21		\$830,098,025
30				
31	Plus: Oper & Maint Items Excl form CWC Calculation			
32	Acct 904 Provision for Doubtful Accounts			\$223,389
33	Distribution Bad Debt Adj			\$171,290
34	Protected Receivables Expense Adj			\$344,439
35	Total Pro Forma Oper & Maint Exp			\$21,909,130
36				
37	Taxes Other Than Income Taxes			
38	Other Taxes Excluding Property Taxes	16.28	W/P Supporting Page 128	\$4,487,635
39	Payroll Taxes Pro Forma Adj	11.72	W/P Supporting Page 128	\$373,038
40	Property Taxes	(36.70)	W/P Supporting Page 129	-\$184,577,850
41	Property Taxes Pro Forma Adj	(36.70)	W/P Supporting Page 129	-\$37,802,035
42	Total Pro Forma Taxes Other Than Income	(34.16)		-\$217,519,211
43				
44	Income Taxes			
45	Federal Income Taxes Test Year	37.38	W/P Supporting Page 142	\$8,504,056
46	Federal Income Taxes Pro Forma Adj	37.38	W/P Supporting Page 142	-\$20,294,478
47	State Income Taxes Test Year	37.38	W/P Supporting Page 143	\$28,232,384
48	State Income Taxes Pro Forma Adj	37.38	W/P Supporting Page 143	-\$6,634,819
49	Federal Income Taxes on Increase	37.38	W/P Supporting Page 142	\$72,732,367
50	State Income Taxes on Increase	37.38	W/P Supporting Page 143	\$19,872,231
51	Total Pro Forma Income Taxes	37.38		\$102,411,742
52				
53	Interest Expense			
54	Test Year Interest Expense	69.46	W/P Supporting Page 144	\$414,996,363
55	Interest Expense Adj for Ratemaking	69.46	W/P Supporting Page 144	-\$44,148,417
56	Total Adjusted Interest Expense	69.46		\$370,847,946
57				
58				
59	Total Expenses for Cash Working Capital	30.49		\$1,085,838,502
60				

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Attachment PMN-LL-2
Qualifications of Paul M. Normand

PAUL M. NORMAND
Principal

Experience in the electric, gas, and water industry includes project management of various cost analyses, engineering system planning and design functions, detailed electric power loss analyses, as well as cost and contract functions for a manufacturer of nuclear equipment. Also, experienced in the analysis and preparation of economic data, revenue requirements and rate design for presentation before state and federal regulatory agencies. Presented expert testimony on behalf of utilities in over 30 applications before regulatory commissions.

EXPERIENCE:

- 1984 - Present **MANAGEMENT APPLICATIONS CONSULTING, INC.**
Principal consultant providing consulting services to industry in planning, pricing, and regulation. Extensive experience in analyzing power systems for power loss studies and unbundling issues.
- 1983 - 1984 **P. M. NORMAND ASSOCIATES**
Independent consultant providing services to the utility industry in cost analyses, rate design and expert testimony.
- 1976 - 1983 **GILBERT/COMMONWEALTH**, Reading, Pa.
Director, Rate Regulatory Services - Administrative and fiscal responsibility for rate and regulatory services nationally for electric, gas, and water utilities. Additional responsibilities included all marketing, research and development efforts, and contract negotiations for all studies performed by the Regulatory Service Department. Provided consulting service to utilities in project management, personnel staffing, and future development efforts.
- Manager, Austin, Texas Office - Responsibility for the overall administrative and business aspects for the department in the Southwest. Duties included the preparation of all aspects of rate cases and PURPA compliance studies.
- Senior Management Consultant - Responsibilities included project management of various electric and gas cost-of-service studies and the development of methodologies utilized in the analysis of time-differentiated average and marginal cost studies.

PAUL M. NORMAND / Page 2
(Continued)

Consulting Engineer - Prepared class and time-differentiated cost-of-service studies, revenue requirements exhibits, and expert testimony for formal rate proceedings before regulatory agencies. Performed forecasted ten-year cost-of-service studies by customer classes. Analyzed and prepared transmission (wheeling) rates based on cost-of-service.

Engineer - Derived system demand and energy loss factors and customer load characteristics required for cost-of-service results and related rate schedules.

1975 - 1976 **WESTINGHOUSE ELECTRIC CORPORATION**, Pittsburgh, PA
Responsible for the procurement of electrical/electronic control equipment and power cables for the nuclear reactor control system. Assisted in the development of procedures for the seismic testing of various electronic equipment related to reactor control.

1971 - 1974 **NEW ENGLAND ELECTRIC SYSTEM**, Westborough, Massachusetts
Experience from various system assignments in conjunction with formal education. Assigned to the Transmission and Distribution Department with responsibilities in several voltage conversion efforts and system planning. Development of network modeling techniques, load flow, and fault study analyses for the system planning department.

1966 - 1970 **U.S. NAVY**
Aviation electronic technician with responsibilities for maintenance and trouble-shooting of electronic communication equipment.

EDUCATION:

B.S.E.E., Electrical Engineering, Northeastern University, 1975
M.S.E.E., Electrical Power Systems, Northeastern University, 1975

Graduate Studies - MBA Program, Lehigh University and Albright College,
1977 to 1980

SOCIETIES:

Institute of Electrical and Electronic Engineers

APPEARANCES AS EXPERT WITNESS:

Federal Energy Regulatory Commission
Arkansas Public Service Commission
Delaware Public Service Commission
Indiana Utility Regulatory Commission
Illinois Commerce Commission
Kansas Corporation Commission
Kentucky Public Service Commission
Louisiana Public Service Commission
Maine Public Utilities Commission
Maryland Public Service Commission
Massachusetts Department of Public Utilities
Missouri Public Service Commission
New Hampshire Public Utilities Commission
New Jersey Board of Public Utilities
New York Public Service Commission
North Carolina Utilities Commission
Ohio Public Utilities Commission
Pennsylvania Public Utility Commission
Rhode Island Public Utilities Commission
Texas Public Utilities Commission

PAPERS AND PRESENTATIONS:

“Probability of Dispatch Costing Method for Electric Utility Cost-of-Service Analysis.” Co-authored with P. S. Hurley, presented to Edison Electric Institute Rate Research Committee May 4, 1982.

“Costing Strategies under Changing Marketing Goals and Long Term Investment Growth.” Presented to Missouri Valley Electric Association (MVEA), Kansas City, MO, November 13, 1991.

UNITIL ENERGY SYSTEMS, INC.

LEAD-LAG STUDY WORKPAPERS

**State of New Hampshire
Public Utilities Commission**

Docket No. DE 16-384

**UNITIL ENERGY SYSTEMS, INC.
INDEX TO
LEAD-LAG STUDY WORKPAPERS**

	<u>Page</u>
Revenue Lag	1
Other Revenues Lag.....	9
Non-ADP Payroll Lag.....	10
ADP Payroll Lag.....	51
Employee Pensions & Benefits Lag	65
Injuries and Damages Expense Lag.....	94
Regulatory Commission Expense Lag.....	97
Automobile Leases Lag	98
Service Company Charges Lag.....	111
Other O&M Lag.....	124
Taxes Other Than Income Lag	128
Property Tax Lag	129
Federal and State Income Taxes Lag	142
Interest on Long Term Debt Lag	144

Unitil Energy Systems, Inc.
Number of Days Delay Between Receipt of Revenue and
Distribution Services to Electric Customers
Based on 2015 Data

Line No.	Descripton	Customers Number of Days Delay
1	Revenue Lag:	
2	Receipt of Electric Service to Meter Reading	15.21 days
3	Meter Reading to Recording of Accounts Receivable	1.07 days
4	Billing to Collection	42.16 days
5	Subtotal Revenue Lag Days	58.44 days

**Receipt of Electric Service to Meter Reading
 Average Days Delay**

January 1, 2015 to December 31, 2015 Number of Days

December	
January	31
February	28
March	31
April	30
May	31
June	30
July	31
August	31
September	30
October	31
November	30
December	31

1 28 Day Month	1*28	28
4 30 Day Months	4*30	120
7 31 Day Months	7*31	<u>217</u>
	Total	365 days

365 Days / 12 Months / 2 = 15.21 days

**Unitil Energy Systems, Inc
Meter Reading to Recording of
Accounts Receivable**

<u>Month</u>	<u>Average Days</u>
January 2015	1.03
February 2015	1.09
March 2015	1.11
April 2015	1.02
May 2015	1.03
June 2015	1.04
July 2015	1.05
August 2015	1.04
September 2015	1.18
October 2015	1.14
November 2015	1.03
December 2015	1.04
Average	<u><u>1.07</u></u>

Unitil Energy Systems, Inc.
Meter Reading to Recording of
Accounts Receivable
Monthly Detail

January 2015

Days Lag	Number of Meters	Percent of Meters	Days Lag Multiplier	Weighted Days Lag
1	72,133	98.19%	1	0.98
2	851	1.16%	2	0.02
3	296	0.40%	3	0.01
4	41	0.06%	4	0.00
5	54	0.07%	5	0.00
6	15	0.02%	6	0.00
7	40	0.05%	7	0.00
8-14	16	0.02%	11	0.00
Over 14	14	0.02%	14	0.00
Total	73,460	100.00%		1.03

February 2015

Days Lag	Number of Meters	Percent of Meters	Days Lag Multiplier	Weighted Days Lag
1	67,801	92.26%	1	0.92
2	5,308	7.22%	2	0.14
3	259	0.35%	3	0.01
4	51	0.07%	4	0.00
5	37	0.05%	5	0.00
6	15	0.02%	6	0.00
7	6	0.01%	7	0.00
8 to 14	9	0.01%	11	0.00
Over 14	4	0.01%	14	0.00
Total	73,490	100.00%		1.09

March 2015

Days Lag	Number of Meters	Percent of Meters	Days Lag Multiplier	Wtd Days Lag
1	66,940	91.24%	1	0.91
2	5,315	7.24%	2	0.14
3	838	1.14%	3	0.03
4	184	0.25%	4	0.01
5	46	0.06%	5	0.00
6	8	0.01%	6	0.00
7	5	0.01%	7	0.00
8 to 14	19	0.03%	11	0.00
Over 14	12	0.02%	14	0.00
Total	73,367	100.00%		1.11

Unitil Energy Systems, Inc.
Meter Reading to Recording of
Accounts Receivable
Monthly Detail

April 2015

Days Lag	Number of Meters	Percent of Meters	Days Lag Multiplier	Wtd Days Lag
1	72,399	98.77%	1	0.99
2	645	0.88%	2	0.02
3	147	0.20%	3	0.01
4	62	0.08%	4	0.00
5	15	0.02%	5	0.00
6	9	0.01%	6	0.00
7	6	0.01%	7	0.00
8 to 14	15	0.02%	11	0.00
Over 14	-	0.00%	14	0.00
Total	73,298	100.00%		1.02

May 2015

Days Lag	Number of Meters	Percent of Meters	Days Lag Multiplier	Wtd Days Lag
1	72,102	98.27%	1	0.98
2	876	1.19%	2	0.02
3	312	0.43%	3	0.01
4	31	0.04%	4	0.00
5	17	0.02%	5	0.00
6	18	0.02%	6	0.00
7	1	0.00%	7	0.00
8 to 14	14	0.02%	11	0.00
Over 14	4	0.01%	14	0.00
Total	73,375	100.00%		1.03

June 2015

Days Lag	Number of Meters	Percent of Meters	Days Lag Multiplier	Wtd Days Lag
1	72,297	97.18%	1	0.97
2	1,307	1.76%	2	0.04
3	635	0.85%	3	0.03
4	63	0.08%	4	0.00
5	66	0.09%	5	0.00
6	8	0.01%	6	0.00
7	4	0.01%	7	0.00
8 to 14	16	0.02%	11	0.00
Over 14	2	0.00%	14	0.00
Total	74,398	100.00%		1.04

Unitil Energy Systems, Inc.
Meter Reading to Recording of
Accounts Receivable
Monthly Detail

July 2015

Days Lag	Number of Meters	Percent of Meters	Days Lag Multiplier	Wtd Days Lag
1	71,933	96.48%	1	0.96
2	2,043	2.74%	2	0.05
3	332	0.45%	3	0.01
4	187	0.25%	4	0.01
5	19	0.03%	5	0.00
6	6	0.01%	6	0.00
7	15	0.02%	7	0.00
8 to 14	17	0.02%	11	0.00
Over 14	2	0.00%	14	0.00
Total	74,554	100.00%		1.05

August 2015

Days Lag	Number of Meters	Percent of Meters	Days Lag Multiplier	Wtd Days Lag
1	72,895	97.63%	1	0.98
2	1,183	1.58%	2	0.03
3	422	0.57%	3	0.02
4	80	0.11%	4	0.00
5	42	0.06%	5	0.00
6	16	0.02%	6	0.00
7	7	0.01%	7	0.00
8 to 14	13	0.02%	11	0.00
Over 14	6	0.01%	14	0.00
Total	74,664	100.00%		1.04

September 2015

Days Lag	Number of Meters	Percent of Meters	Days Lag Multiplier	Wtd Days Lag
1	66,558	89.14%	1	0.89
2	3,572	4.78%	2	0.10
3	4,287	5.74%	3	0.17
4	131	0.18%	4	0.01
5	60	0.08%	5	0.00
6	20	0.03%	6	0.00
7	9	0.01%	7	0.00
8 to 14	22	0.03%	11	0.00
Over 14	7	0.01%	14	0.00
Total	74,666	100.00%		1.18

**Unitil Energy Systems, Inc.
 Meter Reading to Recording of
 Accounts Receivable
 Monthly Detail**

October 2015

Days Lag	Number of Meters	Percent of Meters	Days Lag Multiplier	Wtd Days Lag
1	67,136	90.83%	1	0.91
2	4,844	6.55%	2	0.13
3	1,622	2.19%	3	0.07
4	67	0.09%	4	0.00
5	59	0.08%	5	0.00
6	48	0.06%	6	0.00
7	16	0.02%	7	0.00
8 to 14	18	0.02%	11	0.00
Over 14	100	0.14%	14	0.02
Total	73,910	100.00%		1.14

November 2015

Days Lag	Number of Meters	Percent of Meters	Days Lag Multiplier	Wtd Days Lag
1	72,159	97.99%	1	0.98
2	990	1.34%	2	0.03
3	242	0.33%	3	0.01
4	177	0.24%	4	0.01
5	30	0.04%	5	0.00
6	8	0.01%	6	0.00
7	8	0.01%	7	0.00
8 to 14	20	0.03%	11	0.00
Over 14	8	0.01%	14	0.00
Total	73,642	100.00%		1.03

December 2015

Days Lag	Number of Meters	Percent of Meters	Days Lag Multiplier	Wtd Days Lag
1	71,994	97.72%	1	0.98
2	1,145	1.55%	2	0.03
3	183	0.25%	3	0.01
4	114	0.15%	4	0.01
5	133	0.18%	5	0.01
6	12	0.02%	6	0.00
7	64	0.09%	7	0.01
8 to 14	26	0.04%	11	0.00
Over 14	5	0.01%	14	0.00
Total	73,676	100.00%		1.04

Unitil Energy Systems, Inc. Number Of Days Lag In Billing To Collection Twelve Months Average 1/15 - 12/15				
Month	Days in Month	Electric Sales Revenues (1)	Daily Average (1/Days) (2)	Accounts Receivable Electric Sales (3)
2015				
January	31	17,052,114	550,068	20,617,646
February	28	16,578,154	592,077	20,566,237
March	31	16,903,154	545,263	22,030,148
April	30	14,030,907	467,697	20,775,209
May	31	12,084,736	389,830	17,458,916
June	30	12,147,900	404,930	18,084,932
July	31	10,761,394	347,142	16,721,339
August	31	12,077,934	389,611	17,071,975
September	30	11,896,385	396,546	18,359,919
October	31	9,496,019	306,323	13,243,891
November	30	9,099,860	303,329	13,314,480
December	31	10,452,912	337,191	13,844,685
Total		\$ 152,581,468	\$ 5,030,006	\$ 212,089,377
Average		\$ 12,715,122	\$ 419,167	\$ 17,674,115
Payment Lag Days (3/2)				42.16

Unitil Energy Systems, Inc.
 Calculation of Other Operating Revenue Lags
 12 Months Ended Dec 31, 2015

Line No	Account	Amount	(Lead) Lag Days	Notes
1	10-20-08-00-4540000 - Rent from Electric Property - CATV	\$380,589	-30.42	Billed quarterly. Billed in Jan for Feb-Apr, billed in Mar for May-Juj, etc.
2				Billed on last day of the month. Due in Thirty Days.
3				Service period is three months. Assume payment in the middle of the first month.
4				
5	10-20-08-00-4540200 - Miscellaneous Rent	\$63,342	30.42	Rent paid to UES from other Unitil subsidiaries for the use of office space at the UES DOC.
6				UES bills rent during the month and it is paid the following month.
7				Service period is one month. Assume payment in the middle of the following month.
8				
9	10-20-08-99-4510200 - Enhanced Meter Revenue	\$23,635	30.42	External suppliers who receive interval metering data for a customer.
10				Billed in the month they request the service and pay they following month.
11				Service period is one month. Assume payment in the middle of the following month.
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Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Summary Total Payroll Lead Lag Summary - ADP and Non ADP

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Line No	Gross Payroll Items	Amount	(Lead) Lag Days	Weighted Dollar Days
1				
2	Regular Payroll			
3	Total ADP Weekly & Monthly	\$1,032,937	6.29	\$6,496,485
4				
5	Total Non ADP Weekly & Monthly	\$193,001	36.72	\$7,087,804
6				
7	Total Weekly & Monthly Payroll	<u>\$1,225,938</u>	11.08	<u>\$13,584,290</u>
8				
9				
10				
11	Incentive Payroll			
12	Total ADP Weekly & Monthly	\$117,438	222.50	\$26,129,886
13				
14	Total Non ADP Weekly Monthly	\$2,473	223.50	\$552,785
15				
16	Total Weekly & Monthly Payroll	<u>\$119,911</u>	222.52	<u>\$26,682,671</u>
17				
18				
19	Test Year Payroll O&M Expense			
20	Union Payroll	\$1,311,951	72.05%	\$14,537,371
21	Non Union Payroll	\$476,219	26.15%	\$5,276,850
22	Incentive Payroll	\$32,605	1.79%	\$7,255,344
23				
24	Total O&M Payroll	<u>\$1,820,775</u>	100.00%	<u>\$27,069,566</u>
25				

Unitil Energy Systems, Inc.
 Calculation of Payroll Lag Days
 12 Months Ended Dec 31, 2015
 Non ADP Payroll Deductions Lead Lag Summary

4/4/2016
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Line No	Gross Payroll Items	Amount	(Lead) Lag Days	Weighted Dollar Days
1				
2	Weekly			
3	401K Loan	\$23,534	7.89	\$185,586
4	401K Tax Deferred	\$64,288	7.91	\$508,509
5	Health Insurance Premium	\$34,025	61.59	\$2,095,447
6	Health Savings Account	\$1,131	6.58	\$7,439
7	Dental Premium	\$2,268	47.13	\$106,892
8	Vision Premium	\$616	45.17	\$27,841
9	Supplemental Life Premium	\$1,518	14.27	\$21,665
10	Supplemental AD&D Premium	\$148	14.27	\$2,115
11	Home Auto	\$740	7.43	\$5,500
12	Stock Purchase	\$13,250	70.35	\$932,077
13	Charity	\$361	26.35	\$9,504
14	PC Purchase Loan	\$886	-334.58	-\$296,381
15	Activity Prizes	\$100	0.00	\$0
16	Award	\$0	0.00	\$0
17	Miscellaneous	-\$13,864	31.27	-\$433,467
18	Union Dues	\$10,479	21.42	\$224,437
19	Medical Care	\$750	6.50	\$4,874
20	Dependent Care	\$0	0.00	\$0
21	Auto Adjustment	\$0	0.00	\$0
23				
24	Total Weekly Payroll	<u>\$140,230</u>	24.26	<u>\$3,402,036</u>
25				

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Non ADP Payroll Deductions Lead Lag Summary

4/4/2016
3:37:14 PM

Line No	<u>Gross Payroll Items</u>	<u>Amount</u>	<u>(Lead) Lag Days</u>	<u>Weighted Dollar Days</u>
27	<u>Monthly</u>			
28	401K Loan	\$3,963	17.00	\$67,368
29	401K Tax Deferred	\$19,419	17.00	\$330,145
30	Health Insurance Premium	\$7,849	61.59	\$483,399
31	Health Savings Account	\$5,670	2.00	\$11,340
32	Dental Premium	\$792	47.13	\$37,314
33	Vision Premium	\$167	45.17	\$7,538
34	Supplemental Life Premium	\$419	12.33	\$5,170
35	Supplemental AD&D Premium	\$8	12.33	\$99
36	Home Auto	\$463	2.00	\$927
37	Stock Purchase	\$900	70.67	\$63,600
38	Charity	\$338	21.67	\$7,313
39	PC Purchase Loan	\$121	-334.58	-\$40,398
40	Activity Prizes	\$100	0.00	\$0
41	Award	\$0	0.00	\$0
42	Miscellaneous	\$0	0.00	\$0
43	Union Dues	\$0	0.00	\$0
44	Medical Care	\$225	2.00	\$450
45	Dependent Care	\$0	0.00	\$0
46	Auto Adjustment	\$12,337	219.78	\$2,711,504
48				
49	Total Monthly Payroll	<u>\$52,771</u>	69.84	<u>\$3,685,769</u>
50				
51				
52	Total Weekly & Semi Monthly	<u>\$193,001</u>	36.72	<u>\$7,087,804</u>
53				
54				
55	<u>Incentive Pay</u>			
56	401K Tax Deferred	\$2,473	223.50	\$552,785
57				
58	Total Incentive Payroll	<u>\$2,473</u>	223.50	<u>\$552,785</u>
59				
60				
61				
62				
63				
64				
65				

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Total Payroll Service

4/4/2016
3:37:14 PM

Line No	Payroll Description	Gross Pay Amount	Total ADP Payroll Deductions	Total Non ADP Payroll Deductions	Difference
1					
2	Weekly				
3					
4	10/3/2015	\$69,974	\$58,394	\$11,580	\$0
5	10/10/2015	\$79,469	\$67,481	\$11,988	\$0
6	10/17/2015	\$70,635	\$58,975	\$11,660	\$0
7	10/24/2015	\$63,216	\$59,959	\$3,258	\$0
8	10/31/2015	\$77,279	\$65,081	\$12,198	\$0
9	11/7/2015	\$70,077	\$58,552	\$11,525	\$0
10	11/14/2015	\$81,858	\$69,417	\$12,441	\$0
11	11/21/2015	\$71,977	\$64,686	\$7,291	\$0
12	11/28/2015	\$72,742	\$60,927	\$11,815	\$0
13	12/5/2015	\$80,385	\$68,448	\$11,937	\$0
14	12/12/2015	\$71,067	\$59,592	\$11,474	\$0
15	12/19/2015	\$67,613	\$56,026	\$11,586	\$0
16	12/26/2015	\$74,192	\$62,715	\$11,477	\$0
17					
18		<u>\$950,483</u>	<u>\$810,253</u>	<u>\$140,230</u>	\$0
19					
20					
21					
22					
23					
24	Monthly				
25					
26	10/31/2015	\$88,004	\$74,537	\$13,467	\$0
27	11/30/2015	\$93,250	\$73,737	\$19,513	\$0
28	12/31/2015	\$94,201	\$74,410	\$19,791	\$0
29					
30		<u>\$275,455</u>	<u>\$222,684</u>	<u>\$52,771</u>	\$0
31					
32					
33	Incentive Pay				
34	February 2016				
35	Incentive Pay-Weekly	\$18,879	\$17,975	\$904	\$0
35	Incentive Pay-Salary	\$101,032	\$99,463	\$1,569	\$0
37		<u>\$119,911</u>	<u>\$117,438</u>	<u>\$2,473</u>	
38					
39					
40	Total	<u>\$1,345,849</u>	<u>\$1,150,375</u>	<u>\$195,474</u>	\$0
41					

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
401K Loan

4/4/2016
3:37:14 PM

Line No	Payroll Description	Amount	Start	Service Period End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$1,816	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/8/15 12:00 AM	7.50	\$13,621
5	10/10/2015	\$1,816	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/15/15 12:00 AM	7.50	\$13,621
6	10/17/2015	\$1,816	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/22/15 12:00 AM	7.50	\$13,621
7	10/24/2015	\$1,816	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	11/3/15 12:00 AM	12.50	\$22,702
8	10/31/2015	\$1,816	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/5/15 12:00 AM	7.50	\$13,621
9	11/7/2015	\$1,801	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/12/15 12:00 AM	7.50	\$13,508
10	11/14/2015	\$1,801	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/19/15 12:00 AM	7.50	\$13,508
11	11/21/2015	\$1,809	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/27/15 12:00 AM	8.50	\$15,372
12	11/28/2015	\$1,809	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/3/15 12:00 AM	7.50	\$13,564
13	12/5/2015	\$1,809	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/10/15 12:00 AM	7.50	\$13,564
14	12/12/2015	\$1,809	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/17/15 12:00 AM	7.50	\$13,564
15	12/19/2015	\$1,809	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/23/15 12:00 AM	6.50	\$11,755
16	12/26/2015	\$1,809	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/31/15 12:00 AM	7.50	\$13,564
17									
18		<u>\$23,534</u>						7.89	<u>\$185,586</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$1,321	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	11/5/15 12:00 AM	19.50	\$25,758
27	11/30/2015	\$1,321	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/3/15 12:00 AM	17.00	\$22,456
28	12/31/2015	\$1,321	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/31/15 12:00 AM	14.50	\$19,154
29									
30		<u>\$3,963</u>						17.00	<u>\$67,368</u>
31									
32									
33									
34									
35	Total	<u>\$27,497</u>							
36									
37									
38									
39	Payment date indicates the check date in Dataview.								
40									

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
401K Tax Deferred

4/4/2016
3:37:14 PM

Line No	Payroll Description	Amount	Service Period Start	Service Period End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days	
1										
2	Weekly									
3										
4	10/3/2015	\$4,620	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/8/15 12:00 AM	7.50	\$34,649	
5	10/10/2015	\$5,028	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/15/15 12:00 AM	7.50	\$37,710	
6	10/17/2015	\$4,699	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/22/15 12:00 AM	7.50	\$35,243	
7	10/24/2015	\$5,107	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	11/3/15 12:00 AM	12.50	\$63,843	
8	10/31/2015	\$5,238	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/5/15 12:00 AM	7.50	\$39,286	
9	11/7/2015	\$4,581	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/12/15 12:00 AM	7.50	\$34,354	
10	11/14/2015	\$5,496	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/19/15 12:00 AM	7.50	\$41,223	
11	11/21/2015	\$5,442	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/27/15 12:00 AM	8.50	\$46,258	
12	11/28/2015	\$4,985	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/3/15 12:00 AM	7.50	\$37,385	
13	12/5/2015	\$5,128	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/10/15 12:00 AM	7.50	\$38,459	
14	12/12/2015	\$4,666	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/17/15 12:00 AM	7.50	\$34,998	
15	12/19/2015	\$4,628	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/23/15 12:00 AM	6.50	\$30,081	
16	12/26/2015	\$4,669	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/31/15 12:00 AM	7.50	\$35,019	
17										
18		<u>\$64,288</u>						7.91	<u>\$508,509</u>	
19										
20										
21										
22										
23										
24	Monthly									
25										
26	10/31/2015	\$6,476	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	11/5/15 12:00 AM	19.50	\$126,276	
27	11/30/2015	\$6,476	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/3/15 12:00 AM	17.00	\$110,087	
28	12/31/2015	\$6,468	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/31/15 12:00 AM	14.50	\$93,782	
29										
30		<u>\$19,419</u>						17.00	<u>\$330,145</u>	
31										
32										
33	Incentive Pay									
34	February 2016									
35	Incentive Pay-Weekly	\$904	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/11/16 12:00 AM	223.50	\$202,006	
36	Incentive Pay-Salary	\$1,569	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/11/16 12:00 AM	223.50	\$350,779	
37		<u>\$2,473</u>						223.50	<u>\$552,785</u>	
38										
39	Annualized Lag	<u>\$337,300</u>						11.58	<u>\$3,907,399</u>	
40										
41	Payment date indicates the check date in Dataview.									

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Health Insurance Premium

4/4/2016
3:37:14 PM

Line No	Payroll Description	Amount	Service Period Start	End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$2,660	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM		61.59	\$163,801
5	10/10/2015	\$2,660	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM		61.59	\$163,801
6	10/17/2015	\$2,660	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM		61.59	\$163,801
7	10/24/2015	\$2,660	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM		61.59	\$163,801
8	10/31/2015	\$2,660	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM		61.59	\$163,801
9	11/7/2015	\$2,660	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM		61.59	\$163,801
10	11/14/2015	\$2,660	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM		61.59	\$163,801
11	11/21/2015	\$2,660	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM		61.59	\$163,801
12	11/28/2015	\$2,549	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM		61.59	\$157,008
13	12/5/2015	\$2,549	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM		61.59	\$157,008
14	12/12/2015	\$2,549	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM		61.59	\$157,008
15	12/19/2015	\$2,549	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM		61.59	\$157,008
16	12/26/2015	\$2,549	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM		61.59	\$157,008
17									
18		<u>\$34,025</u>						61.59	<u>\$2,095,447</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$2,616	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM		61.59	\$161,133
27	11/30/2015	\$2,616	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM		61.59	\$161,133
28	12/31/2015	\$2,616	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM		61.59	\$161,133
29									
30		<u>\$7,849</u>						61.59	<u>\$483,399</u>
31									
32									
33									
34									
35	Total	<u>\$41,874</u>						61.59	<u>\$2,578,846</u>
36									
37									
38									
39	The employee 20 % contribution toward health insurance is an offset to the expense.								
40	UES is self insured.								
41									

Calculation of Medical lags from Claims lag tables.

<u>Claim</u>	<u>Dec-15 Total Paid</u>		<u>Weighted Payments</u>	<u>Claim</u>	<u>12 Months Total Paid</u>		<u>Weighted Payments</u>
Prior	\$0	410	\$0	Prior	\$0		\$0
Jan	\$400	365	\$146,000	Jan	\$400		\$146,000
Feb	\$0	334	\$0	Feb	\$0		\$0
Mar	\$0	306	\$0	Mar	\$0		\$0
Apr	\$0	275	\$0	Apr	\$0		\$0
May	\$0	245	\$0	May	\$0		\$0
Jun	\$0	214	\$0	Jun	\$0		\$0
Jul	\$0	184	\$0	Jul	\$0		\$0
Aug	\$0	153	\$0	Aug	\$283		\$43,305
Sep	\$313	122	\$38,151	Sep	\$1,438		\$174,044
Oct	\$2,134	92	\$196,287	Oct	\$24,268		\$2,229,801
Nov	\$51,670	61	\$3,151,856	Nov	\$162,375		\$9,904,599
Dec	\$4,036	31	\$125,111	Dec	\$28,196		\$863,834
	\$58,552	62.46	\$3,657,404		\$216,960	61.59	\$13,361,584
<u>Claim</u>	<u>Nov-15 Total Paid</u>		<u>Weighted Payments</u>				
Prior	\$0	410	\$0				
Dec	\$0	365	\$0				
Jan	\$0	334	\$0				
Feb	\$0	303	\$0				
Mar	\$0	275	\$0				
Apr	\$0	244	\$0				
May	\$0	214	\$0				
Jun	\$0	183	\$0				
Jul	\$0	153	\$0				
Aug	\$441	122	\$53,781				
Sep	\$2,350	91	\$213,870				
Oct	\$21,593	61	\$1,317,152				
Nov	\$2,316	30	\$69,483				
	\$26,700	61.96	\$1,654,286				

<u>Claim</u>	<u>Oct-15 Total Paid</u>		<u>Weighted Payments</u>
Prior	\$0	410	\$0
Nov	\$0	365	\$0
Dec	\$0	335	\$0
Jan	\$0	304	\$0
Feb	\$0	273	\$0
Mar	\$0	245	\$0
Apr	\$0	214	\$0
May	\$0	184	\$0
Jun	\$0	153	\$0
Jul	\$0	123	\$0
Aug	\$1,785	92	\$164,250
Sep	\$45,769	61	\$2,791,893
Oct	\$8,979	31	\$278,358
	\$56,533	57.21	\$3,234,501

<u>Claim</u>	<u>Sep-15 Total Paid</u>		<u>Weighted Payments</u>
Prior	\$0	410	\$0
Oct	\$0	365	\$0
Nov	\$0	334	\$0
Dec	\$0	304	\$0
Jan	\$0	273	\$0
Feb	\$0	242	\$0
Mar	\$0	214	\$0
Apr	\$0	183	\$0
May	\$0	153	\$0
Jun	\$0	122	\$0
Jul	\$228	92	\$21,016
Aug	\$15,527	61	\$947,135
Sep	\$2,831	30	\$84,932
	\$18,586	56.66	\$1,053,082

<u>Claim</u>	Aug-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Sep	\$0	365	\$0
Oct	\$0	335	\$0
Nov	\$0	304	\$0
Dec	\$0	274	\$0
Jan	\$0	243	\$0
Feb	\$0	212	\$0
Mar	\$0	184	\$0
Apr	\$0	153	\$0
May	\$0	123	\$0
Jun	\$0	92	\$0
Jul	\$7,081	62	\$438,993
Aug	\$2,285	31	\$70,845
	\$9,366	54.44	\$509,838

<u>Claim</u>	Jul-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Aug	\$0	365	\$0
Sep	\$0	334	\$0
Oct	\$0	304	\$0
Nov	\$0	273	\$0
Dec	\$0	243	\$0
Jan	\$0	212	\$0
Feb	\$0	181	\$0
Mar	\$283	153	\$43,305
Apr	\$0	122	\$0
May	\$123	92	\$11,270
Jun	\$3,143	61	\$191,714
Jul	\$643	31	\$19,939
	\$4,192	63.51	\$266,228

<u>Claim</u>	Jun-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Jul	\$0	365	\$0
Aug	\$0	334	\$0
Sep	\$0	303	\$0
Oct	\$0	273	\$0
Nov	\$0	242	\$0
Dec	\$0	212	\$0
Jan	\$0	181	\$0
Feb	\$0	150	\$0
Mar	\$0	122	\$0
Apr	\$434	91	\$39,472
May	\$4,750	61	\$289,777
Jun	\$1,058	30	\$31,737
	\$6,242	57.83	\$360,987

<u>Claim</u>	May-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Jun	\$0	365	\$0
Jul	\$0	335	\$0
Aug	\$0	304	\$0
Sep	\$0	273	\$0
Oct	\$0	243	\$0
Nov	\$0	212	\$0
Dec	\$0	182	\$0
Jan	\$0	151	\$0
Feb	\$684	120	\$82,112
Mar	\$17,197	92	\$1,582,139
Apr	\$5,881	61	\$358,720
May	\$1,230	31	\$38,128
	\$24,992	82.47	\$2,061,099

<u>Claim</u>	<u>Apr-15 Total Paid</u>		<u>Weighted Payments</u>
Prior	\$0	410	\$0
May	\$0	365	\$0
Jun	\$0	334	\$0
Jul	\$0	304	\$0
Aug	\$0	273	\$0
Sep	\$0	242	\$0
Oct	\$0	212	\$0
Nov	\$0	181	\$0
Dec	\$0	151	\$0
Jan	\$0	120	\$0
Feb	\$17	89	\$1,498
Mar	\$3,282	61	\$200,222
Apr	\$2,373	30	\$71,183
	\$5,672	48.11	\$272,902

<u>Claim</u>	<u>Mar-15 Total Paid</u>		<u>Weighted Payments</u>
Prior	\$0	410	\$0
Apr	\$0	365	\$0
May	\$0	335	\$0
Jun	\$0	304	\$0
Jul	\$0	274	\$0
Aug	\$0	243	\$0
Sep	\$0	212	\$0
Oct	\$0	182	\$0
Nov	\$0	151	\$0
Dec	\$0	121	\$0
Jan	\$0	90	\$0
Feb	\$2,567	59	\$151,465
Mar	\$1,435	31	\$44,483
	\$4,002	48.96	\$195,948

<u>Claim</u>	Feb-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Mar	\$0	365	\$0
Apr	\$0	334	\$0
May	\$0	304	\$0
Jun	\$0	273	\$0
Jul	\$0	243	\$0
Aug	\$0	212	\$0
Sep	\$0	181	\$0
Oct	\$0	151	\$0
Nov	\$0	120	\$0
Dec	\$0	90	\$0
Jan	\$1,113	59	\$65,673
Feb	\$556	28	\$15,560
	\$1,669	48.68	\$81,233

<u>Claim</u>	Jan-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Feb	\$0	365	\$0
Mar	\$0	337	\$0
Apr	\$0	306	\$0
May	\$0	276	\$0
Jun	\$0	245	\$0
Jul	\$0	215	\$0
Aug	\$0	184	\$0
Sep	\$0	153	\$0
Oct	\$0	123	\$0
Nov	\$0	92	\$0
Dec	\$0	62	\$0
Jan	\$454	31	\$14,076
	\$454	31.00	\$14,076

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Health Savings Account

4/4/2016
3:44:52 PM

Line No	Payroll Description	Amount	Start	Service Period End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$87	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/7/15 12:00 AM	6.50	\$566
5	10/10/2015	\$87	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/14/15 12:00 AM	6.50	\$566
6	10/17/2015	\$87	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/21/15 12:00 AM	6.50	\$566
7	10/24/2015	\$87	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/28/15 12:00 AM	6.50	\$566
8	10/31/2015	\$87	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/4/15 12:00 AM	6.50	\$566
9	11/7/2015	\$87	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/12/15 12:00 AM	7.50	\$653
10	11/14/2015	\$87	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/18/15 12:00 AM	6.50	\$566
11	11/21/2015	\$87	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/25/15 12:00 AM	6.50	\$566
12	11/28/2015	\$87	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$566
13	12/5/2015	\$87	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/9/15 12:00 AM	6.50	\$566
14	12/12/2015	\$87	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/16/15 12:00 AM	6.50	\$566
15	12/19/2015	\$87	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/23/15 12:00 AM	6.50	\$566
16	12/26/2015	\$87	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/30/15 12:00 AM	6.50	\$566
17									
18		<u>\$1,131</u>						6.58	<u>\$7,439</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$1,890	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/21/15 12:00 AM	4.50	\$8,505
27	11/30/2015	\$1,890	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/18/15 12:00 AM	2.00	\$3,780
28	12/31/2015	\$1,890	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/16/15 12:00 AM	-0.50	-\$945
29									
30		<u>\$5,670</u>						2.00	<u>\$11,340</u>
31									
32									
33									
34									
35	Total	<u>\$6,801</u>							
36									
37									
38									
39	Payment date indicates the check date in Dataview								
40									
41									

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Dental Premium

4/4/2016
3:44:52 PM

Line No	Payroll Description	Amount	Start	End	Total Days	Midpoint Service Period	(Lead) Lag Days	Weighted Dollar Days	
1									
2	Weekly								
3									
4	10/3/2015	\$178	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	47.13	\$8,378	
5	10/10/2015	\$178	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	47.13	\$8,378	
6	10/17/2015	\$178	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	47.13	\$8,378	
7	10/24/2015	\$178	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	47.13	\$8,378	
8	10/31/2015	\$178	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	47.13	\$8,378	
9	11/7/2015	\$178	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	47.13	\$8,378	
10	11/14/2015	\$178	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	47.13	\$8,378	
11	11/21/2015	\$178	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	47.13	\$8,378	
12	11/28/2015	\$169	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	47.13	\$7,974	
13	12/5/2015	\$169	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	47.13	\$7,974	
14	12/12/2015	\$169	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	47.13	\$7,974	
15	12/19/2015	\$169	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	47.13	\$7,974	
16	12/26/2015	\$169	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	47.13	\$7,974	
17									
18		<u>\$2,268</u>					47.13	<u>\$106,892</u>	
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$264	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	47.13	\$12,438	
27	11/30/2015	\$264	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	47.13	\$12,438	
28	12/31/2015	\$264	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	47.13	\$12,438	
29									
30		<u>\$792</u>					47.13	<u>\$37,314</u>	
31									
32									
33									
34									
35	Total	<u>\$3,060</u>					47.13	<u>\$144,206</u>	
36									
37									
38									
39	The employee 20% contribution toward dental insurance is an offset to the expense.								
40	UES is self insured.								
41									
42	Lag days based on Health Insurance Premium lag								
43									

Calculation of Dental lags from Claims lag tables.

<u>Claim</u>	<u>Dec-15 Total Paid</u>		<u>Weighted Payments</u>	<u>Claim</u>	<u>12 Months Total Paid</u>		<u>Weighted Payments</u>
Prior	\$0	410	\$0	Prior	\$620		\$280,860
Jan	\$0	365	\$0	Jan	\$0		\$0
Feb	\$143	334	\$47,762	Feb	\$143		\$47,762
Mar	\$0	306	\$0	Mar	\$0		\$0
Apr	\$0	275	\$0	Apr	-\$529		-\$144,281
May	\$0	245	\$0	May	\$0		\$0
Jun	\$0	214	\$0	Jun	\$0		\$0
Jul	\$0	184	\$0	Jul	\$0		\$0
Aug	\$0	153	\$0	Aug	\$0		\$0
Sep	\$143	122	\$17,446	Sep	\$143		\$17,446
Oct	\$0	92	\$0	Oct	\$1,440		\$129,852
Nov	\$786	61	\$47,956	Nov	\$9,336		\$565,459
Dec	\$3,847	31	\$119,255	Dec	\$22,469		\$687,650
	\$4,919	47.25	\$232,419		\$33,622	47.13	\$1,584,748
<u>Claim</u>	<u>Nov-15 Total Paid</u>		<u>Weighted Payments</u>				
Prior	\$0	410	\$0				
Dec	\$0	365	\$0				
Jan	\$0	334	\$0				
Feb	\$0	303	\$0				
Mar	\$0	275	\$0				
Apr	\$0	244	\$0				
May	\$0	214	\$0				
Jun	\$0	183	\$0				
Jul	\$0	153	\$0				
Aug	\$0	122	\$0				
Sep	\$0	91	\$0				
Oct	\$910	61	\$55,480				
Nov	\$3,539	30	\$106,173				
	\$4,449	36.34	\$161,653				

<u>Claim</u>	<u>Oct-15 Total Paid</u>		<u>Weighted Payments</u>
Prior	\$0	410	\$0
Nov	\$0	365	\$0
Dec	\$0	335	\$0
Jan	\$0	304	\$0
Feb	\$0	273	\$0
Mar	\$0	245	\$0
Apr	\$0	214	\$0
May	\$0	184	\$0
Jun	\$0	153	\$0
Jul	\$0	123	\$0
Aug	\$0	92	\$0
Sep	\$1,078	61	\$65,746
Oct	\$1,125	31	\$34,881
	\$2,203	45.68	\$100,627

<u>Claim</u>	<u>Sep-15 Total Paid</u>		<u>Weighted Payments</u>
Prior	\$0	410	\$0
Oct	\$0	365	\$0
Nov	\$0	334	\$0
Dec	\$0	304	\$0
Jan	\$0	273	\$0
Feb	\$0	242	\$0
Mar	\$0	214	\$0
Apr	\$0	183	\$0
May	\$0	153	\$0
Jun	\$0	122	\$0
Jul	\$0	92	\$0
Aug	\$1,734	61	\$105,772
Sep	\$3,528	30	\$105,825
	\$5,261	40.22	\$211,597

<u>Claim</u>	Aug-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Sep	\$0	365	\$0
Oct	\$0	335	\$0
Nov	\$0	304	\$0
Dec	\$0	274	\$0
Jan	\$0	243	\$0
Feb	\$0	212	\$0
Mar	\$0	184	\$0
Apr	\$0	153	\$0
May	\$0	123	\$0
Jun	\$0	92	\$0
Jul	\$154	62	\$9,573
Aug	\$5,578	31	\$172,909
	\$5,732	31.84	\$182,482

<u>Claim</u>	Jul-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Aug	\$0	365	\$0
Sep	\$0	334	\$0
Oct	\$0	304	\$0
Nov	\$0	273	\$0
Dec	\$0	243	\$0
Jan	\$0	212	\$0
Feb	\$0	181	\$0
Mar	\$0	153	\$0
Apr	\$0	122	\$0
May	\$143	92	\$13,156
Jun	\$294	61	\$17,910
Jul	\$1,561	31	\$48,377
	\$1,997	39.78	\$79,443

<u>Claim</u>	Jun-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Jul	\$0	365	\$0
Aug	\$0	334	\$0
Sep	\$0	303	\$0
Oct	\$0	273	\$0
Nov	\$0	242	\$0
Dec	\$0	212	\$0
Jan	\$0	181	\$0
Feb	\$0	150	\$0
Mar	\$0	122	\$0
Apr	\$0	91	\$0
May	\$365	61	\$22,265
Jun	\$526	30	\$15,792
	\$891	42.69	\$38,057

<u>Claim</u>	May-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Jun	\$0	365	\$0
Jul	\$0	335	\$0
Aug	\$0	304	\$0
Sep	\$0	273	\$0
Oct	\$0	243	\$0
Nov	\$0	212	\$0
Dec	\$0	182	\$0
Jan	\$0	151	\$0
Feb	\$0	120	\$0
Mar	\$0	92	\$0
Apr	\$1,060	61	\$64,660
May	\$525	31	\$16,280
	\$1,585	51.06	\$80,940

<u>Claim</u>	<u>Apr-15 Total Paid</u>		<u>Weighted Payments</u>
Prior	\$620	453	\$280,860
May	\$0	365	\$0
Jun	\$0	334	\$0
Jul	\$0	304	\$0
Aug	\$0	273	\$0
Sep	\$0	242	\$0
Oct	\$0	212	\$0
Nov	\$0	181	\$0
Dec	\$0	151	\$0
Jan	\$0	120	\$0
Feb	\$0	89	\$0
Mar	\$863	61	\$52,655
Apr	\$723	30	\$21,675
	\$2,206	161.03	\$355,190

<u>Claim</u>	<u>Mar-15 Total Paid</u>		<u>Weighted Payments</u>
Prior	\$0	410	\$0
Apr	\$0	365	\$0
May	\$0	335	\$0
Jun	\$0	304	\$0
Jul	\$0	274	\$0
Aug	\$0	243	\$0
Sep	\$0	212	\$0
Oct	\$0	182	\$0
Nov	\$0	151	\$0
Dec	\$0	121	\$0
Jan	\$0	90	\$0
Feb	\$1,836	59	\$108,317
Mar	\$823	31	\$25,525
	\$2,659	50.33	\$133,842

<u>Claim</u>	Feb-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Mar	\$0	365	\$0
Apr	\$0	334	\$0
May	\$0	304	\$0
Jun	-\$529	273	-\$144,281
Jul	\$0	243	\$0
Aug	\$0	212	\$0
Sep	\$0	181	\$0
Oct	\$0	151	\$0
Nov	\$0	120	\$0
Dec	\$1,297	90	\$116,696
Jan	\$256	59	\$15,126
Feb	\$196	28	\$5,488
	\$1,221	-5.71	-\$6,970

<u>Claim</u>	Jan-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Feb	\$0	365	\$0
Mar	\$0	337	\$0
Apr	\$0	306	\$0
May	\$0	276	\$0
Jun	\$0	245	\$0
Jul	\$0	215	\$0
Aug	\$0	184	\$0
Sep	\$0	153	\$0
Oct	\$0	123	\$0
Nov	\$0	92	\$0
Dec	\$0	62	\$0
Jan	\$499	31	\$15,469
	\$499	31.00	\$15,469

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Vision Premium

4/4/2016
3:48:27 PM

Line No	Payroll Description	Amount	Service Period Start	End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$48	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM		45.17	\$2,179
5	10/10/2015	\$48	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM		45.17	\$2,179
6	10/17/2015	\$48	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM		45.17	\$2,179
7	10/24/2015	\$48	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM		45.17	\$2,179
8	10/31/2015	\$48	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM		45.17	\$2,179
9	11/7/2015	\$48	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM		45.17	\$2,179
10	11/14/2015	\$48	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM		45.17	\$2,179
11	11/21/2015	\$48	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM		45.17	\$2,179
12	11/28/2015	\$46	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM		45.17	\$2,082
13	12/5/2015	\$46	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM		45.17	\$2,082
14	12/12/2015	\$46	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM		45.17	\$2,082
15	12/19/2015	\$46	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM		45.17	\$2,082
16	12/26/2015	\$46	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM		45.17	\$2,082
17									
18		<u>\$616</u>						45.17	<u>\$27,841</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$56	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM		45.17	\$2,513
27	11/30/2015	\$56	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM		45.17	\$2,513
28	12/31/2015	\$56	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM		45.17	\$2,513
29									
30		<u>\$167</u>						45.17	<u>\$7,538</u>
31									
32									
33									
34									
35	Total	<u>\$783</u>						45.17	<u>\$35,379</u>

UES is self insured for Vision.
The employee contribution toward vision insurance is an offset to the expense.
The lag until payment is made to the provider is estimated to be 30 days after the payroll deduction.

Calculation of Vision lags from Claims lag tables.

<u>Claim</u>	<u>Dec-15 Total Paid</u>	<u>Weighted Payments</u>	<u>Claim</u>	<u>12 Months Total Paid</u>	<u>Weighted Payments</u>
Prior	\$0	410	Prior	\$0	\$0
Jan	\$0	365	Jan	\$0	\$0
Feb	\$0	334	Feb	\$0	\$0
Mar	\$0	306	Mar	\$0	\$0
Apr	\$0	275	Apr	\$0	\$0
May	\$0	245	May	\$0	\$0
Jun	\$0	214	Jun	\$0	\$0
Jul	\$0	184	Jul	\$0	\$0
Aug	\$0	153	Aug	\$236	\$35,636
Sep	\$69	122	Sep	\$410	\$49,836
Oct	\$0	92	Oct	\$700	\$63,897
Nov	\$1,676	61	Nov	\$18,497	\$1,126,436
Dec	\$2,989	31	Dec	\$25,832	\$787,106
	\$4,734	42.95		\$45,674	45.17
		\$203,313			\$2,062,911

<u>Claim</u>	<u>Nov-15 Total Paid</u>	<u>Weighted Payments</u>
Prior	\$0	410
Dec	\$0	365
Jan	\$0	334
Feb	\$0	303
Mar	\$0	275
Apr	\$0	244
May	\$0	214
Jun	\$0	183
Jul	\$0	153
Aug	\$105	122
Sep	\$0	91
Oct	\$2,013	61
Nov	\$2,387	30
	\$4,505	46.00
		\$207,213

<u>Claim</u>	Oct-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Nov	\$0	365	\$0
Dec	\$0	335	\$0
Jan	\$0	304	\$0
Feb	\$0	273	\$0
Mar	\$0	245	\$0
Apr	\$0	214	\$0
May	\$0	184	\$0
Jun	\$0	153	\$0
Jul	\$50	123	\$6,150
Aug	\$0	92	\$0
Sep	\$1,195	61	\$72,895
Oct	\$1,285	31	\$39,835
	\$2,530	46.99	\$118,880

<u>Claim</u>	Sep-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Oct	\$0	365	\$0
Nov	\$0	334	\$0
Dec	\$0	304	\$0
Jan	\$0	273	\$0
Feb	\$0	242	\$0
Mar	\$0	214	\$0
Apr	\$0	183	\$0
May	\$0	153	\$0
Jun	\$69	122	\$8,418
Jul	\$0	92	\$0
Aug	\$2,210	61	\$134,786
Sep	\$1,497	30	\$44,898
	\$3,775	49.83	\$188,102

<u>Claim</u>	<u>Aug-15 Total Paid</u>		<u>Weighted Payments</u>
Prior	\$0	410	\$0
Sep	\$0	365	\$0
Oct	\$0	335	\$0
Nov	\$0	304	\$0
Dec	\$0	274	\$0
Jan	\$0	243	\$0
Feb	\$0	212	\$0
Mar	\$0	184	\$0
Apr	\$0	153	\$0
May	\$0	123	\$0
Jun	\$0	92	\$0
Jul	\$1,896	62	\$117,527
Aug	\$1,704	31	\$52,812
	\$3,599	47.33	\$170,339

<u>Claim</u>	<u>Jul-15 Total Paid</u>		<u>Weighted Payments</u>
Prior	\$0	410	\$0
Aug	\$0	365	\$0
Sep	\$0	334	\$0
Oct	\$0	304	\$0
Nov	\$0	273	\$0
Dec	\$0	243	\$0
Jan	\$0	212	\$0
Feb	\$0	181	\$0
Mar	\$0	153	\$0
Apr	\$0	122	\$0
May	\$145	92	\$13,340
Jun	\$689	61	\$42,005
Jul	\$2,229	31	\$69,087
	\$3,062	40.63	\$124,431

<u>Claim</u>	Jun-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Jul	\$0	365	\$0
Aug	\$0	334	\$0
Sep	\$0	303	\$0
Oct	\$0	273	\$0
Nov	\$0	242	\$0
Dec	\$0	212	\$0
Jan	\$0	181	\$0
Feb	\$0	150	\$0
Mar	\$0	122	\$0
Apr	\$71	91	\$6,461
May	\$584	61	\$35,624
Jun	\$3,299	30	\$98,970
	\$3,954	35.67	\$141,055

<u>Claim</u>	May-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Jun	\$0	365	\$0
Jul	\$0	335	\$0
Aug	\$0	304	\$0
Sep	\$0	273	\$0
Oct	\$0	243	\$0
Nov	\$0	212	\$0
Dec	\$0	182	\$0
Jan	\$0	151	\$0
Feb	\$0	120	\$0
Mar	\$70	92	\$6,440
Apr	\$2,493	61	\$152,073
May	\$3,421	31	\$106,051
	\$5,984	44.21	\$264,564

<u>Claim</u>	<u>Apr-15 Total Paid</u>		<u>Weighted Payments</u>
Prior	\$0	410	\$0
May	\$0	365	\$0
Jun	\$0	334	\$0
Jul	\$0	304	\$0
Aug	\$0	273	\$0
Sep	\$0	242	\$0
Oct	\$0	212	\$0
Nov	\$0	181	\$0
Dec	\$0	151	\$0
Jan	\$117	120	\$14,040
Feb	\$0	89	\$0
Mar	\$708	61	\$43,206
Apr	\$2,556	30	\$76,686
	\$3,382	39.61	\$133,932

<u>Claim</u>	<u>Mar-15 Total Paid</u>		<u>Weighted Payments</u>
Prior	\$0	410	\$0
Apr	\$0	365	\$0
May	\$0	335	\$0
Jun	\$0	304	\$0
Jul	\$0	274	\$0
Aug	\$0	243	\$0
Sep	\$0	212	\$0
Oct	\$0	182	\$0
Nov	\$0	151	\$0
Dec	\$0	121	\$0
Jan	\$145	90	\$13,050
Feb	\$1,392	59	\$82,128
Mar	\$2,276	31	\$70,556
	\$3,813	43.47	\$165,734

<u>Claim</u>	Feb-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Mar	\$0	365	\$0
Apr	\$0	334	\$0
May	\$0	304	\$0
Jun	\$0	273	\$0
Jul	\$0	243	\$0
Aug	\$0	212	\$0
Sep	\$0	181	\$0
Oct	\$236	151	\$35,636
Nov	\$0	120	\$0
Dec	\$71	90	\$6,390
Jan	\$1,539	59	\$90,777
Feb	\$1,312	28	\$36,725
	\$3,157	53.70	\$169,528

<u>Claim</u>	Jan-15 <u>Total Paid</u>		Weighted <u>Payments</u>
Prior	\$0	410	\$0
Feb	\$0	365	\$0
Mar	\$0	337	\$0
Apr	\$0	306	\$0
May	\$0	276	\$0
Jun	\$0	245	\$0
Jul	\$0	215	\$0
Aug	\$0	184	\$0
Sep	\$0	153	\$0
Oct	\$0	123	\$0
Nov	\$198	92	\$18,216
Dec	\$2,103	62	\$130,386
Jan	\$878	31	\$27,218
	\$3,179	55.31	\$175,820

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Supplemental Life Premium

4/4/2016
3:53:02 PM

Line No	Payroll Description	Amount	Service Period Start	End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$117	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/26/15 12:00 AM	25.50	\$2,978
5	10/10/2015	\$117	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/26/15 12:00 AM	18.50	\$2,161
6	10/17/2015	\$117	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/26/15 12:00 AM	11.50	\$1,343
7	10/24/2015	\$117	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/26/15 12:00 AM	4.50	\$526
8	10/31/2015	\$117	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	10/26/15 12:00 AM	-2.50	-\$292
9	11/7/2015	\$117	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	12/2/15 12:00 AM	27.50	\$3,212
10	11/14/2015	\$117	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	12/2/15 12:00 AM	20.50	\$2,394
11	11/21/2015	\$117	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	12/2/15 12:00 AM	13.50	\$1,577
12	11/28/2015	\$117	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$759
13	12/5/2015	\$117	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/28/15 12:00 AM	25.50	\$2,978
14	12/12/2015	\$117	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/28/15 12:00 AM	18.50	\$2,161
15	12/19/2015	\$117	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/28/15 12:00 AM	11.50	\$1,343
16	12/26/2015	\$117	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/28/15 12:00 AM	4.50	\$526
17									
18		<u>\$1,518</u>						14.27	<u>\$21,665</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$140	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/26/15 12:00 AM	9.50	\$1,328
27	11/30/2015	\$140	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/2/15 12:00 AM	16.00	\$2,236
28	12/31/2015	\$140	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/28/15 12:00 AM	11.50	\$1,607
29									
30		<u>\$419</u>						12.33	<u>\$5,170</u>
31									
32									
33									
34								13.85	<u>\$26,835</u>
35	Total Weighted Lag	<u>\$1,937</u>							
36									
37									
38									
39	Payment date indicates the check date in Dataview.								
40									
41									

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Supplemental AD&D Premium

4/4/2016
3:53:02 PM

Line No	Payroll Description	Net Payroll Amount	Service Period Start	Service Period End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$11	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/26/15 12:00 AM	25.50	\$291
5	10/10/2015	\$11	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/26/15 12:00 AM	18.50	\$211
6	10/17/2015	\$11	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/26/15 12:00 AM	11.50	\$131
7	10/24/2015	\$11	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/26/15 12:00 AM	4.50	\$51
8	10/31/2015	\$11	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	10/26/15 12:00 AM	-2.50	-\$29
9	11/7/2015	\$11	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	12/2/15 12:00 AM	27.50	\$314
10	11/14/2015	\$11	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	12/2/15 12:00 AM	20.50	\$234
11	11/21/2015	\$11	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	12/2/15 12:00 AM	13.50	\$154
12	11/28/2015	\$11	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$74
13	12/5/2015	\$11	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/28/15 12:00 AM	25.50	\$291
14	12/12/2015	\$11	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/28/15 12:00 AM	18.50	\$211
15	12/19/2015	\$11	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/28/15 12:00 AM	11.50	\$131
16	12/26/2015	\$11	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/28/15 12:00 AM	4.50	\$51
17									
18		<u>\$148</u>						14.27	<u>\$2,115</u>
19									
20									
21									
22									
23	Monthly								
24									
25									
26	10/31/2015	\$3	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/26/15 12:00 AM	9.50	\$25
27	11/30/2015	\$3	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/2/15 12:00 AM	16.00	\$43
28	12/31/2015	\$3	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/28/15 12:00 AM	11.50	\$31
29									
30		<u>\$8</u>						12.33	<u>\$99</u>
31									
32									
33								14.17	<u>\$2,214</u>
34	Total Weighted Lag	<u>\$156</u>							
35									
36									
37									
38	Payment date indicates the check date in Dataview.								
39									
40									

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Home Auto

4/4/2016
3:53:02 PM

Line No	Payroll Description	Amount	Start	Service Period End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$58	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/14/15 12:00 AM	13.50	\$786
5	10/10/2015	\$58	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/14/15 12:00 AM	6.50	\$378
6	10/17/2015	\$58	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/21/15 12:00 AM	6.50	\$378
7	10/24/2015	\$58	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/28/15 12:00 AM	6.50	\$380
8	10/31/2015	\$56	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/4/15 12:00 AM	6.50	\$367
9	11/7/2015	\$56	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/16/15 12:00 AM	11.50	\$649
10	11/14/2015	\$56	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/18/15 12:00 AM	6.50	\$367
11	11/21/2015	\$56	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/25/15 12:00 AM	6.50	\$366
12	11/28/2015	\$56	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$366
13	12/5/2015	\$56	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/9/15 12:00 AM	6.50	\$366
14	12/12/2015	\$56	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/16/15 12:00 AM	6.50	\$366
15	12/19/2015	\$56	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/23/15 12:00 AM	6.50	\$366
16	12/26/2015	\$56	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/30/15 12:00 AM	6.50	\$366
17									
18		<u>\$740</u>						7.43	<u>\$5,500</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$154	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/21/15 12:00 AM	4.50	\$695
27	11/30/2015	\$154	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/18/15 12:00 AM	2.00	\$309
28	12/31/2015	\$154	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/16/15 12:00 AM	-0.50	-\$77
29									
30		<u>\$463</u>						2.00	<u>\$927</u>
31									
32									
33									
34									
35	Total	<u>\$1,203</u>							
36									
37									
38									
39									
40	Payments are to Patriot Mutual Insurance								
41	Payment date indicates the check date in Dataview.								

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Stock Purchase

4/4/2016
3:53:02 PM

Line No	Payroll Description	Amount	Start	Service Period End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days	
1										
2	Weekly									
3										
4	10/3/2015	\$1,019	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	11/24/15 12:00 AM	54.50	\$55,547	
5	10/10/2015	\$1,019	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	11/24/15 12:00 AM	47.50	\$48,413	
6	10/17/2015	\$1,019	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	11/24/15 12:00 AM	40.50	\$41,278	
7	10/24/2015	\$1,019	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	11/24/15 12:00 AM	33.50	\$34,144	
8	10/31/2015	\$1,019	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/24/15 12:00 AM	26.50	\$27,009	
9	11/7/2015	\$1,019	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	2/26/16 12:00 AM	113.50	\$115,681	
10	11/14/2015	\$1,019	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	2/26/16 12:00 AM	106.50	\$108,547	
11	11/21/2015	\$1,019	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	2/26/16 12:00 AM	99.50	\$101,412	
12	11/28/2015	\$1,019	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	2/26/16 12:00 AM	92.50	\$94,278	
13	12/5/2015	\$1,019	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	2/26/16 12:00 AM	85.50	\$87,143	
14	12/12/2015	\$1,019	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	2/26/16 12:00 AM	78.50	\$80,009	
15	12/19/2015	\$1,019	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	2/26/16 12:00 AM	71.50	\$72,874	
16	12/26/2015	\$1,019	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	2/26/16 12:00 AM	64.50	\$65,740	
17										
18		<u>\$13,250</u>						70.35	<u>\$932,077</u>	
19										
20										
21										
22										
23										
24	Monthly									
25										
26	10/31/2015	\$300	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	11/24/15 12:00 AM	38.50	\$11,550	
27	11/30/2015	\$300	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	2/26/16 12:00 AM	102.00	\$30,600	
28	12/31/2015	\$300	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	2/26/16 12:00 AM	71.50	\$21,450	
29										
30		<u>\$900</u>						70.67	<u>\$63,600</u>	
31										
32										
33										
34										
35	Total	<u>\$14,150</u>								
36										
37										
38										
39	Payment date indicates the check date in Dataview- Unitil Corporation - DRP purchases.									
40										
41										

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Charity

4/4/2016
3:53:02 PM

Line No	Payroll Description	Amount	Start	Service Period End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$28	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	11/5/15 12:00 AM	35.50	\$985
5	10/10/2015	\$28	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	11/5/15 12:00 AM	28.50	\$791
6	10/17/2015	\$28	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	11/5/15 12:00 AM	21.50	\$597
7	10/24/2015	\$28	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	11/5/15 12:00 AM	14.50	\$402
8	10/31/2015	\$28	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	12/10/15 12:00 AM	42.50	\$1,179
9	11/7/2015	\$28	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	12/10/15 12:00 AM	35.50	\$985
10	11/14/2015	\$28	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	12/10/15 12:00 AM	28.50	\$791
11	11/21/2015	\$28	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	12/10/15 12:00 AM	21.50	\$597
12	11/28/2015	\$28	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/10/15 12:00 AM	14.50	\$402
13	12/5/2015	\$28	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	1/7/16 12:00 AM	35.50	\$985
14	12/12/2015	\$28	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	1/7/16 12:00 AM	28.50	\$791
15	12/19/2015	\$28	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	1/7/16 12:00 AM	21.50	\$597
16	12/26/2015	\$28	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	1/7/16 12:00 AM	14.50	\$402
17									
18		<u>\$361</u>						26.35	<u>\$9,504</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$113	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	11/5/15 12:00 AM	19.50	\$2,194
27	11/30/2015	\$113	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/10/15 12:00 AM	24.00	\$2,700
28	12/31/2015	\$113	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	1/7/16 12:00 AM	21.50	\$2,419
29									
30		<u>\$338</u>						21.67	<u>\$7,313</u>
31									
32									
33									
34									
35	Total	<u>\$698</u>							
36									
37									
38									
39	Payments are to United Way								
40	Payment date indicates the check date in Dataview.								
41									

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Auto Adjustment

4/4/2016
3:53:02 PM

Line No	Payroll Description	Amount	Start	Service Period End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days	
1										
2	Weekly									
3										
4	10/3/2015	\$0	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM			\$0	
5	10/10/2015	\$0	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM			\$0	
6	10/17/2015	\$0	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM			\$0	
7	10/24/2015	\$0	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM			\$0	
8	10/31/2015	\$0	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM			\$0	
9	11/7/2015	\$0	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM			\$0	
10	11/14/2015	\$0	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM			\$0	
11	11/21/2015	\$0	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM			\$0	
12	11/28/2015	\$0	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM			\$0	
13	12/5/2015	\$0	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM			\$0	
14	12/12/2015	\$0	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM			\$0	
15	12/19/2015	\$0	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM			\$0	
16	12/26/2015	\$0	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM			\$0	
17										
18		<u>\$0</u>						0.00	<u>\$0</u>	
19										
20										
21										
22										
23										
24	Monthly									
25										
26	10/31/2015	\$0	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM			\$0	
27	11/30/2015	\$6,046	11/1/14 12:00 AM	11/1/15 12:00 AM	365	5/2/15 12:00 PM	11/24/15 12:00 AM	205.50	\$1,242,422	
28	12/31/2015	\$6,292	11/1/14 12:00 AM	11/1/15 12:00 AM	365	5/2/15 12:00 PM	12/22/15 12:00 AM	233.50	\$1,469,082	
29										
30		<u>\$12,337</u>						219.78	<u>\$2,711,504</u>	
31										
32										
33										
34										
35	Total	<u>\$12,337</u>								
36										
37										
38	The Auto amount represents the imputed value for the personal use of a company car that is added to the employees gross wages on their W-2.									
39	Employee is responsible for taxes. Earnings is grossed up.									
40	Amount is added to earnings and deductions. Plan year is from November through October									
41										

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
PC Purchase Loan

4/4/2016
3:53:02 PM

Line No	Payroll Description	Amount	Start	Service Period End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$68	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM		-334.58	-\$22,799
5	10/10/2015	\$68	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM		-334.58	-\$22,799
6	10/17/2015	\$68	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM		-334.58	-\$22,799
7	10/24/2015	\$68	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM		-334.58	-\$22,799
8	10/31/2015	\$68	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM		-334.58	-\$22,799
9	11/7/2015	\$68	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM		-334.58	-\$22,799
10	11/14/2015	\$68	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM		-334.58	-\$22,799
11	11/21/2015	\$68	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM		-334.58	-\$22,799
12	11/28/2015	\$68	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM		-334.58	-\$22,799
13	12/5/2015	\$68	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM		-334.58	-\$22,799
14	12/12/2015	\$68	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM		-334.58	-\$22,799
15	12/19/2015	\$68	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM		-334.58	-\$22,799
16	12/26/2015	\$68	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM		-334.58	-\$22,799
17									
18		<u>\$886</u>						-334.58	<u>-\$296,381</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$60	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM		-334.58	-\$20,216
27	11/30/2015	\$60	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM		-334.58	-\$20,182
28	12/31/2015	\$0	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM			\$0
29									
30		<u>\$121</u>						-334.58	<u>-\$40,398</u>
31									
32									
33									
34									
35	Total	<u>\$1,007</u>							

Average Length of Loan is 22.0 Months.

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Activity Prizes

4/4/2016
3:53:02 PM

Line No	Payroll Description	Amount	Start	Service Period End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$0	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM			\$0
5	10/10/2015	\$0	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM			\$0
6	10/17/2015	\$0	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM			\$0
7	10/24/2015	\$0	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM			\$0
8	10/31/2015	\$0	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM			\$0
9	11/7/2015	\$0	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM			\$0
10	11/14/2015	\$0	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM			\$0
11	11/21/2015	\$0	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM			\$0
12	11/28/2015	\$0	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM			\$0
13	12/5/2015	\$0	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM			\$0
14	12/12/2015	\$0	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM			\$0
15	12/19/2015	\$100	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/16/15 12:00 PM	0.00	\$0
16	12/26/2015	\$0	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM			\$0
17									
18		<u>\$100</u>						0.00	<u>\$0</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$0	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM			\$0
27	11/30/2015	\$0	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM			\$0
28	12/31/2015	\$100	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/16/15 12:00 PM	0.00	\$0
29									
30		<u>\$100</u>						0.00	<u>\$0</u>
31									
32									
33									
34									
35	Total	<u>\$200</u>							

Gross pay and the deduction are grossed up for the amount of the prizes. Prizes given during Service period. Use midpoint of service period for payment date.

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Award

4/4/2016
3:53:02 PM

Line No	Payroll Description	Amount	Start	End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$0	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM			\$0
5	10/10/2015	\$0	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM			\$0
6	10/17/2015	\$0	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM			\$0
7	10/24/2015	\$0	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM			\$0
8	10/31/2015	\$0	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM			\$0
9	11/7/2015	\$0	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM			\$0
10	11/14/2015	\$0	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM			\$0
11	11/21/2015	\$0	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM			\$0
12	11/28/2015	\$0	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM			\$0
13	12/5/2015	\$0	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM			\$0
14	12/12/2015	\$0	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM			\$0
15	12/19/2015	\$0	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM			\$0
16	12/26/2015	\$0	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM			\$0
17									
18		<u>\$0</u>						0.00	<u>\$0</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$0	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM			\$0
27	11/30/2015	\$0	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM			\$0
28	12/31/2015	\$0	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM			\$0
29									
30		<u>\$0</u>						0.00	<u>\$0</u>
31									
32									
33									
34									
35	Total	<u>\$0</u>							

Five Year Service Awards. Lags are based on 5 year service period.
Exceptional EE Awards are given out Quarterly during the year. Added to payroll at the end of the year. Lag based on the midpoint of the quarter.

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Union Dues

4/4/2016
3:53:02 PM

Line No	Payroll Description	Amount	Start	Service Period End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$812	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	11/4/15 12:00 AM	34.50	\$28,014
5	10/10/2015	\$812	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	11/4/15 12:00 AM	27.50	\$22,330
6	10/17/2015	\$813	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	11/4/15 12:00 AM	20.50	\$16,669
7	10/24/2015	\$813	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	11/4/15 12:00 AM	13.50	\$10,977
8	10/31/2015	\$813	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/4/15 12:00 AM	6.50	\$5,285
9	11/7/2015	\$813	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	12/7/15 12:00 AM	32.50	\$26,426
10	11/14/2015	\$813	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	12/7/15 12:00 AM	25.50	\$20,735
11	11/21/2015	\$813	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	12/7/15 12:00 AM	18.50	\$15,043
12	11/28/2015	\$813	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/7/15 12:00 AM	11.50	\$9,351
13	12/5/2015	\$791	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	1/4/16 12:00 AM	32.50	\$25,722
14	12/12/2015	\$791	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	1/4/16 12:00 AM	25.50	\$20,163
15	12/19/2015	\$791	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	1/4/16 12:00 AM	18.50	\$14,628
16	12/26/2015	\$791	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	1/4/16 12:00 AM	11.50	\$9,093
17									
18		<u>\$10,479</u>						21.42	<u>\$224,437</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$0	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM			\$0
27	11/30/2015	\$0	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM			\$0
28	12/31/2015	\$0	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM			\$0
29									
30		<u>\$0</u>						0.00	<u>\$0</u>
31									
32									
33									
34									
35	Total	<u>\$10,479</u>							
36									
37									
38									
39	Payment date indicates the check date in Dataview.								
40									
41									

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Medical Care

4/4/2016
3:53:02 PM

Line No	Payroll Description	Amount	Start	Service Period End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$58	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/7/15 12:00 AM	6.50	\$375
5	10/10/2015	\$58	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/14/15 12:00 AM	6.50	\$375
6	10/17/2015	\$58	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/21/15 12:00 AM	6.50	\$375
7	10/24/2015	\$58	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/28/15 12:00 AM	6.50	\$375
8	10/31/2015	\$58	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/4/15 12:00 AM	6.50	\$375
9	11/7/2015	\$58	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/12/15 12:00 AM	7.50	\$433
10	11/14/2015	\$58	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/18/15 12:00 AM	6.50	\$375
11	11/21/2015	\$58	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/24/15 12:00 AM	5.50	\$317
12	11/28/2015	\$58	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$375
13	12/5/2015	\$58	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/9/15 12:00 AM	6.50	\$375
14	12/12/2015	\$58	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/16/15 12:00 AM	6.50	\$375
15	12/19/2015	\$58	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/23/15 12:00 AM	6.50	\$375
16	12/26/2015	\$58	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/30/15 12:00 AM	6.50	\$375
17									
18		<u>\$750</u>						6.50	<u>\$4,874</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$75	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/21/15 12:00 AM	4.50	\$338
27	11/30/2015	\$75	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/18/15 12:00 AM	2.00	\$150
28	12/31/2015	\$75	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/16/15 12:00 AM	-0.50	-\$38
29									
30		<u>\$225</u>						2.00	<u>\$450</u>
31									
32									
33									
34									
35	Total	<u>\$975</u>							
36									
37									
38									
39	Payment date indicates the check date in Dataview								
40									
41									

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Dependent Care

4/4/2016
3:53:02 PM

Line No	Payroll Description	Amount	Start	End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$0	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM			\$0
5	10/10/2015	\$0	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM			\$0
6	10/17/2015	\$0	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM			\$0
7	10/24/2015	\$0	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM			\$0
8	10/31/2015	\$0	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM			\$0
9	11/7/2015	\$0	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM			\$0
10	11/14/2015	\$0	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM			\$0
11	11/21/2015	\$0	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM			\$0
12	11/28/2015	\$0	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM			\$0
13	12/5/2015	\$0	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM			\$0
14	12/12/2015	\$0	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM			\$0
15	12/19/2015	\$0	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM			\$0
16	12/26/2015	\$0	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM			\$0
17									
18		<u>\$0</u>						0.00	<u>\$0</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$0	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM			\$0
27	11/30/2015	\$0	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM			\$0
28	12/31/2015	\$0	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM			\$0
29									
30		<u>\$0</u>						0.00	<u>\$0</u>
31									
32									
33									
34									
35	Total	<u>\$0</u>							
36									
37									
38									
39									
40									
41									

Unitil Energy Systems, Inc.
 Calculation of Payroll Lag Days
 12 Months Ended Dec 31, 2015
 Miscellaneous

4/4/2016
 3:53:02 PM

Line No	Payroll Description	Amount	Start	Service Period	End	Total Days	Midpoint Service Period	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										
42										
43										
44										

The payroll deductions represent the adjustments to UES employees for their worker's comp checks that are turned over to us. Since they already received 100% of their pay they owe us the Worker Comp reimbursement. The employee signs the back of the check and gives it to UES. We will make adjustments in the system to reduce their taxable wage bases (Federal, Social Security, Medicare, and State (if applicable)) by the amount of the check, as the worker's comp portion is not taxable to the employee. The amount of the check(s) from worker's comp becomes the gross amount and the deduction is the offset to the adjustment. Both the gross and deduction are charged to the same account number so they offset each other in the general ledger. Payment dates for Workmen's Compensation are the UES deposit dates on the checks the employee signs and gives back to UES.

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
ADP Payroll Lead Lag Summary

4/4/2016
4:32:29 PM

Line No	Gross Payroll Items	Amount	(Lead) Lag Days	Weighted Dollar Days
1				
2	<u>Weekly</u>			
3	Net Payroll	\$607,512	6.28	\$3,813,486
4	Garnishment	\$0	0.00	\$0
5	FIT Withholding	\$132,181	6.28	\$830,680
6	EE Soc Sec	\$52,504	6.28	\$329,784
7	EE Medicare	\$13,283	6.28	\$83,414
8	ME State W/H	\$4,772	6.29	\$30,015
9	MA State W/H	\$0	0.00	\$0
10				
11	Total Weekly Payroll	<u>\$810,253</u>	6.28	<u>\$5,087,380</u>
12				
13				
14	<u>Monthly</u>			
15	Net Payroll	\$169,903	6.33	\$1,074,781
16	Garnishment	\$0	0.00	\$0
17	FIT Withholding	\$35,191	6.32	\$222,520
18	EE Soc Sec	\$13,790	6.36	\$87,684
19	EE Medicare	\$3,800	6.35	\$24,121
20	ME State W/H	\$0	0.00	\$0
21	MA State W/H	\$0	0.00	\$0
22				
23	Total Monthly Payroll	<u>\$222,684</u>	6.33	<u>\$1,409,106</u>
24				
25				
26	Total Weekly & Monthly	<u>\$1,032,937</u>	6.29	<u>\$6,496,485</u>
27				
28				
29	<u>Incentive Pay</u>			
30	Net Payroll	\$78,905	222.50	\$17,556,385
31	Garnishment	\$0	0.00	\$0
32	FIT Withholding	\$29,359	222.50	\$6,532,469
33	EE Soc Sec	\$7,434	222.50	\$1,654,172
34	EE Medicare	\$1,739	222.50	\$386,861
35	ME State W/H	\$0	0.00	\$0
36	MA State W/H	\$0	0.00	\$0
37				
38	Total Incentive Payroll	<u>\$117,438</u>	222.50	<u>\$26,129,866</u>
39				
40		\$1,150,375		

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
ADP Payroll Lead Lag Summary

4/4/2016
4:32:29 PM

Line No	Gross Payroll Items	Amount	(Lead) Lag Days	Weighted Dollar Days
41				
42		Annual		
43	<u>Employer Payroll Taxes</u>	<u>Expense</u>		
44	Social Security Employer Weekly	\$227,375	6.28	\$1,428,168
45	Social Security Employer Monthly	\$60,393	6.36	\$384,014
46	Social Security Employer Incentive	\$7,434	222.50	\$1,654,172
47	Medicare Employer Weekly	\$54,180	6.28	\$340,241
48	Mecicare Employer Monthly	\$14,699	6.35	\$93,297
49	Mecicare Employer Incentive	\$1,739	222.50	\$386,863
50	FUI Employer Weekly	\$1,866	6.28	\$11,719
51	FUI Employer Monthly	\$456	6.33	\$2,886
52	FUI Employer Incentive	\$101	222.50	\$22,515
53	SUI Employer Weekly	\$624	6.28	\$3,920
54	SUI Employer Monthly	\$108	6.33	\$686
55	SUI Employer incentive	\$74	222.50	\$16,423
56				
57	Total Employer Payroll Taxes	<u>\$369,051</u>	11.77	<u>\$4,344,904</u>
58				
59				
60	Total FICA Taxes	<u>\$365,820</u>	11.72	<u>\$4,286,755</u>
61				
62	Total Federal Unemployment Taxes	<u>\$2,424</u>	15.32	<u>\$37,120</u>
63				
64	Total State Unemployment Taxes	<u>\$807</u>	26.07	<u>\$21,029</u>
65				

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Total Payroll Service

4/4/2016
4:32:29 PM

Line No	Payroll Description	Gross Pay Amount	Total ADP Payroll Items	Total Transfer to ADP	Difference	Total Payroll Deductions
1						
2	<u>Weekly</u>					
3						
4	10/3/2015	\$69,974	\$63,399	\$63,399	\$0	\$58,394
5	10/10/2015	\$79,469	\$73,041	\$73,041	\$0	\$67,481
6	10/17/2015	\$70,635	\$64,059	\$64,059	\$0	\$58,975
7	10/24/2015	\$63,216	\$64,432	\$64,432	\$0	\$59,959
8	10/31/2015	\$77,279	\$70,601	\$70,601	\$0	\$65,081
9	11/7/2015	\$70,077	\$63,570	\$63,570	\$0	\$58,552
10	11/14/2015	\$81,858	\$75,092	\$75,092	\$0	\$69,417
11	11/21/2015	\$71,977	\$69,493	\$69,493	\$0	\$64,686
12	11/28/2015	\$72,742	\$65,731	\$65,731	\$0	\$60,927
13	12/5/2015	\$80,385	\$73,921	\$73,921	\$0	\$68,448
14	12/12/2015	\$71,067	\$64,514	\$64,514	\$0	\$59,592
15	12/19/2015	\$67,613	\$60,618	\$60,618	\$0	\$56,026
16	12/26/2015	\$74,192	\$67,569	\$67,569	\$0	\$62,715
17						
18		<u>\$950,483</u>	<u>\$876,040</u>	<u>\$876,040</u>		<u>\$810,253</u>
19						
20						
21						
22						
23						
24	<u>Monthly</u>					
25						
26	10/31/2015	\$88,004	\$80,718	\$80,718	\$0	\$74,537
27	11/30/2015	\$93,250	\$79,761	\$79,761	\$0	\$73,737
28	12/31/2015	\$94,201	\$79,796	\$79,796	\$0	\$74,410
29						
30		<u>\$275,455</u>	<u>\$240,274</u>	<u>\$240,274</u>		<u>\$222,684</u>
31						
32						
33	<u>Incentive Pay</u>					
34	February 2016					
35	Incentive Pay-Weekly	\$18,879	\$19,503	\$19,503	\$0	\$17,975
36	Incentive Pay-Salary	\$101,032	\$107,283	\$107,283	\$0	\$99,463
37						
38		<u>\$119,911</u>	<u>\$126,786</u>	<u>\$126,786</u>		<u>\$117,438</u>
39						
40						
41	Total	<u>\$1,345,849</u>	<u>\$1,243,100</u>	<u>\$1,243,100</u>		<u>\$1,150,375</u>
42						

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Net Payroll

4/4/2016
4:32:29 PM

Line No	Payroll Description	Net Payroll Amount	Service Period Start	End	Total Days	Midpoint Service Period	Wire Transfer Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$43,922	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/7/15 12:00 AM	6.50	\$285,496
5	10/10/2015	\$50,066	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/14/15 12:00 AM	6.50	\$325,428
6	10/17/2015	\$44,338	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/21/15 12:00 AM	6.50	\$288,195
7	10/24/2015	\$45,634	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/28/15 12:00 AM	6.50	\$296,621
8	10/31/2015	\$48,534	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/4/15 12:00 AM	6.50	\$315,470
9	11/7/2015	\$44,050	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/10/15 12:00 AM	5.50	\$242,277
10	11/14/2015	\$51,435	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/18/15 12:00 AM	6.50	\$334,330
11	11/21/2015	\$48,833	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/24/15 12:00 AM	5.50	\$268,584
12	11/28/2015	\$45,733	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$297,264
13	12/5/2015	\$50,734	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/9/15 12:00 AM	6.50	\$329,774
14	12/12/2015	\$44,751	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/16/15 12:00 AM	6.50	\$290,881
15	12/19/2015	\$42,461	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$233,533
16	12/26/2015	\$47,021	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/30/15 12:00 AM	6.50	\$305,634
17									
18		<u>\$607,512</u>						6.28	<u>\$3,813,486</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$56,556	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/22/15 12:00 AM	5.50	\$311,059
27	11/30/2015	\$56,126	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/24/15 12:00 AM	8.00	\$449,005
28	12/31/2015	\$57,221	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$314,716
29									
30		<u>\$169,903</u>						6.33	<u>\$1,074,781</u>
31									
32									
33	Incentive Pay								
34	February 2016								
35	Incentive Pay-Weekly	\$12,037	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$2,678,264
36	Incentive Pay-Salary	\$66,868	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$14,878,121
37		<u>\$78,905</u>						222.50	<u>\$17,556,385</u>
38									
39									
40	Total	<u>\$856,320</u>							

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
Garnishment

4/4/2016
4:32:29 PM

Line No	Payroll Description	Amount	Service Period Start	End	Total Days	Midpoint Service Period	Wire Transfer Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$0	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/7/15 12:00 AM	6.50	\$0
5	10/10/2015	\$0	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/14/15 12:00 AM	6.50	\$0
6	10/17/2015	\$0	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/21/15 12:00 AM	6.50	\$0
7	10/24/2015	\$0	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/28/15 12:00 AM	6.50	\$0
8	10/31/2015	\$0	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/4/15 12:00 AM	6.50	\$0
9	11/7/2015	\$0	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/10/15 12:00 AM	5.50	\$0
10	11/14/2015	\$0	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/18/15 12:00 AM	6.50	\$0
11	11/21/2015	\$0	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/24/15 12:00 AM	5.50	\$0
12	11/28/2015	\$0	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$0
13	12/5/2015	\$0	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/9/15 12:00 AM	6.50	\$0
14	12/12/2015	\$0	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/16/15 12:00 AM	6.50	\$0
15	12/19/2015	\$0	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$0
16	12/26/2015	\$0	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/30/15 12:00 AM	6.50	\$0
17									
18		<u>\$0</u>						0.00	<u>\$0</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$0	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/22/15 12:00 AM	5.50	\$0
27	11/30/2015	\$0	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/24/15 12:00 AM	8.00	\$0
28	12/31/2015	\$0	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$0
29									
30		<u>\$0</u>						0.00	<u>\$0</u>
31									
32									
33	Incentive Pay								
34	February 2016								
35	Incentive Pay-Weekly	\$0	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$0
36	Incentive Pay-Salary	\$0	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$0
37		<u>\$0</u>						0.00	<u>\$0</u>
38									
39									
40	Total	<u>\$0</u>							

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
FIT Withholding

4/4/2016
4:32:29 PM

Line No	Payroll Description	Amount	Service Period Start	Service Period End	Total Days	Midpoint Service Period	Wire Transfer Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$9,125	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/7/15 12:00 AM	6.50	\$59,316
5	10/10/2015	\$11,365	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/14/15 12:00 AM	6.50	\$73,871
6	10/17/2015	\$9,196	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/21/15 12:00 AM	6.50	\$59,776
7	10/24/2015	\$9,478	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/28/15 12:00 AM	6.50	\$61,608
8	10/31/2015	\$10,659	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/4/15 12:00 AM	6.50	\$69,286
9	11/7/2015	\$9,165	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/10/15 12:00 AM	5.50	\$50,410
10	11/14/2015	\$11,997	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/18/15 12:00 AM	6.50	\$77,981
11	11/21/2015	\$10,722	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/24/15 12:00 AM	5.50	\$58,971
12	11/28/2015	\$9,922	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$64,494
13	12/5/2015	\$11,894	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/9/15 12:00 AM	6.50	\$77,309
14	12/12/2015	\$9,564	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/16/15 12:00 AM	6.50	\$62,169
15	12/19/2015	\$8,610	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$47,357
16	12/26/2015	\$10,482	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/30/15 12:00 AM	6.50	\$68,134
17									
18		<u>\$132,181</u>						6.28	<u>\$830,680</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$11,800	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/22/15 12:00 AM	5.50	\$64,899
27	11/30/2015	\$11,588	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/24/15 12:00 AM	8.00	\$92,703
28	12/31/2015	\$11,803	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$64,918
29									
30		<u>\$35,191</u>						6.32	<u>\$222,520</u>
31									
32									
33	Incentive Pay								
34	February 2016								
35	Incentive Pay-Weekly	\$4,494	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$999,868
36	Incentive Pay-Salary	\$24,866	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$5,532,600
37		<u>\$29,359</u>						222.50	<u>\$6,532,469</u>
38									
39									
40	Total	<u>\$196,732</u>							

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
EE Soc Sec

4/4/2016
4:32:29 PM

Line No	Payroll Description	Amount	Start	Service Period End	Total Days	Midpoint Service Period	Wire Transfer Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$4,029	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/7/15 12:00 AM	6.50	\$26,189
5	10/10/2015	\$4,448	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/14/15 12:00 AM	6.50	\$28,909
6	10/17/2015	\$4,099	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/21/15 12:00 AM	6.50	\$26,644
7	10/24/2015	\$3,596	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/28/15 12:00 AM	6.50	\$23,376
8	10/31/2015	\$4,438	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/4/15 12:00 AM	6.50	\$28,846
9	11/7/2015	\$4,041	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/10/15 12:00 AM	5.50	\$22,226
10	11/14/2015	\$4,527	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/18/15 12:00 AM	6.50	\$29,422
11	11/21/2015	\$3,803	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/24/15 12:00 AM	5.50	\$20,914
12	11/28/2015	\$3,787	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$24,614
13	12/5/2015	\$4,345	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/9/15 12:00 AM	6.50	\$28,239
14	12/12/2015	\$3,928	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/16/15 12:00 AM	6.50	\$25,534
15	12/19/2015	\$3,649	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$20,068
16	12/26/2015	\$3,815	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/30/15 12:00 AM	6.50	\$24,800
17									
18		<u>\$52,504</u>						6.28	<u>\$329,784</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$4,969	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/22/15 12:00 AM	5.50	\$27,331
27	11/30/2015	\$4,736	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/24/15 12:00 AM	8.00	\$37,888
28	12/31/2015	\$4,084	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$22,464
29									
30		<u>\$13,790</u>						6.36	<u>\$87,684</u>
31									
32									
33	Incentive Pay								
34	February 2016								
35	Incentive Pay-Weekly	\$1,171	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$260,436
36	Incentive Pay-Salary	\$6,264	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$1,393,736
37		<u>\$7,434</u>						222.50	<u>\$1,654,172</u>
38									
39									
40	Total	<u>\$73,728</u>							

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
EE Medicare

4/4/2016
4:32:29 PM

Line No	Payroll Description	Amount	Service Period Start	Service Period End	Total Days	Midpoint Service Period	Wire Transfer Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$976	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/7/15 12:00 AM	6.50	\$6,341
5	10/10/2015	\$1,113	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/14/15 12:00 AM	6.50	\$7,236
6	10/17/2015	\$985	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/21/15 12:00 AM	6.50	\$6,403
7	10/24/2015	\$878	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/28/15 12:00 AM	6.50	\$5,704
8	10/31/2015	\$1,082	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/4/15 12:00 AM	6.50	\$7,030
9	11/7/2015	\$977	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/10/15 12:00 AM	5.50	\$5,374
10	11/14/2015	\$1,148	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/18/15 12:00 AM	6.50	\$7,461
11	11/21/2015	\$1,005	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/24/15 12:00 AM	5.50	\$5,525
12	11/28/2015	\$1,017	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$6,613
13	12/5/2015	\$1,128	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/9/15 12:00 AM	6.50	\$7,334
14	12/12/2015	\$993	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/16/15 12:00 AM	6.50	\$6,455
15	12/19/2015	\$943	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$5,187
16	12/26/2015	\$1,038	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/30/15 12:00 AM	6.50	\$6,750
17									
18		<u>\$13,283</u>						6.28	<u>\$83,414</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$1,212	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/22/15 12:00 AM	5.50	\$6,663
27	11/30/2015	\$1,288	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/24/15 12:00 AM	8.00	\$10,301
28	12/31/2015	\$1,301	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$7,157
29									
30		<u>\$3,800</u>						6.35	<u>\$24,121</u>
31									
32									
33	Incentive Pay								
34	February 2016								
35	Incentive Pay-Weekly	\$274	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$60,907
36	Incentive Pay-Salary	\$1,465	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$325,954
37		<u>\$1,739</u>						222.50	<u>\$386,861</u>
38									
39									
40	Total	<u>\$18,822</u>							

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
ME State W/H

4/4/2016
4:32:29 PM

Line No	Payroll Description	Amount	Service Period Start	Service Period End	Total Days	Midpoint Service Period	Wire Transfer Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$341	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/7/15 12:00 AM	6.50	\$2,218
5	10/10/2015	\$489	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/14/15 12:00 AM	6.50	\$3,180
6	10/17/2015	\$357	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/21/15 12:00 AM	6.50	\$2,317
7	10/24/2015	\$373	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/28/15 12:00 AM	6.50	\$2,422
8	10/31/2015	\$369	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/4/15 12:00 AM	6.50	\$2,397
9	11/7/2015	\$318	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/10/15 12:00 AM	5.50	\$1,751
10	11/14/2015	\$310	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/18/15 12:00 AM	6.50	\$2,017
11	11/21/2015	\$323	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/24/15 12:00 AM	5.50	\$1,778
12	11/28/2015	\$467	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$3,038
13	12/5/2015	\$347	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/9/15 12:00 AM	6.50	\$2,258
14	12/12/2015	\$356	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/16/15 12:00 AM	6.50	\$2,311
15	12/19/2015	\$364	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$2,001
16	12/26/2015	\$358	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/30/15 12:00 AM	6.50	\$2,327
17									
18		<u>\$4,772</u>						6.29	<u>\$30,015</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$0	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/22/15 12:00 AM	5.50	\$0
27	11/30/2015	\$0	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/24/15 12:00 AM	8.00	\$0
28	12/31/2015	\$0	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$0
29									
30		<u>\$0</u>						#DIV/0!	<u>\$0</u>
31									
32									
33	Incentive Pay								
34	February 2016								
35	Incentive Pay-Weekly	\$0	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$0
36	Incentive Pay-Salary	\$0	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$0
37		<u>\$0</u>						#DIV/0!	<u>\$0</u>
38									
39									
40	Total	<u>\$4,772</u>							

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
MA State W/H

4/4/2016
4:32:29 PM

Line No	Payroll Description	Amount	Service Period Start	Service Period End	Total Days	Midpoint Service Period	Wire Transfer Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$0	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/7/15 12:00 AM	6.50	\$0
5	10/10/2015	\$0	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/14/15 12:00 AM	6.50	\$0
6	10/17/2015	\$0	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/21/15 12:00 AM	6.50	\$0
7	10/24/2015	\$0	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/28/15 12:00 AM	6.50	\$0
8	10/31/2015	\$0	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/4/15 12:00 AM	6.50	\$0
9	11/7/2015	\$0	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/10/15 12:00 AM	5.50	\$0
10	11/14/2015	\$0	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/18/15 12:00 AM	6.50	\$0
11	11/21/2015	\$0	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/24/15 12:00 AM	5.50	\$0
12	11/28/2015	\$0	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$0
13	12/5/2015	\$0	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/9/15 12:00 AM	6.50	\$0
14	12/12/2015	\$0	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/16/15 12:00 AM	6.50	\$0
15	12/19/2015	\$0	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$0
16	12/26/2015	\$0	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/30/15 12:00 AM	6.50	\$0
17									
18		<u>\$0</u>						#DIV/0!	<u>\$0</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$0	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/22/15 12:00 AM	5.50	\$0
27	11/30/2015	\$0	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/24/15 12:00 AM	8.00	\$0
28	12/31/2015	\$0	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$0
29									
30		<u>\$0</u>						#DIV/0!	<u>\$0</u>
31									
32									
33	Incentive Pay								
34	February 2016								
35	Incentive Pay-Weekly	\$0	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$0
36	Incentive Pay-Salary	\$0	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$0
37		<u>\$0</u>						#DIV/0!	<u>\$0</u>
38									
39									
40	Total	<u>\$0</u>							

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
ER Soc Sec

4/4/2016
4:32:29 PM

Line No	Payroll Description	Amount	Start	Service Period End	Total Days	Midpoint Service Period	Wire Transfer Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$4,029	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/7/15 12:00 AM	6.50	\$26,190
5	10/10/2015	\$4,448	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/14/15 12:00 AM	6.50	\$28,909
6	10/17/2015	\$4,099	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/21/15 12:00 AM	6.50	\$26,644
7	10/24/2015	\$3,596	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/28/15 12:00 AM	6.50	\$23,376
8	10/31/2015	\$4,438	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/4/15 12:00 AM	6.50	\$28,846
9	11/7/2015	\$4,041	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/10/15 12:00 AM	5.50	\$22,226
10	11/14/2015	\$4,526	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/18/15 12:00 AM	6.50	\$29,422
11	11/21/2015	\$3,803	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/24/15 12:00 AM	5.50	\$20,914
12	11/28/2015	\$3,787	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$24,614
13	12/5/2015	\$4,345	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/9/15 12:00 AM	6.50	\$28,239
14	12/12/2015	\$3,928	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/16/15 12:00 AM	6.50	\$25,534
15	12/19/2015	\$3,649	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$20,068
16	12/26/2015	\$3,815	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/30/15 12:00 AM	6.50	\$24,800
17									
18		<u>\$52,504</u>						6.28	<u>\$329,784</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$4,969	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/22/15 12:00 AM	5.50	\$27,331
27	11/30/2015	\$4,736	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/24/15 12:00 AM	8.00	\$37,888
28	12/31/2015	\$4,084	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$22,464
29									
30		<u>\$13,790</u>						6.36	<u>\$87,684</u>
31									
32									
33	Incentive Pay								
34	February 2016								
35	Incentive Pay-Weekly	\$1,171	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$260,436
36	Incentive Pay-Salary	\$6,264	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$1,393,736
37		<u>\$7,434</u>						222.50	<u>\$1,654,172</u>
38									
39									
40	Total	<u>\$73,728</u>							

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
ER Medicare

4/4/2016
4:32:29 PM

Line No	Payroll Description	Amount	Service Period Start	Service Period End	Total Days	Midpoint Service Period	Wire Transfer Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$976	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/7/15 12:00 AM	6.50	\$6,341
5	10/10/2015	\$1,113	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/14/15 12:00 AM	6.50	\$7,236
6	10/17/2015	\$985	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/21/15 12:00 AM	6.50	\$6,403
7	10/24/2015	\$878	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/28/15 12:00 AM	6.50	\$5,704
8	10/31/2015	\$1,081	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/4/15 12:00 AM	6.50	\$7,030
9	11/7/2015	\$977	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/10/15 12:00 AM	5.50	\$5,374
10	11/14/2015	\$1,148	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/18/15 12:00 AM	6.50	\$7,461
11	11/21/2015	\$1,005	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/24/15 12:00 AM	5.50	\$5,525
12	11/28/2015	\$1,017	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$6,613
13	12/5/2015	\$1,128	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/9/15 12:00 AM	6.50	\$7,334
14	12/12/2015	\$993	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/16/15 12:00 AM	6.50	\$6,455
15	12/19/2015	\$943	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$5,187
16	12/26/2015	\$1,038	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/30/15 12:00 AM	6.50	\$6,750
17									
18		<u>\$13,283</u>						6.28	<u>\$83,414</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$1,212	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/22/15 12:00 AM	5.50	\$6,663
27	11/30/2015	\$1,288	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/24/15 12:00 AM	8.00	\$10,301
28	12/31/2015	\$1,301	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$7,157
29									
30		<u>\$3,800</u>						6.35	<u>\$24,121</u>
31									
32									
33	Incentive Pay								
34	February 2016								
35	Incentive Pay-Weekly	\$274	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$60,909
36	Incentive Pay-Salary	\$1,465	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$325,954
37		<u>\$1,739</u>						222.50	<u>\$386,863</u>
38									
39									
40	Total	<u>\$18,822</u>							

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
FUI Employer

4/4/2016
4:32:29 PM

Line No	Payroll Description	Net Payroll Amount	Service Period Start	Service Period End	Total Days	Midpoint Service Period	Wire Transfer Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$0	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/7/15 12:00 AM	6.50	\$0
5	10/10/2015	\$0	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/14/15 12:00 AM	6.50	\$0
6	10/17/2015	\$0	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/21/15 12:00 AM	6.50	\$0
7	10/24/2015	\$0	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/28/15 12:00 AM	6.50	\$0
8	10/31/2015	\$0	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/4/15 12:00 AM	6.50	\$0
9	11/7/2015	\$0	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/10/15 12:00 AM	5.50	\$0
10	11/14/2015	\$0	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/18/15 12:00 AM	6.50	\$0
11	11/21/2015	\$0	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/24/15 12:00 AM	5.50	\$0
12	11/28/2015	\$0	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$0
13	12/5/2015	\$0	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/9/15 12:00 AM	6.50	\$0
14	12/12/2015	\$0	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/16/15 12:00 AM	6.50	\$0
15	12/19/2015	\$0	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$0
16	12/26/2015	\$0	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/30/15 12:00 AM	6.50	\$0
17									
18		<u>\$0</u>						0.00	<u>\$0</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$0	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/22/15 12:00 AM	5.50	\$0
27	11/30/2015	\$0	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/24/15 12:00 AM	8.00	\$0
28	12/31/2015	\$0	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$0
29									
30		<u>\$0</u>						0.00	<u>\$0</u>
31									
32									
33	Incentive Pay								
34	February 2016								
35	Incentive Pay-Weekly	\$65	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$14,429
36	Incentive Pay-Salary	\$36	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$8,086
37		<u>\$101</u>						222.50	<u>\$22,515</u>
38									
39									
40	Total	<u>\$101</u>							

Unitil Energy Systems, Inc.
Calculation of Payroll Lag Days
12 Months Ended Dec 31, 2015
SUI Employer

4/4/2016
4:32:29 PM

Line No	Payroll Description	Amount	Service Period Start	Service Period End	Total Days	Midpoint Service Period	Wire Transfer Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Weekly								
3									
4	10/3/2015	\$0	9/27/15 12:00 AM	10/4/15 12:00 AM	7	9/30/15 12:00 PM	10/7/15 12:00 AM	6.50	\$0
5	10/10/2015	\$0	10/4/15 12:00 AM	10/11/15 12:00 AM	7	10/7/15 12:00 PM	10/14/15 12:00 AM	6.50	\$0
6	10/17/2015	\$0	10/11/15 12:00 AM	10/18/15 12:00 AM	7	10/14/15 12:00 PM	10/21/15 12:00 AM	6.50	\$0
7	10/24/2015	\$0	10/18/15 12:00 AM	10/25/15 12:00 AM	7	10/21/15 12:00 PM	10/28/15 12:00 AM	6.50	\$0
8	10/31/2015	\$0	10/25/15 12:00 AM	11/1/15 12:00 AM	7	10/28/15 12:00 PM	11/4/15 12:00 AM	6.50	\$0
9	11/7/2015	\$0	11/1/15 12:00 AM	11/8/15 12:00 AM	7	11/4/15 12:00 PM	11/10/15 12:00 AM	5.50	\$0
10	11/14/2015	\$0	11/8/15 12:00 AM	11/15/15 12:00 AM	7	11/11/15 12:00 PM	11/18/15 12:00 AM	6.50	\$0
11	11/21/2015	\$0	11/15/15 12:00 AM	11/22/15 12:00 AM	7	11/18/15 12:00 PM	11/24/15 12:00 AM	5.50	\$0
12	11/28/2015	\$0	11/22/15 12:00 AM	11/29/15 12:00 AM	7	11/25/15 12:00 PM	12/2/15 12:00 AM	6.50	\$0
13	12/5/2015	\$0	11/29/15 12:00 AM	12/6/15 12:00 AM	7	12/2/15 12:00 PM	12/9/15 12:00 AM	6.50	\$0
14	12/12/2015	\$0	12/6/15 12:00 AM	12/13/15 12:00 AM	7	12/9/15 12:00 PM	12/16/15 12:00 AM	6.50	\$0
15	12/19/2015	\$0	12/13/15 12:00 AM	12/20/15 12:00 AM	7	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$0
16	12/26/2015	\$0	12/20/15 12:00 AM	12/27/15 12:00 AM	7	12/23/15 12:00 PM	12/30/15 12:00 AM	6.50	\$0
17									
18		<u>\$0</u>						0.00	<u>\$0</u>
19									
20									
21									
22									
23									
24	Monthly								
25									
26	10/31/2015	\$0	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/22/15 12:00 AM	5.50	\$0
27	11/30/2015	\$0	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/24/15 12:00 AM	8.00	\$0
28	12/31/2015	\$0	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/22/15 12:00 AM	5.50	\$0
29									
30		<u>\$0</u>						0.00	<u>\$0</u>
31									
32									
33	Incentive Pay								
34	February 2016								
35	Incentive Pay-Weekly	\$19	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$4,201
36	Incentive Pay-Salary	\$55	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	2/10/16 12:00 AM	222.50	\$12,222
37		<u>\$74</u>						222.50	<u>\$16,423</u>
38									
39									
40	Total	<u>\$74</u>							

Unitil Energy Systems, Inc.
Calculation of Pension & Benefits Lead Lag Days
12 Months Ended Dec 31, 2015
Summary of Employee Benefits Acct 926

4/5/2016
11:15:45 AM

Line No	Description of Benefit	Amount Expensed	(Lead) Lag Days	Weighted Dollar Days
1	Empl Pension Fund Services	\$11,769	98.41	\$1,158,214
2	Cap Employee Pension 410K	\$181,837	11.58	\$2,106,456
3	401K Capitalized	-\$114,593	11.58	-\$1,327,489
4	Cap Health Insurance Medical Only	\$525,381	61.59	\$32,355,875
5	Health Ins - Emp Contr - Medical Only	-\$92,115	61.59	-\$5,672,972
6	Health Insurance - Drug Subsidy	-\$20,758	338.58	-\$7,028,247
7	Cap Health Insurance UES (Union)	\$427,388	61.59	\$26,320,915
8	Health Ins Union - Emp Contr - Medical Only	-\$74,231	61.59	-\$4,571,579
9	Cap Dental Insurance	\$28,460	47.13	\$1,341,409
10	Dental Insurance - Emp Contribution	-\$7,468	47.13	-\$352,008
11	Vision	\$5,314	45.17	\$240,025
12	Vision - Employee Contr	-\$1,829	45.17	-\$82,616
13	Cap Empl Benefit - Life Insurance	\$14,957	13.85	\$207,158
14	Cap AD&D Insurance	\$1,582	14.17	\$22,414
15	Cap LTD Insurance	\$19,894	17.41	\$346,426
16	Employee Benefit Accrual Adj	-\$40,949	59.54	-\$2,438,186
17	Benefit Cost Capitalized	-\$644,679	59.54	-\$38,385,876
18	Empl Benefits Other	\$53,454	24.47	\$1,308,123
19	Cap FASB 87 - Pension	\$1,622,112	371.75	\$603,020,136
20	FASB 87 Year End Accrual Adj	-\$5	371.75	-\$1,859
21	FASB 87 Pension Cost Capitalized	-\$1,022,255	371.75	-\$380,023,289
22	Cap SFAS 106 - PBOP Expense	\$1,168,213	14.04	\$16,403,659
23	SFAS 106 Year End Accrual Adj	-\$2	14.04	-\$28
24	SFAS 106 PBOP Cost Capitalized	-\$736,208	14.04	-\$10,337,586
25				
26	Total Pensions & Benefits	<u>\$1,305,266</u>		<u>\$234,609,075</u>
27				
28	Total Base Rate Pensions & Benefits	<u>\$1,305,266</u>	179.74	<u>\$234,609,075</u>
29				
30	Totl 401k used for Capitalized Items	<u>\$181,837</u>	11.58	<u>\$2,106,456</u>
31				
32	Total Direct Pensions used for Capitalized Items	<u>\$1,622,112</u>	371.75	<u>\$603,020,136</u>
33				
34	Total Direct PBOP used for Capitalized Items	<u>\$1,168,213</u>	14.04	<u>\$16,403,659</u>
35				
36	Total Direct Benefits used for Capitalized Items	<u>\$1,017,661</u>	59.54	<u>\$60,594,198</u>
37				
38	Acct 926 - USC			
39	FASB 87 - Pension Exp - USC Alloc	\$931,151	37.23	\$34,663,510
40	FASB 87 Pension Capitalized - USC Alloc	-\$262,678	37.23	-\$9,778,588
41	SFAS 106 - PBOP Expense - USC Alloc	\$685,625	37.23	\$25,523,432
42	SFAS 106 PBOP Cost Capitalized - USC Alloc	-\$193,415	37.23	-\$7,200,167
43		<u>\$1,160,683</u>	37.23	<u>\$43,208,188</u>
44				
45				
46	Total Acct 926 & 923 USC Allocation	<u>\$2,465,949</u>	112.66	<u>\$277,817,263</u>
47				
48				
49	Health & Dental Lags	<u>\$786,656</u>	53.89	<u>\$42,393,392</u>
50				

Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
Empl Pension Fund Services
12 Months Ended Dec 31, 2015

4/5/2016
11:15:45 AM

Acct: 10-20-03-00-9261000

Line No	Vendor	Expense Amount	Service From	Service To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	NYLIM RETIREMENT PLAN SERV	\$107	10/1/14 12:00 AM	1/1/15 12:00 AM	92	11/16/14 12:00 AM	1/8/15 12:00 AM	53.00	\$5,646
3	NYLIM RETIREMENT PLAN SERV	\$495	10/1/14 12:00 AM	1/1/15 12:00 AM	92	11/16/14 12:00 AM	1/22/15 12:00 AM	67.00	\$33,165
4	NYLIM RETIREMENT PLAN SERV	\$1,227	10/1/14 12:00 AM	1/1/15 12:00 AM	92	11/16/14 12:00 AM	2/12/15 12:00 AM	88.00	\$107,953
5	TRANSAMERICA	\$825	10/1/14 12:00 AM	1/1/15 12:00 AM	92	11/16/14 12:00 AM	2/26/15 12:00 AM	102.00	\$84,150
6	JOHN HANCOCK RETIREMENT PLAN SERVICES	\$1,206	1/1/15 12:00 AM	4/1/15 12:00 AM	90	2/15/15 12:00 AM	5/7/15 12:00 AM	81.00	\$97,646
7	TRANSAMERICA	\$825	1/1/15 12:00 AM	4/1/15 12:00 AM	90	2/15/15 12:00 AM	5/14/15 12:00 AM	88.00	\$72,600
8	TRANSAMERICA	\$825	4/1/15 12:00 AM	7/1/15 12:00 AM	91	5/16/15 12:00 PM	8/6/15 12:00 AM	81.50	\$67,238
9	JOHN HANCOCK RETIREMENT PLAN SERVICES	\$1,217	4/1/15 12:00 AM	7/1/15 12:00 AM	91	5/16/15 12:00 PM	8/20/15 12:00 AM	95.50	\$116,198
10	JOHN HANCOCK RETIREMENT PLAN SERVICES	\$1	7/1/15 12:00 AM	10/1/15 12:00 AM	92	8/16/15 12:00 AM	9/17/15 12:00 AM	32.00	\$48
11	TRANSAMERICA	\$3,000	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	11/5/15 12:00 AM	111.50	\$334,500
12	JOHN HANCOCK RETIREMENT PLAN SERVICES	\$1,217	7/1/15 12:00 AM	10/1/15 12:00 AM	92	8/16/15 12:00 AM	12/3/15 12:00 AM	109.00	\$132,645
13	TRANSAMERICA	\$825	7/1/15 12:00 AM	10/1/15 12:00 AM	92	8/16/15 12:00 AM	12/23/15 12:00 AM	129.00	\$106,425
14									
15									
16		<u>\$11,769</u>						98.41	<u>\$1,158,214</u>
17									
18									
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Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
Employee Pension 410K
12 Months Ended Dec 31, 2015

4/5/2016
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Acct: 10-20-03-00-9260100

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	\$16,658	1/1/15 12:00 AM	2/1/15 12:00 AM	31	11.58	\$192,975
3	February	\$16,643	2/1/15 12:00 AM	3/1/15 12:00 AM	28	11.58	\$192,794
4	March	\$13,967	3/1/15 12:00 AM	4/1/15 12:00 AM	31	11.58	\$161,799
5	April	\$15,950	4/1/15 12:00 AM	5/1/15 12:00 AM	30	11.58	\$184,769
6	May	\$13,715	5/1/15 12:00 AM	6/1/15 12:00 AM	31	11.58	\$158,877
7	June	\$13,966	6/1/15 12:00 AM	7/1/15 12:00 AM	30	11.58	\$161,783
8	July	\$16,778	7/1/15 12:00 AM	8/1/15 12:00 AM	31	11.58	\$194,365
9	August	\$13,890	8/1/15 12:00 AM	9/1/15 12:00 AM	31	11.58	\$160,903
10	September	\$13,923	9/1/15 12:00 AM	10/1/15 12:00 AM	30	11.58	\$161,289
11	October	\$14,194	10/1/15 12:00 AM	11/1/15 12:00 AM	31	11.58	\$164,433
12	November	\$17,370	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11.58	\$201,225
13	December	\$14,782	12/1/15 12:00 AM	1/1/16 12:00 AM	31	11.58	\$171,243
14							
15		<u>\$181,837</u>			<u>365</u>	11.58	<u>\$2,106,456</u>
16							
17							
18							
19							
20	Payments to New York Life for 401k - employee match						
21							
22	Lag Days are from Non ADP Payroll Lead Lag.						
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Unitil Energy Systems, Inc.
 Pensions & Benefits Calculation of (Lead) Lag
 401K Capitalized
 12 Months Ended Dec 31, 2015

4/5/2016
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Acct: 10-20-10-00-9260101

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	-\$10,498	1/1/15 12:00 AM	2/1/15 12:00 AM	31	11.58	-\$121,608
3	February	-\$10,488	2/1/15 12:00 AM	3/1/15 12:00 AM	28	11.58	-\$121,499
4	March	-\$8,802	3/1/15 12:00 AM	4/1/15 12:00 AM	31	11.58	-\$101,966
5	April	-\$10,052	4/1/15 12:00 AM	5/1/15 12:00 AM	30	11.58	-\$116,447
6	May	-\$8,642	5/1/15 12:00 AM	6/1/15 12:00 AM	31	11.58	-\$100,117
7	June	-\$8,802	6/1/15 12:00 AM	7/1/15 12:00 AM	30	11.58	-\$101,961
8	July	-\$10,574	7/1/15 12:00 AM	8/1/15 12:00 AM	31	11.58	-\$122,489
9	August	-\$8,753	8/1/15 12:00 AM	9/1/15 12:00 AM	31	11.58	-\$101,398
10	September	-\$8,774	9/1/15 12:00 AM	10/1/15 12:00 AM	30	11.58	-\$101,642
11	October	-\$8,946	10/1/15 12:00 AM	11/1/15 12:00 AM	31	11.58	-\$103,629
12	November	-\$10,947	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11.58	-\$126,817
13	December	-\$9,316	12/1/15 12:00 AM	1/1/16 12:00 AM	31	11.58	-\$107,914
14							
15		<u>-\$114,593</u>			<u>365</u>	11.58	<u>-\$1,327,489</u>
16							
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19							
20	Capitalization of 401 benefits						
21							
22	Lag Days are from Non ADP Payroll Lead Lag.						
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Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
Health Insurance Medical Only
12 Months Ended Dec 31, 2015

4/5/2016
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Acct: 10-20-03-00-9260300

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	\$35,609	1/1/15 12:00 AM	2/1/15 12:00 AM	31	61.59	\$2,193,026
3	February	\$13,157	2/1/15 12:00 AM	3/1/15 12:00 AM	28	61.59	\$810,284
4	March	\$36,053	3/1/15 12:00 AM	4/1/15 12:00 AM	31	61.59	\$2,220,357
5	April	\$13,157	4/1/15 12:00 AM	5/1/15 12:00 AM	30	61.59	\$810,284
6	May	\$13,157	5/1/15 12:00 AM	6/1/15 12:00 AM	31	61.59	\$810,284
7	June	\$24,749	6/1/15 12:00 AM	7/1/15 12:00 AM	30	61.59	\$1,524,162
8	July	\$13,157	7/1/15 12:00 AM	8/1/15 12:00 AM	31	61.59	\$810,284
9	August	\$13,157	8/1/15 12:00 AM	9/1/15 12:00 AM	31	61.59	\$810,284
10	September	\$24,547	9/1/15 12:00 AM	10/1/15 12:00 AM	30	61.59	\$1,511,713
11	October	\$13,157	10/1/15 12:00 AM	11/1/15 12:00 AM	31	61.59	\$810,284
12	November	\$13,157	11/1/15 12:00 AM	12/1/15 12:00 AM	30	61.59	\$810,284
13	December	\$312,324	12/1/15 12:00 AM	1/1/16 12:00 AM	31	61.59	\$19,234,627
14							
15		<u>\$525,381</u>			<u>365</u>	61.59	<u>\$32,355,875</u>
16							
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20	Health Insurance Accruals						
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22	Lag Days are from Non ADP Payroll Lead Lag.						
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Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
Health Ins - Emp Contr - Medical Only
12 Months Ended Dec 31, 2015

4/5/2016
11:15:45 AM

Acct: 10-20-03-00-9260301

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	-\$3,409	1/1/15 12:00 AM	2/1/15 12:00 AM	31	61.59	-\$209,933
3	February	-\$2,924	2/1/15 12:00 AM	3/1/15 12:00 AM	28	61.59	-\$180,079
4	March	-\$3,238	3/1/15 12:00 AM	4/1/15 12:00 AM	31	61.59	-\$199,439
5	April	-\$2,601	4/1/15 12:00 AM	5/1/15 12:00 AM	30	61.59	-\$160,164
6	May	-\$3,075	5/1/15 12:00 AM	6/1/15 12:00 AM	31	61.59	-\$189,366
7	June	-\$3,238	6/1/15 12:00 AM	7/1/15 12:00 AM	30	61.59	-\$199,439
8	July	-\$2,752	7/1/15 12:00 AM	8/1/15 12:00 AM	31	61.59	-\$169,482
9	August	-\$16,527	8/1/15 12:00 AM	9/1/15 12:00 AM	31	61.59	-\$1,017,829
10	September	-\$14,309	9/1/15 12:00 AM	10/1/15 12:00 AM	30	61.59	-\$881,235
11	October	-\$14,691	10/1/15 12:00 AM	11/1/15 12:00 AM	31	61.59	-\$904,722
12	November	-\$13,593	11/1/15 12:00 AM	12/1/15 12:00 AM	30	61.59	-\$837,142
13	December	-\$11,758	12/1/15 12:00 AM	1/1/16 12:00 AM	31	61.59	-\$724,142
14							
15		<u>-\$92,115</u>			<u>365</u>	61.59	<u>-\$5,672,972</u>
16							
17							
18							
19							
20	Employee Contributions (through withholdings) for Medical						
21							
22	Lag Days are from Non ADP Payroll Lead Lag.						
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Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
Health Insurance - Drug Subsidy
12 Months Ended Dec 31, 2015

4/5/2016
11:15:45 AM

Acct: 10-20-03-00-9260303

Line No	Month	Expense Amount	Service From	Service To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	January	-\$1,889	1/1/14 12:00 AM	2/1/14 12:00 AM	31	1/16/14 12:00 PM	5/31/15 12:00 AM	499.50	-\$943,735
3	February	-\$1,889	2/1/14 12:00 AM	3/1/14 12:00 AM	28	2/15/14 12:00 AM	5/31/15 12:00 AM	470.00	-\$887,999
4	March	-\$1,889	3/1/14 12:00 AM	4/1/14 12:00 AM	31	3/16/14 12:00 PM	5/31/15 12:00 AM	440.50	-\$832,263
5	April	-\$1,889	4/1/14 12:00 AM	5/1/14 12:00 AM	30	4/16/14 12:00 AM	5/31/15 12:00 AM	410.00	-\$774,638
6	May	-\$1,889	5/1/14 12:00 AM	6/1/14 12:00 AM	31	5/16/14 12:00 PM	5/31/15 12:00 AM	379.50	-\$717,012
7	June	-\$1,279	6/1/14 12:00 AM	7/1/14 12:00 AM	30	6/16/14 12:00 AM	5/31/15 12:00 AM	349.00	-\$446,528
8	July	-\$1,672	7/1/14 12:00 AM	8/1/14 12:00 AM	31	7/16/14 12:00 PM	5/31/15 12:00 AM	318.50	-\$532,532
9	August	-\$1,672	8/1/14 12:00 AM	9/1/14 12:00 AM	31	8/16/14 12:00 PM	5/31/15 12:00 AM	287.50	-\$480,700
10	September	-\$1,672	9/1/14 12:00 AM	10/1/14 12:00 AM	30	9/16/14 12:00 AM	5/31/15 12:00 AM	257.00	-\$429,704
11	October	-\$1,672	10/1/14 12:00 AM	11/1/14 12:00 AM	31	10/16/14 12:00 PM	5/31/15 12:00 AM	226.50	-\$378,708
12	November	-\$1,672	11/1/14 12:00 AM	12/1/14 12:00 AM	30	11/16/14 12:00 AM	5/31/15 12:00 AM	196.00	-\$327,712
13	December	-\$1,672	12/1/14 12:00 AM	1/1/15 12:00 AM	31	12/16/14 12:00 PM	5/31/15 12:00 AM	165.50	-\$276,716
14									
15		<u>-\$20,758</u>			<u>365</u>			338.58	<u>-\$7,028,247</u>
16									
17									
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20	General Accounting entries to accrue for annual drug subsidy receipts								
21									
22	Check is received for the prior calendar year.								
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Unitil Energy Systems, Inc.
 Pensions & Benefits Calculation of (Lead) Lag
 Health Insurance UES (Union)
 12 Months Ended Dec 31, 2015

4/5/2016
 11:15:45 AM

Acct: 10-20-03-00-9260310

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	\$61,918	1/1/15 12:00 AM	2/1/15 12:00 AM	31	61.59	\$3,813,274
3	February	\$59,312	2/1/15 12:00 AM	3/1/15 12:00 AM	28	61.59	\$3,652,767
4	March	\$47,672	3/1/15 12:00 AM	4/1/15 12:00 AM	31	61.59	\$2,935,893
5	April	\$59,312	4/1/15 12:00 AM	5/1/15 12:00 AM	30	61.59	\$3,652,767
6	May	\$59,312	5/1/15 12:00 AM	6/1/15 12:00 AM	31	61.59	\$3,652,767
7	June	\$59,008	6/1/15 12:00 AM	7/1/15 12:00 AM	30	61.59	\$3,634,026
8	July	\$59,312	7/1/15 12:00 AM	8/1/15 12:00 AM	31	61.59	\$3,652,767
9	August	\$59,312	8/1/15 12:00 AM	9/1/15 12:00 AM	31	61.59	\$3,652,767
10	September	\$83,460	9/1/15 12:00 AM	10/1/15 12:00 AM	30	61.59	\$5,139,928
11	October	\$59,312	10/1/15 12:00 AM	11/1/15 12:00 AM	31	61.59	\$3,652,767
12	November	\$59,312	11/1/15 12:00 AM	12/1/15 12:00 AM	30	61.59	\$3,652,767
13	December	-\$239,855	12/1/15 12:00 AM	1/1/16 12:00 AM	31	61.59	-\$14,771,575
14							
15		<u>\$427,388</u>			<u>365</u>	61.59	<u>\$26,320,915</u>
16							
17							
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19							
20	Health Insurance Accruals						
21							
22	Lag Days are from Non ADP Payroll Lead Lag.						
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Unitil Energy Systems, Inc.
 Pensions & Benefits Calculation of (Lead) Lag
 Health Ins Union - Emp Contr - Medical Only
 12 Months Ended Dec 31, 2015

4/5/2016
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Acct: 10-20-03-00-9260311

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	-\$12,119	1/1/15 12:00 AM	2/1/15 12:00 AM	31	61.59	-\$746,352
3	February	-\$8,444	2/1/15 12:00 AM	3/1/15 12:00 AM	28	61.59	-\$520,050
4	March	-\$9,871	3/1/15 12:00 AM	4/1/15 12:00 AM	31	61.59	-\$607,941
5	April	-\$10,037	4/1/15 12:00 AM	5/1/15 12:00 AM	30	61.59	-\$618,122
6	May	-\$8,948	5/1/15 12:00 AM	6/1/15 12:00 AM	31	61.59	-\$551,037
7	June	-\$13,996	6/1/15 12:00 AM	7/1/15 12:00 AM	30	61.59	-\$861,943
8	July	-\$14,572	7/1/15 12:00 AM	8/1/15 12:00 AM	31	61.59	-\$897,431
9	August	\$3,756	8/1/15 12:00 AM	9/1/15 12:00 AM	31	61.59	\$231,297
10	September	\$0	9/1/15 12:00 AM	10/1/15 12:00 AM	30	61.59	\$0
11	October	\$0	10/1/15 12:00 AM	11/1/15 12:00 AM	31	61.59	\$0
12	November	\$0	11/1/15 12:00 AM	12/1/15 12:00 AM	30	61.59	\$0
13	December	\$0	12/1/15 12:00 AM	1/1/16 12:00 AM	31	61.59	\$0
14							
15		<u>-\$74,231</u>			<u>365</u>	61.59	<u>-\$4,571,579</u>
16							
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19							
20	Employee Contributions (through withholdings) for Medical						
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22	Lag Days are from Non ADP Payroll Lead Lag.						
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Unitil Energy Systems, Inc.
 Pensions & Benefits Calculation of (Lead) Lag
 Dental Insurance
 12 Months Ended Dec 31, 2015

4/5/2016
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Acct: 10-20-03-00-9261200

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	\$641	1/1/15 12:00 AM	2/1/15 12:00 AM	31	47.13	\$30,203
3	February	\$1,222	2/1/15 12:00 AM	3/1/15 12:00 AM	28	47.13	\$57,583
4	March	\$2,633	3/1/15 12:00 AM	4/1/15 12:00 AM	31	47.13	\$124,124
5	April	\$1,222	4/1/15 12:00 AM	5/1/15 12:00 AM	30	47.13	\$57,583
6	May	\$1,222	5/1/15 12:00 AM	6/1/15 12:00 AM	31	47.13	\$57,583
7	June	\$2,597	6/1/15 12:00 AM	7/1/15 12:00 AM	30	47.13	\$122,418
8	July	\$1,222	7/1/15 12:00 AM	8/1/15 12:00 AM	31	47.13	\$57,583
9	August	\$1,222	8/1/15 12:00 AM	9/1/15 12:00 AM	31	47.13	\$57,583
10	September	\$12,815	9/1/15 12:00 AM	10/1/15 12:00 AM	30	47.13	\$604,002
11	October	\$1,222	10/1/15 12:00 AM	11/1/15 12:00 AM	31	47.13	\$57,583
12	November	\$1,222	11/1/15 12:00 AM	12/1/15 12:00 AM	30	47.13	\$57,583
13	December	\$1,222	12/1/15 12:00 AM	1/1/16 12:00 AM	31	47.13	\$57,583
14							
15		<u>\$28,460</u>				47.13	<u>\$1,341,409</u>
16							
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19							
20	Dental Insurance Expense						
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22	Lag Days are from Non ADP Payroll Lead Lag.						
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Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
Dental Insurance - Emp Contribution
12 Months Ended Dec 31, 2015

4/5/2016
11:15:45 AM

Acct: 10-20-03-00-9261201

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	-\$325	1/1/15 12:00 AM	2/1/15 12:00 AM	31	47.13	-\$15,303
3	February	-\$279	2/1/15 12:00 AM	3/1/15 12:00 AM	28	47.13	-\$13,152
4	March	-\$310	3/1/15 12:00 AM	4/1/15 12:00 AM	31	47.13	-\$14,599
5	April	-\$251	4/1/15 12:00 AM	5/1/15 12:00 AM	30	47.13	-\$11,827
6	May	-\$294	5/1/15 12:00 AM	6/1/15 12:00 AM	31	47.13	-\$13,844
7	June	-\$366	6/1/15 12:00 AM	7/1/15 12:00 AM	30	47.13	-\$17,266
8	July	-\$277	7/1/15 12:00 AM	8/1/15 12:00 AM	31	47.13	-\$13,057
9	August	-\$1,215	8/1/15 12:00 AM	9/1/15 12:00 AM	31	47.13	-\$57,270
10	September	-\$1,072	9/1/15 12:00 AM	10/1/15 12:00 AM	30	47.13	-\$50,545
11	October	-\$1,051	10/1/15 12:00 AM	11/1/15 12:00 AM	31	47.13	-\$49,530
12	November	-\$997	11/1/15 12:00 AM	12/1/15 12:00 AM	30	47.13	-\$46,996
13	December	-\$1,032	12/1/15 12:00 AM	1/1/16 12:00 AM	31	47.13	-\$48,620
14							
15		<u>-\$7,468</u>				47.13	<u>-\$352,008</u>
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Lag Days are from Non ADP Payroll Lead Lag.

Employee contributions (through withholdings) for Dental Insurance

The employee contribution toward vision insurance is an offset to the expense.

Unitil Energy Systems, Inc.
 Pensions & Benefits Calculation of (Lead) Lag
 Vision
 12 Months Ended Dec 31, 2015

4/5/2016
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Acct: 10-20-03-00-9262400

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	\$836	1/1/15 12:00 AM	2/1/15 12:00 AM	31	45.17	\$37,763
3	February	\$366	2/1/15 12:00 AM	3/1/15 12:00 AM	28	45.17	\$16,532
4	March	\$154	3/1/15 12:00 AM	4/1/15 12:00 AM	31	45.17	\$6,969
5	April	\$247	4/1/15 12:00 AM	5/1/15 12:00 AM	30	45.17	\$11,159
6	May	\$238	5/1/15 12:00 AM	6/1/15 12:00 AM	31	45.17	\$10,759
7	June	\$696	6/1/15 12:00 AM	7/1/15 12:00 AM	30	45.17	\$31,425
8	July	\$354	7/1/15 12:00 AM	8/1/15 12:00 AM	31	45.17	\$15,989
9	August	\$305	8/1/15 12:00 AM	9/1/15 12:00 AM	31	45.17	\$13,784
10	September	\$968	9/1/15 12:00 AM	10/1/15 12:00 AM	30	45.17	\$43,713
11	October	\$0	10/1/15 12:00 AM	11/1/15 12:00 AM	31	45.17	\$0
12	November	\$409	11/1/15 12:00 AM	12/1/15 12:00 AM	30	45.17	\$18,461
13	December	\$741	12/1/15 12:00 AM	1/1/16 12:00 AM	31	45.17	\$33,473
14							
15		<u>\$5,314</u>				45.17	<u>\$240,025</u>
16							
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19							
20	Vision expense						
21							
22	Lag Days are from Non ADP Payroll Lead Lag.						
23							
24	The employee contribution toward vision insurance is an offset to the expense.						
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Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
Vision - Employee Contr
12 Months Ended Dec 31, 2015

4/5/2016
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Acct: 10-20-03-00-9262401

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	-\$71	1/1/15 12:00 AM	2/1/15 12:00 AM	31	45.17	-\$3,221
3	February	-\$61	2/1/15 12:00 AM	3/1/15 12:00 AM	28	45.17	-\$2,751
4	March	-\$68	3/1/15 12:00 AM	4/1/15 12:00 AM	31	45.17	-\$3,062
5	April	-\$56	4/1/15 12:00 AM	5/1/15 12:00 AM	30	45.17	-\$2,515
6	May	-\$64	5/1/15 12:00 AM	6/1/15 12:00 AM	31	45.17	-\$2,897
7	June	-\$82	6/1/15 12:00 AM	7/1/15 12:00 AM	30	45.17	-\$3,682
8	July	-\$62	7/1/15 12:00 AM	8/1/15 12:00 AM	31	45.17	-\$2,788
9	August	-\$306	8/1/15 12:00 AM	9/1/15 12:00 AM	31	45.17	-\$13,811
10	September	-\$273	9/1/15 12:00 AM	10/1/15 12:00 AM	30	45.17	-\$12,351
11	October	-\$272	10/1/15 12:00 AM	11/1/15 12:00 AM	31	45.17	-\$12,267
12	November	-\$249	11/1/15 12:00 AM	12/1/15 12:00 AM	30	45.17	-\$11,244
13	December	-\$266	12/1/15 12:00 AM	1/1/16 12:00 AM	31	45.17	-\$12,025
14							
15		<u>-\$1,829</u>				45.17	<u>-\$82,616</u>
16							
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18							
19							
20	Employee Contribution (through withholdings) for Vision coverage						
21							
22	Lag Days are from Non ADP Payroll Lead Lag.						
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Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
Empl Benefit - Life Insurance
12 Months Ended Dec 31, 2015

4/5/2016
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Acct: 10-20-03-00-9260400

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	\$0	1/1/15 12:00 AM	2/1/15 12:00 AM	31	13.85	\$0
3	February	\$984	2/1/15 12:00 AM	3/1/15 12:00 AM	28	13.85	\$13,634
4	March	\$1,077	3/1/15 12:00 AM	4/1/15 12:00 AM	31	13.85	\$14,917
5	April	\$2,190	4/1/15 12:00 AM	5/1/15 12:00 AM	30	13.85	\$30,337
6	May	\$0	5/1/15 12:00 AM	6/1/15 12:00 AM	31	13.85	\$0
7	June	\$2,226	6/1/15 12:00 AM	7/1/15 12:00 AM	30	13.85	\$30,831
8	July	\$1,135	7/1/15 12:00 AM	8/1/15 12:00 AM	31	13.85	\$15,723
9	August	\$1,135	8/1/15 12:00 AM	9/1/15 12:00 AM	31	13.85	\$15,721
10	September	\$0	9/1/15 12:00 AM	10/1/15 12:00 AM	30	13.85	\$0
11	October	\$3,281	10/1/15 12:00 AM	11/1/15 12:00 AM	31	13.85	\$45,439
12	November	\$1,478	11/1/15 12:00 AM	12/1/15 12:00 AM	30	13.85	\$20,472
13	December	\$1,450	12/1/15 12:00 AM	1/1/16 12:00 AM	31	13.85	\$20,084
14							
15		<u>\$14,957</u>				13.85	<u>\$207,158</u>
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20	Life Insurance benefits						
21							
22	Lag Days are from Non ADP Payroll Lead Lag.						
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Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
AD&D Insurance
12 Months Ended Dec 31, 2015

4/5/2016
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Acct: 10-20-03-00-9261300

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	\$0	1/1/15 12:00 AM	2/1/15 12:00 AM	31	14.17	\$0
3	February	\$107	2/1/15 12:00 AM	3/1/15 12:00 AM	28	14.17	\$1,512
4	March	\$107	3/1/15 12:00 AM	4/1/15 12:00 AM	31	14.17	\$1,516
5	April	\$211	4/1/15 12:00 AM	5/1/15 12:00 AM	30	14.17	\$2,984
6	May	\$0	5/1/15 12:00 AM	6/1/15 12:00 AM	31	14.17	\$0
7	June	\$213	6/1/15 12:00 AM	7/1/15 12:00 AM	30	14.17	\$3,023
8	July	\$108	7/1/15 12:00 AM	8/1/15 12:00 AM	31	14.17	\$1,534
9	August	\$108	8/1/15 12:00 AM	9/1/15 12:00 AM	31	14.17	\$1,534
10	September	\$0	9/1/15 12:00 AM	10/1/15 12:00 AM	30	14.17	\$0
11	October	\$217	10/1/15 12:00 AM	11/1/15 12:00 AM	31	14.17	\$3,079
12	November	\$109	11/1/15 12:00 AM	12/1/15 12:00 AM	30	14.17	\$1,543
13	December	\$401	12/1/15 12:00 AM	1/1/16 12:00 AM	31	14.17	\$5,689
14							
15		<u>\$1,582</u>				14.17	<u>\$22,414</u>
16							
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19							
20	Payments to LINA (Cigna Group Insurance)						
21							
22	Lag Days are from Non ADP Payroll Lead Lag.						
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Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
LTD Insurance
12 Months Ended Dec 31, 2015

4/5/2016
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Acct: 10-20-03-00-9261400

Line No	Month	Expense Amount	Service From	Service To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	January	\$0	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM			\$0
3	February	\$1,623	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	2/2/15 12:00 AM	16.50	\$26,787
4	March	\$1,658	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM	3/4/15 12:00 AM	17.00	\$28,185
5	April	\$1,658	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM	4/2/15 12:00 AM	16.50	\$27,356
6	April	\$1,623	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM	4/27/15 12:00 AM	11.00	\$17,858
7	June	\$1,624	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM	6/3/15 12:00 AM	17.50	\$28,419
8	June	\$1,657	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM	6/24/15 12:00 AM	8.00	\$13,254
9	July	\$1,680	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	7/13/15 12:00 AM	(3.50)	-\$5,880
10	August	\$1,680	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	8/24/15 12:00 AM	7.50	\$12,599
11	October	\$1,680	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	10/5/15 12:00 AM	19.00	\$31,918
12	October	\$1,680	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/26/15 12:00 PM	10.00	\$16,799
13	November	\$1,682	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	12/2/15 12:00 PM	47.00	\$79,051
14	December	\$1,649	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/28/15 12:00 PM	42.50	\$70,080
15									
16		<u>\$19,894</u>						17.41	<u>\$346,426</u>
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20	Payments to LINA (Cigna Group Insurance)								
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Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
Employee Benefit Accrual Adj
12 Months Ended Dec 31, 2015

4/5/2016
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Acct: 10-20-10-00-9260302

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	-\$9,282	1/1/15 12:00 AM	2/1/15 12:00 AM	31	59.54	-\$552,671
3	February	\$0	2/1/15 12:00 AM	3/1/15 12:00 AM	28	59.54	\$0
4	March	\$0	3/1/15 12:00 AM	4/1/15 12:00 AM	31	59.54	\$0
5	April	\$0	4/1/15 12:00 AM	5/1/15 12:00 AM	30	59.54	\$0
6	May	\$0	5/1/15 12:00 AM	6/1/15 12:00 AM	31	59.54	\$0
7	June	\$0	6/1/15 12:00 AM	7/1/15 12:00 AM	30	59.54	\$0
8	July	\$0	7/1/15 12:00 AM	8/1/15 12:00 AM	31	59.54	\$0
9	August	\$0	8/1/15 12:00 AM	9/1/15 12:00 AM	31	59.54	\$0
10	September	\$0	9/1/15 12:00 AM	10/1/15 12:00 AM	30	59.54	\$0
11	October	\$0	10/1/15 12:00 AM	11/1/15 12:00 AM	31	59.54	\$0
12	November	\$0	11/1/15 12:00 AM	12/1/15 12:00 AM	30	59.54	\$0
13	December	-\$31,667	12/1/15 12:00 AM	1/1/16 12:00 AM	31	59.54	-\$1,885,514
14							
15		-\$40,949			365	59.54	-\$2,438,186
16							
17							
18							
19							
20	YE accrual for late adjustments (after Plant Accounting Close) to expense - separate account to be reclassified in Jan 2016 to normal account (basis for capitalization entries)						
21							
22	Represents the Additional Pensions & Benefits items that will have capitalization applied to it but not yet classified by Plant Acctg.						
23							
24	Lag based on Benefits capitalized						
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Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
Benefit Cost Capitalized
12 Months Ended Dec 31, 2015

4/5/2016
11:15:45 AM

Acct: 10-20-10-00-9260500

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	-\$62,393	1/1/15 12:00 AM	2/1/15 12:00 AM	31	59.54	-\$3,715,037
3	February	-\$48,381	2/1/15 12:00 AM	3/1/15 12:00 AM	28	59.54	-\$2,880,726
4	March	-\$56,312	3/1/15 12:00 AM	4/1/15 12:00 AM	31	59.54	-\$3,352,949
5	April	-\$50,177	4/1/15 12:00 AM	5/1/15 12:00 AM	30	59.54	-\$2,987,657
6	May	-\$46,590	5/1/15 12:00 AM	6/1/15 12:00 AM	31	59.54	-\$2,774,083
7	June	-\$58,464	6/1/15 12:00 AM	7/1/15 12:00 AM	30	59.54	-\$3,481,085
8	July	-\$48,505	7/1/15 12:00 AM	8/1/15 12:00 AM	31	59.54	-\$2,888,099
9	August	-\$48,475	8/1/15 12:00 AM	9/1/15 12:00 AM	31	59.54	-\$2,886,331
10	September	-\$90,238	9/1/15 12:00 AM	10/1/15 12:00 AM	30	59.54	-\$5,372,987
11	October	-\$37,275	10/1/15 12:00 AM	11/1/15 12:00 AM	31	59.54	-\$2,219,474
12	November	-\$48,757	11/1/15 12:00 AM	12/1/15 12:00 AM	30	59.54	-\$2,903,111
13	December	-\$49,113	12/1/15 12:00 AM	1/1/16 12:00 AM	31	59.54	-\$2,924,338
14							
15		<u>-\$644,679</u>				59.54	<u>-\$38,385,876</u>
16							
17							
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19							
20	Employee Benefit expense offset for capitalization						
21							
22	Based on Benefits (Health & Dental) Lead Lag from Summary Schedule						
23							
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Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
Empl Benefits Other
12 Months Ended Dec 31, 2015

4/5/2016
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Acct: 10-20-03-00-9260600

Line No	Month	Expense Amount	Service From	Service To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1	January	\$8,643	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM		24.47	\$211,508
3	February	\$5,699	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM		24.47	\$139,457
4	March	\$4,145	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM		24.47	\$101,430
5	April	\$4,745	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM		24.47	\$116,124
6	May	\$3,153	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM		24.47	\$77,159
7	June	\$4,045	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM		24.47	\$98,998
8	July	\$2,222	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM		24.47	\$54,384
9	August	\$1,313	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM		24.47	\$32,127
10	September	\$3,577	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM		24.47	\$87,540
11	October	\$2,168	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM		24.47	\$53,054
12	November	\$5,226	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM		24.47	\$127,901
13	December	\$8,518	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM		24.47	\$208,441
14									
15		<u>\$53,454</u>						24.47	<u>\$1,308,123</u>

Misc Employee Benefit expenses representing a number of unrelated expenses.
Such as Safety Shoes, Doctor Referrals, Coffee & Kitchen supplies, Physicals, Drug Screening, Flu Shots, Cleaning Supplies

Use lag for Other O&M expenses

Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
FASB 87 - Pension
12 Months Ended Dec 31, 2015

4/5/2016
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Acct: 10-20-03-00-9260200

Line No	Month	Expense Amount	Service From	Service To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	Mar-16	\$405,528	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	3/31/16 12:00 AM	272.50	\$110,506,380
3	Jun-16	\$405,528	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	6/30/16 12:00 AM	363.50	\$147,409,428
4	Aug-16	\$811,056	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	8/31/16 12:00 AM	425.50	\$345,104,328
5					0	1/0/00 12:00 AM		0.00	\$0
6					0	1/0/00 12:00 AM		0.00	\$0
7					0	1/0/00 12:00 AM		0.00	\$0
8					0	1/0/00 12:00 AM		0.00	\$0
9					0	1/0/00 12:00 AM		0.00	\$0
10					0	1/0/00 12:00 AM		0.00	\$0
11					0	1/0/00 12:00 AM		0.00	\$0
12					0	1/0/00 12:00 AM		0.00	\$0
13					0	1/0/00 12:00 AM		0.00	\$0
14					0	1/0/00 12:00 AM		0.00	\$0
15		<u>\$1,622,112</u>						371.75	<u>\$603,020,136</u>
16									
17	Monthly accrual for Pension Expense								
18									
19									
20									
21			Payment Plan Year			Payment Percent	Payment Date		
22			<u>2015</u>						
23									
24									
25									
26									
27	<i>estimated</i>	\$145,000	\$145,000	SEI PRIVATE TRUST CO		25.00%	3/31/16 12:00 AM		
28	<i>estimated</i>	\$145,000	\$145,000	SEI PRIVATE TRUST CO		25.00%	6/30/16 12:00 AM		
29	<i>estimated</i>	\$290,000	\$290,000	SEI PRIVATE TRUST CO		50.00%	8/31/16 12:00 AM		
30									
31						0.00%			
32		<u>\$580,000</u>	<u>\$580,000</u>			<u>100.00%</u>			
33									
34									
35									
36		Total	Plan Year	Plan Year		Plan Year	Payment Percent	Payment Date	
37		<u>Contributions</u>	<u>2014</u>	<u>2015</u>		<u>2016</u>	<u>2015</u>		
38		925,000.00	925,000.00				0.00%	3/31/15 12:00 AM	
39		925,000.00	925,000.00				0.00%	6/29/15 12:00 AM	
40		2,365,000.00	2,365,000.00				0.00%	8/31/15 12:00 AM	
41		1,000,000.00		1,000,000.00			100.00%	3/31/16 12:00 AM	<i>estimated</i>
42		1,000,000.00		1,000,000.00			100.00%	6/30/16 12:00 AM	<i>estimated</i>
43		2,000,000.00		2,000,000.00			100.00%	8/31/16 12:00 AM	<i>estimated</i>
44		<u>8,215,000.00</u>	<u>4,215,000.00</u>	<u>4,000,000.00</u>		<u>-</u>			
45									

Unitil Energy Systems, Inc.
 Pensions & Benefits Calculation of (Lead) Lag
 FASB 87 - Pension Exp - USC Alloc
 12 Months Ended Dec 31, 2015

4/5/2016
 11:15:45 AM

Acct: 10-20-10-00-9260210

Line No	Month	Expense Amount	Service From	Service To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	March	\$77,596	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM		37.23	\$2,888,629
3	June	\$77,596	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM		37.23	\$2,888,629
4	August	\$77,596	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM		37.23	\$2,888,629
5		\$77,596	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM		37.23	\$2,888,629
6		\$77,596	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM		37.23	\$2,888,629
7		\$77,596	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM		37.23	\$2,888,629
8		\$77,596	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM		37.23	\$2,888,629
9		\$77,596	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM		37.23	\$2,888,629
10		\$77,596	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM		37.23	\$2,888,629
11		\$77,596	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM		37.23	\$2,888,629
12		\$77,595	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM		37.23	\$2,888,592
13		\$77,596	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM		37.23	\$2,888,629
14									
15	Total Expense	\$931,151						37.23	\$34,663,510

Record calculated USC Pension expense billed through the USC monthly bill and paid currently. Lags based on Service Company billings.

Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
FASB 87 Year End Accrual Adj
12 Months Ended Dec 31, 2015

4/5/2016
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Acct: 10-20-10-00-9260299

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	-\$5	1/1/15 12:00 AM	2/1/15 12:00 AM	31	371.75	-\$1,859
3	February	\$0	2/1/15 12:00 AM	3/1/15 12:00 AM	28	371.75	\$0
4	March	\$0	3/1/15 12:00 AM	4/1/15 12:00 AM	31	371.75	\$0
5	April	\$0	4/1/15 12:00 AM	5/1/15 12:00 AM	30	371.75	\$0
6	May	\$0	5/1/15 12:00 AM	6/1/15 12:00 AM	31	371.75	\$0
7	June	\$0	6/1/15 12:00 AM	7/1/15 12:00 AM	30	371.75	\$0
8	July	\$0	7/1/15 12:00 AM	8/1/15 12:00 AM	31	371.75	\$0
9	August	\$0	8/1/15 12:00 AM	9/1/15 12:00 AM	31	371.75	\$0
10	September	\$0	9/1/15 12:00 AM	10/1/15 12:00 AM	30	371.75	\$0
11	October	\$0	10/1/15 12:00 AM	11/1/15 12:00 AM	31	371.75	\$0
12	November	\$0	11/1/15 12:00 AM	12/1/15 12:00 AM	30	371.75	\$0
13	December	\$0	12/1/15 12:00 AM	1/1/16 12:00 AM	31	371.75	\$0
14							
15		<u>-\$5</u>			<u>365</u>	371.75	<u>-\$1,859</u>
16							
17							
18							
19							
20	YE accrual for late adjustments (after Plant Accounting Close) to expense - separate account to be reclassified in Jan 2016 to normal account (basis for capitalization entries)						
21							
22	Represents the Additional Pensions & Benefits items that will have capitalization applied to it but not yet classified by Plant Acctg.						
23							
24							
25	Based on FASB 87 Pension Lead Lag Schedule						
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Unitil Energy Systems, Inc.
 Pensions & Benefits Calculation of (Lead) Lag
 FASB 87 Pension Cost Capitalized
 12 Months Ended Dec 31, 2015

4/5/2016
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Acct: 10-20-10-00-9260800

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1	January	-\$85,191	1/1/15 12:00 AM	2/1/15 12:00 AM	31	371.75	-\$31,669,903
3	February	-\$85,188	2/1/15 12:00 AM	3/1/15 12:00 AM	28	371.75	-\$31,668,591
4	March	-\$85,188	3/1/15 12:00 AM	4/1/15 12:00 AM	31	371.75	-\$31,668,583
5	April	-\$85,188	4/1/15 12:00 AM	5/1/15 12:00 AM	30	371.75	-\$31,668,468
6	May	-\$85,188	5/1/15 12:00 AM	6/1/15 12:00 AM	31	371.75	-\$31,668,542
7	June	-\$85,189	6/1/15 12:00 AM	7/1/15 12:00 AM	30	371.75	-\$31,668,896
8	July	-\$85,187	7/1/15 12:00 AM	8/1/15 12:00 AM	31	371.75	-\$31,668,308
9	August	-\$85,189	8/1/15 12:00 AM	9/1/15 12:00 AM	31	371.75	-\$31,668,869
10	September	-\$85,188	9/1/15 12:00 AM	10/1/15 12:00 AM	30	371.75	-\$31,668,453
11	October	-\$85,188	10/1/15 12:00 AM	11/1/15 12:00 AM	31	371.75	-\$31,668,546
12	November	-\$85,185	11/1/15 12:00 AM	12/1/15 12:00 AM	30	371.75	-\$31,667,691
13	December	-\$85,187	12/1/15 12:00 AM	1/1/16 12:00 AM	31	371.75	-\$31,668,438
14							
15		<u>-\$1,022,255</u>				371.75	<u>-\$380,023,289</u>
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Pension Expense offset for capitalization

Based on FASB 87 Pension Lead Lag Schedule

Unitil Energy Systems, Inc.
 Pensions & Benefits Calculation of (Lead) Lag
 SFAS 106 - PBOP Expense
 12 Months Ended Dec 31, 2015

4/5/2016
 11:15:45 AM

Acct: 10-20-03-00-9260900

Line No	Month	Expense Amount	Service From	Service To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	January	\$97,353	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	1/31/15 12:00 AM	14.50	\$1,411,619
3	February	\$97,351	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM	2/28/15 12:00 AM	13.00	\$1,265,563
4	March	\$97,351	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM	3/31/15 12:00 AM	14.50	\$1,411,590
5	April	\$97,351	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM	4/30/15 12:00 AM	14.00	\$1,362,914
6	May	\$97,351	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM	5/31/15 12:00 AM	14.50	\$1,411,590
7	June	\$97,351	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM	6/30/15 12:00 AM	14.00	\$1,362,914
8	July	\$97,351	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	7/31/15 12:00 AM	14.50	\$1,411,590
9	August	\$97,351	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	8/31/15 12:00 AM	14.50	\$1,411,590
10	September	\$97,351	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	9/29/15 12:00 AM	13.00	\$1,265,563
11	October	\$97,351	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/30/15 12:00 AM	13.50	\$1,314,239
12	November	\$97,350	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/30/15 12:00 AM	14.00	\$1,362,900
13	December	\$97,351	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/31/15 12:00 AM	14.50	\$1,411,590
14									
15		<u>\$1,168,213</u>						14.04	<u>\$16,403,659</u>
16									

Monthly accrual for PBOP Expense

Payments are made at the end of the month for the current month on a normal basis.
 End of month Payment dates are entered for all months where an actual payment was not made.

Payment Activity for PBOP:

25									
26		\$276,934		SEI PRIVATE TRUST CO			7/31/15 12:00 AM		
28		\$33,182		SEI PRIVATE TRUST CO			8/31/15 12:00 AM		
29		\$33,182		SEI PRIVATE TRUST CO			9/29/15 12:00 AM		
30		\$33,182		SEI PRIVATE TRUST CO			10/30/15 12:00 AM		
31		\$33,182		SEI PRIVATE TRUST CO			11/30/15 12:00 AM		
32		\$33,182		SEI PRIVATE TRUST CO			12/31/15 12:00 AM		
33									
34									
35									
36		<u>\$442,844</u>							
37									
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Unitil Energy Systems, Inc.
 Pensions & Benefits Calculation of (Lead) Lag
 SFAS 106 - PBOP Expense - USC Alloc
 12 Months Ended Dec 31, 2015

4/5/2016
 11:15:45 AM

Acct: 10-20-10-00-9260910

Line No	Month	Expense Amount	Service From	Service To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days
1									
2	January	\$57,135	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM		37.23	\$2,126,937
3	February	\$57,135	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM		37.23	\$2,126,937
4	March	\$57,135	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM		37.23	\$2,126,937
5	April	\$57,135	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM		37.23	\$2,126,937
6	May	\$57,135	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM		37.23	\$2,126,937
7	June	\$57,135	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM		37.23	\$2,126,937
8	July	\$57,135	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM		37.23	\$2,126,937
9	August	\$57,135	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM		37.23	\$2,126,937
10	September	\$57,135	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM		37.23	\$2,126,937
11	October	\$57,135	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM		37.23	\$2,126,937
12	November	\$57,140	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM		37.23	\$2,127,123
13	December	\$57,135	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM		37.23	\$2,126,937
14									
15		<u>\$685,625</u>						37.23	<u>\$25,523,432</u>

Record calculated USC PBOP expense billed through the USC bill. Lags based on Service Company payments.

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Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
SFAS 106 Year End Accrual Adj
12 Months Ended Dec 31, 2015

4/5/2016
11:15:45 AM

Acct: 10-20-10-00-9260999

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1	January	-\$2	1/1/15 12:00 AM	2/1/15 12:00 AM	31	14.04	-\$28
3	February	\$0	2/1/15 12:00 AM	3/1/15 12:00 AM	28	14.04	\$0
4	March	\$0	3/1/15 12:00 AM	4/1/15 12:00 AM	31	14.04	\$0
5	April	\$0	4/1/15 12:00 AM	5/1/15 12:00 AM	30	14.04	\$0
6	May	\$0	5/1/15 12:00 AM	6/1/15 12:00 AM	31	14.04	\$0
7	June	\$0	6/1/15 12:00 AM	7/1/15 12:00 AM	30	14.04	\$0
8	July	\$0	7/1/15 12:00 AM	8/1/15 12:00 AM	31	14.04	\$0
9	August	\$0	8/1/15 12:00 AM	9/1/15 12:00 AM	31	14.04	\$0
10	September	\$0	9/1/15 12:00 AM	10/1/15 12:00 AM	30	14.04	\$0
11	October	\$0	10/1/15 12:00 AM	11/1/15 12:00 AM	31	14.04	\$0
12	November	\$0	11/1/15 12:00 AM	12/1/15 12:00 AM	30	14.04	\$0
13	December	\$0	12/1/15 12:00 AM	1/1/16 12:00 AM	31	14.04	\$0
14							
15		<u>-\$2</u>				14.04	<u>-\$28</u>
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YE accrual for late adjustments (after Plant Accounting Close) to expense - separate account to be reclassified in Jan to normal account (basis for capitalization entries)

Represents the Additional Pensions & Benefits items that will have capitalization applied to it but not yet classified by Plant Acctg.

Lag Based on SFAS 106 - PBOP expense lead lag schedule.

Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
SFAS 106 PBOP Cost Capitalized
12 Months Ended Dec 31, 2015

4/5/2016
11:15:45 AM

Acct: 10-20-10-00-9261700

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	-\$61,351	1/1/15 12:00 AM	2/1/15 12:00 AM	31	14.04	-\$861,476
3	February	-\$61,351	2/1/15 12:00 AM	3/1/15 12:00 AM	28	14.04	-\$861,474
4	March	-\$61,350	3/1/15 12:00 AM	4/1/15 12:00 AM	31	14.04	-\$861,463
5	April	-\$61,350	4/1/15 12:00 AM	5/1/15 12:00 AM	30	14.04	-\$861,461
6	May	-\$61,351	5/1/15 12:00 AM	6/1/15 12:00 AM	31	14.04	-\$861,463
7	June	-\$61,350	6/1/15 12:00 AM	7/1/15 12:00 AM	30	14.04	-\$861,462
8	July	-\$61,351	7/1/15 12:00 AM	8/1/15 12:00 AM	31	14.04	-\$861,468
9	August	-\$61,351	8/1/15 12:00 AM	9/1/15 12:00 AM	31	14.04	-\$861,464
10	September	-\$61,351	9/1/15 12:00 AM	10/1/15 12:00 AM	30	14.04	-\$861,469
11	October	-\$61,351	10/1/15 12:00 AM	11/1/15 12:00 AM	31	14.04	-\$861,467
12	November	-\$61,350	11/1/15 12:00 AM	12/1/15 12:00 AM	30	14.04	-\$861,450
13	December	-\$61,351	12/1/15 12:00 AM	1/1/16 12:00 AM	31	14.04	-\$861,468
14							
15		<u>-\$736,208</u>				14.04	<u>-\$10,337,586</u>
16							
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PBOP Expense offset for capitalization

Lag Based on SFAS 106 - PBOP expense lead lag schedule.

Unitil Energy Systems, Inc.
 Pensions & Benefits Calculation of (Lead) Lag
 FASB 87 Pension Capitalized - USC Alloc
 12 Months Ended Dec 31, 2015

4/5/2016
 11:15:45 AM

Acct: 10-20-10-00-9260812

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	-\$21,890	1/1/15 12:00 AM	2/1/15 12:00 AM	31	37.23	-\$814,889
3	February	-\$21,890	2/1/15 12:00 AM	3/1/15 12:00 AM	28	37.23	-\$814,889
4	March	-\$21,890	3/1/15 12:00 AM	4/1/15 12:00 AM	31	37.23	-\$814,889
5	April	-\$21,890	4/1/15 12:00 AM	5/1/15 12:00 AM	30	37.23	-\$814,889
6	May	-\$21,890	5/1/15 12:00 AM	6/1/15 12:00 AM	31	37.23	-\$814,889
7	June	-\$21,890	6/1/15 12:00 AM	7/1/15 12:00 AM	30	37.23	-\$814,889
8	July	-\$21,890	7/1/15 12:00 AM	8/1/15 12:00 AM	31	37.23	-\$814,889
9	August	-\$21,890	8/1/15 12:00 AM	9/1/15 12:00 AM	31	37.23	-\$814,889
10	September	-\$21,890	9/1/15 12:00 AM	10/1/15 12:00 AM	30	37.23	-\$814,889
11	October	-\$21,890	10/1/15 12:00 AM	11/1/15 12:00 AM	31	37.23	-\$814,889
12	November	-\$21,888	11/1/15 12:00 AM	12/1/15 12:00 AM	30	37.23	-\$814,814
13	December	-\$21,890	12/1/15 12:00 AM	1/1/16 12:00 AM	31	37.23	-\$814,889
14							
15		<u>-\$262,678</u>				37.23	<u>-\$9,778,588</u>
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Pension Expense offset for capitalization of USC allocated

Based on FASB 87 Pension USC Lead Lag Schedule - Service Company lags

Unitil Energy Systems, Inc.
Pensions & Benefits Calculation of (Lead) Lag
SFAS 106 PBOP Cost Capitalized - USC Alloc
12 Months Ended Dec 31, 2015

4/5/2016
11:15:45 AM

Acct: 10-20-10-00-9261712

Line No	Month	Expense Amount	Service From	Service To	Total Days	(Lead) Lag Days	Weighted Dollar Days
1							
2	January	-\$16,118	1/1/15 12:00 AM	2/1/15 12:00 AM	31	37.23	-\$600,017
3	February	-\$16,118	2/1/15 12:00 AM	3/1/15 12:00 AM	28	37.23	-\$600,017
4	March	-\$16,118	3/1/15 12:00 AM	4/1/15 12:00 AM	31	37.23	-\$600,017
5	April	-\$16,118	4/1/15 12:00 AM	5/1/15 12:00 AM	30	37.23	-\$600,017
6	May	-\$16,118	5/1/15 12:00 AM	6/1/15 12:00 AM	31	37.23	-\$600,017
7	June	-\$16,118	6/1/15 12:00 AM	7/1/15 12:00 AM	30	37.23	-\$600,017
8	July	-\$16,118	7/1/15 12:00 AM	8/1/15 12:00 AM	31	37.23	-\$600,017
9	August	-\$16,118	8/1/15 12:00 AM	9/1/15 12:00 AM	31	37.23	-\$600,017
10	September	-\$16,118	9/1/15 12:00 AM	10/1/15 12:00 AM	30	37.23	-\$600,017
11	October	-\$16,118	10/1/15 12:00 AM	11/1/15 12:00 AM	31	37.23	-\$600,017
12	November	-\$16,117	11/1/15 12:00 AM	12/1/15 12:00 AM	30	37.23	-\$599,980
13	December	-\$16,118	12/1/15 12:00 AM	1/1/16 12:00 AM	31	37.23	-\$600,017
14							
15		<u>-\$193,415</u>				37.23	<u>-\$7,200,167</u>
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PBOP Expense offset for capitalization of USC allocated

Lag Based on SFAS 106 - PBOP expense USC lead lag schedule - Service Company lags.

Unitil Energy Systems, Inc.
 Calculation Acct 925 Injuries & Damages Lead Lag Days
 12 Months Ended Dec 31, 2015

4/13/2016
 9:56:29 AM

Line No	Annual Charges	Total Payments	Lag Days	Weighted Dollar Days
1				
2	10.20.08.00.925.02.00 - GENERAL LIABILITY	\$316,627	-181.50	-\$57,467,815
3				
4	10.20.08.00.925.00.00 - D&O & FIDUCIARY	\$76,838	-175.06	-\$13,451,321
5				
6				
7	TOTAL GENERAL LIABILITY & D & O FIDUCIARY	\$393,465	-180.24	-\$70,919,136
8				
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Unitil Energy Systems, Inc.
 Calculation Acct 925 Injuries & Damages Lead Lag Days
 12 Months Ended Dec 31, 2015
 General Liability

4/5/2016
 11:49:43 AM

Line No	Charges	Amount	Service Period		Total Days	Midpoint Service Period	Date Paid	Lag Days	Weighted Dollar Days
			Start	End					
1									
2	<u>10.20.08.00.925.02.00 - GENERAL LIABILITY</u>								
3									
4	HUB INTERNATIONAL N E	\$9,937	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	1/2/2015	(181.50)	-\$1,803,487
5	HUB INTERNATIONAL N E	\$306,691	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	1/2/2015	(181.50)	-\$55,664,328
6									
7									
8									
9	Total 10.20.08.00.925.02.00 - GENERAL LIABILITY	<u>\$316,627</u>						(181.50)	<u>-\$57,467,815</u>
10									
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Unitil Energy Systems, Inc.
 Calculation Acct 925 Injuries & Damages Lead Lag Days
 12 Months Ended Dec 31, 2015
 D & O Fiduciary

4/5/2016
 11:49:43 AM

Line No	Charges	Amount	Service Period		Total Days	Midpoint Service Period	Date Paid	Lag Days	Weighted Dollar Days
			Start	End					
1									
2	<u>10.20.08.00.925.00.00 - D&O & FIDUCIARY</u>								
3									
4	HUB INTERNATIONAL N E	\$6,276	5/1/14 12:00 AM	5/1/15 12:00 AM	365	10/30/14 12:00 PM	5/5/2014	(178.50)	-\$1,120,245
5	HUB INTERNATIONAL N E	\$4,501	5/1/14 12:00 AM	5/1/15 12:00 AM	365	10/30/14 12:00 PM	5/5/2014	(178.50)	-\$803,502
6	AEGIS INSURANCE SERVICES INC.	\$66,061	5/1/14 12:00 AM	5/1/15 12:00 AM	365	10/30/14 12:00 PM	5/9/2014	(174.50)	-\$11,527,575
7									
8									
9	Total 10.20.08.00.925.00.00 - D&O & FIDUCIARY	<u>\$76,838</u>						(175.06)	<u>-\$13,451,321</u>
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Unitil Energy Systems, Inc.
Calculation of Acct 928 Regulatory Commission Expense Lead Lag Days
12 Months Ended December 31, 2015
Regulatory Commission Assessment Fees

4/5/2016
11:54:39 AM

10-20-01-00-9280100

Line No	Description of Payment	Base Payment	Service Period Start	Service Period End	Total Days	Midpoint Service Period	Scheduled Payment Date	(Lead) Lag Days	Weighted Dollar Days
1	PUBLIC UTILITIES COMMISSION	\$148,222	7/1/14 12:00 AM	7/1/15 12:00 AM	365	12/30/14 12:00 PM	2/9/15 12:00 AM	40.5	\$6,002,991
2	PUBLIC UTILITIES COMMISSION	\$148,221	7/1/14 12:00 AM	7/1/15 12:00 AM	365	12/30/14 12:00 PM	4/29/15 12:00 AM	119.5	\$17,712,410
3	PUBLIC UTILITIES COMMISSION	\$70,505	7/1/15 12:00 AM	7/1/16 12:00 AM	366	12/31/15 12:00 AM	9/9/15 12:00 AM	-113.0	(\$7,967,065)
4	PUBLIC UTILITIES COMMISSION	\$155,732	7/1/15 12:00 AM	7/1/16 12:00 AM	366	12/31/15 12:00 AM	11/19/15 12:00 AM	-42.0	(\$6,540,744)
5					0	1/0/00 12:00 AM		0.0	\$0
6					0	1/0/00 12:00 AM		0.0	\$0
7					0	1/0/00 12:00 AM		0.0	\$0
8					0	1/0/00 12:00 AM		0.0	\$0
9					0	1/0/00 12:00 AM		0.0	\$0
10					0	1/0/00 12:00 AM		0.0	\$0
11					0	1/0/00 12:00 AM		0.0	\$0
12					0	1/0/00 12:00 AM		0.0	\$0
14									
15	Total Public Utility Assessment Expense	<u>\$522,680</u>						<u>17.62</u>	<u>\$9,207,592</u>
16									
17									
18	Total Base Amt in Acct 928.01	<u>\$169,818</u>							
19									

Note: Include Base and Flow thru in payment amount.

Unitil Energy Systems, Inc.
 Calculation of Operating Lease Lead Lag Days
 12 Months Ended Dec 31, 2015
 Summary of Operating Lease Activity

4/5/2016
 12:51:01 PM

Line No	Type of Tax	Test Period Charges	(Lead) Lag Days	Weighted Dollar Days
1	January Payments	\$ 59,706	3.36	\$ 200,831
2	February Payments	\$ 34,208	14.02	\$ 479,634
3	March Payments	\$ 34,207	12.52	\$ 428,320
4	April Payments	\$ 34,353	11.73	\$ 402,893
5	May Payments	\$ 34,353	0.88	\$ 30,099
6	June Payments	\$ 34,535	7.11	\$ 245,644
7	July Payments	\$ 32,644	15.30	\$ 499,340
8	August Payments	\$ 65,342	8.92	\$ 582,971
9	September Payments	\$ 62,352	13.92	\$ 867,855
10	October Payments	\$ 30,923	5.60	\$ 173,117
11	November Payments	\$ 31,087	4.63	\$ 143,821
12	December Payments	\$ 31,075	10.99	\$ 341,373
13				
14	Total Lease Payments	<u>\$ 484,784</u>	9.07	<u>\$ 4,395,898</u>
15				
16	Percent charged to O&M	39.02%		
17				
18				
19	Total Lease Payments for O&M	<u><u>\$ 189,168</u></u>		
20				
21				
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24				

Unitil Energy Systems, Inc.
 Calculation of Operating Lease Lead Lag Days
 12 Months Ended Dec 31, 2015
 January Payments

4/5/2016
 12:51:01 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	RBS	\$ 25,249	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	1/28/15 12:00 AM	11.5 \$	290,361
2	RBS	\$ 21,441	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	1/19/15 12:00 AM	2.5 \$	53,602
3	RBS	\$ 2,805	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	1/26/15 12:00 AM	9.5 \$	26,645
4	Banc of America Leasing	\$ 8,347	12/20/14 12:00 AM	1/21/15 12:00 AM	32	1/5/15 12:00 AM	1/19/15 12:00 AM	14.0 \$	116,854
5	Banc of America Leasing	\$ 1,865	12/20/14 12:00 AM	1/21/15 12:00 AM	32	1/5/15 12:00 AM	1/7/15 12:00 AM	2.0 \$	3,730
6									
7									
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15									
16									
17									
18		<u>\$ 59,706</u>							<u>\$ 200,831</u>
19									
20									
21		Total January Payments				\$59,706			
22									
23		Total Weighted Dollar Days				\$200,831			
24									
25		January Payments (Lead) Lag Days				3.36			
26									
27									

Note: Buyback of vehicles are included with other vehicle clearing account expenses.

Unitil Energy Systems, Inc.
 Calculation of Operating Lease Lead Lag Days
 12 Months Ended Dec 31, 2015
 February Payments

4/5/2016
 12:51:01 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	RBS	\$ 23,996	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM	3/2/15 12:00 AM	15.0 \$	359,933
2	Banc of America Leasing	\$ 1,865	1/20/15 12:00 AM	2/21/15 12:00 AM	32	2/5/15 12:00 AM	2/11/15 12:00 AM	6.0 \$	11,190
3	Banc of America Leasing	\$ 8,347	1/20/15 12:00 AM	2/21/15 12:00 AM	32	2/5/15 12:00 AM	2/18/15 12:00 AM	13.0 \$	108,512
4									
5									
6									
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9									
10									
11									
12									
13									
14									
15									
16		<u>\$ 34,208</u>							<u>\$ 479,634</u>
17									
18									
19		Total February Payments				\$34,208			
20									
21		Total Weighted Dollar Days				\$479,634			
22									
23		February Payments (Lead) Lag Days				14.02			
24									

Unitil Energy Systems, Inc.
 Calculation of Operating Lease Lead Lag Days
 12 Months Ended Dec 31, 2015
 March Payments

4/5/2016
 12:51:01 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	RBS	\$ 23,996	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM	3/30/15 12:00 AM	13.5 \$	323,939
2	Banc of America Leasing	\$ 1,865	2/20/15 12:00 AM	3/21/15 12:00 AM	29	3/6/15 12:00 PM	3/11/15 12:00 AM	4.5 \$	8,393
3	Banc of America Leasing	\$ 8,347	2/20/15 12:00 AM	3/21/15 12:00 AM	29	3/6/15 12:00 PM	3/18/15 12:00 AM	11.5 \$	95,988
4									
5									
6									
7									
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9									
10									
11									
12									
13									
14									
15									
16		<u>\$ 34,207</u>						<u>\$ 428,320</u>	

Unitil Energy Systems, Inc.
 Calculation of Operating Lease Lead Lag Days
 12 Months Ended Dec 31, 2015
 April Payments

4/5/2016
 12:51:01 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	RBS	\$ 24,141	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM	4/29/15 12:00 AM	13.0	\$ 313,830
2	Banc of America Leasing	\$ 1,865	3/20/15 12:00 AM	4/21/15 12:00 AM	32	4/5/15 12:00 AM	4/8/15 12:00 AM	3.0	\$ 5,595
3	Banc of America Leasing	\$ 8,347	3/20/15 12:00 AM	4/21/15 12:00 AM	32	4/5/15 12:00 AM	4/15/15 12:00 AM	10.0	\$ 83,467
4									
5									
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14									
15									
16		<u>\$ 34,353</u>							<u>\$ 402,893</u>
17									
18									
19	Total April Payments					\$34,353			
20									
21	Total Weighted Dollar Days					\$402,893			
22									
23	April Payments (Lead) Lag Days					11.73			
24									

Unitil Energy Systems, Inc.
 Calculation of Operating Lease Lead Lag Days
 12 Months Ended Dec 31, 2015
 May Payments

4/5/2016
 12:51:01 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	RBS	\$ 24,141	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM	5/13/15 12:00 AM	-3.5 \$	(84,493)
2	Banc of America Leasing	\$ 1,865	4/20/15 12:00 AM	5/21/15 12:00 AM	31	5/5/15 12:00 PM	5/11/15 12:00 AM	5.5 \$	10,258
3	Banc of America Leasing	\$ 8,347	4/20/15 12:00 AM	5/21/15 12:00 AM	31	5/5/15 12:00 PM	5/18/15 12:00 AM	12.5 \$	104,334
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16		<u>\$ 34,353</u>							<u>\$ 30,099</u>
17									
18									
19	Total May Payments					\$34,353			
20									
21	Total Weighted Dollar Days					\$30,099			
22									
23	May Payments (Lead) Lag Days					0.88			
24									

Unitil Energy Systems, Inc.
 Calculation of Operating Lease Lead Lag Days
 12 Months Ended Dec 31, 2015
 June Payments

4/5/2016
 12:51:01 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	RBS	\$ 24,323	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM	6/24/15 12:00 AM	8.0 \$	194,585
2	Banc of America Leasing	\$ 10,212	5/20/15 12:00 AM	6/21/15 12:00 AM	32	6/5/15 12:00 AM	6/10/15 12:00 AM	5.0 \$	51,059
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16		<u>\$ 34,535</u>							<u>\$ 245,644</u>
17									
18									
19	Total June Payments					\$34,535			
20	Total Weighted Dollar Days					\$245,644			
21									
22	June Payments (Lead) Lag Days					7.11			
23									
24									

Unitil Energy Systems, Inc.
 Calculation of Operating Lease Lead Lag Days
 12 Months Ended Dec 31, 2015
 July Payments

4/5/2016
 12:51:01 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	RBS	\$ 22,432	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	8/3/15 12:00 AM	17.5 \$	392,556
2	Banc of America Leasing	\$ 1,865	6/20/15 12:00 AM	7/21/15 12:00 AM	31	7/5/15 12:00 PM	7/8/15 12:00 AM	2.5 \$	4,663
3	Banc of America Leasing	\$ 3,491	6/20/15 12:00 AM	7/21/15 12:00 AM	31	7/5/15 12:00 PM	7/13/15 12:00 AM	7.5 \$	26,182
4	Banc of America Leasing	\$ 2,090	6/20/15 12:00 AM	7/21/15 12:00 AM	31	7/5/15 12:00 PM	7/20/15 12:00 AM	14.5 \$	30,308
5	Banc of America Leasing	\$ 2,766	6/20/15 12:00 AM	7/21/15 12:00 AM	31	7/5/15 12:00 PM	7/22/15 12:00 AM	16.5 \$	45,632
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16		<u>\$ 32,644</u>							<u>\$ 499,340</u>
17									
18									
19		Total July Payments				\$32,644			
20		Total Weighted Dollar Days				\$499,340			
21									
22		July Payments (Lead) Lag Days				15.30			
23									
24									

Unitil Energy Systems, Inc.
 Calculation of Operating Lease Lead Lag Days
 12 Months Ended Dec 31, 2015
 August Payments

4/5/2016
 12:51:01 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days	
			Start	End						
1	RBS	\$ 23,477	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	8/26/15 12:00 AM	9.5 \$	223,032	
2	RBS	\$ 5,299	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	8/24/15 12:00 AM	7.5 \$	39,740	
3	RBS	\$ 26,354	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	8/24/15 12:00 AM	7.5 \$	197,658	
4	Banc of America Leasing	\$ 10,212	7/20/15 12:00 AM	8/21/15 12:00 AM	32	8/5/15 12:00 AM	8/17/15 12:00 AM	12.0 \$	122,541	
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18		<u>\$ 65,342</u>							<u>\$ 582,971</u>	
19										
20										
21		Total August Payments				\$65,342				
22										
23		Total Weighted Dollar Days				\$582,971				
24										
25		August Payments (Lead) Lag Days				8.92				
26										
27										
28	Note: Buyback of vehicles are included with other vehicle clearing account expenses.									
29										
30										

Unitil Energy Systems, Inc.
 Calculation of Operating Lease Lead Lag Days
 12 Months Ended Dec 31, 2015
 September Payments

4/5/2016
 12:51:01 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	RBS	\$ 23,593	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	9/23/15 12:00 AM	7.0 \$	165,150
2	Banc of America Leasing	\$ 1,865	8/20/15 12:00 AM	9/21/15 12:00 AM	32	9/5/15 12:00 AM	9/9/15 12:00 AM	4.0 \$	7,460
3	Banc of America Leasing	\$ 7,826	8/20/15 12:00 AM	9/21/15 12:00 AM	32	9/5/15 12:00 AM	9/23/15 12:00 AM	18.0 \$	140,872
4	Banc of America Leasing	\$ 521	8/20/15 12:00 AM	9/21/15 12:00 AM	32	9/5/15 12:00 AM	9/28/15 12:00 AM	23.0 \$	11,972
5	Banc of America Leasing	\$ 28,547	8/20/15 12:00 AM	9/21/15 12:00 AM	32	9/5/15 12:00 AM	9/24/15 12:00 AM	19.0 \$	542,401
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16		<u>\$ 62,352</u>							<u>\$ 867,855</u>
17									
18									
19		Total September Payments				\$62,352			
20									
21		Total Weighted Dollar Days				\$867,855			
22									
23		September Payments (Lead) Lag Days				13.92			
24									
25									
26									
27									

Note: Buyback of vehicles are included with other vehicle clearing account expenses.

Unitil Energy Systems, Inc.
 Calculation of Operating Lease Lead Lag Days
 12 Months Ended Dec 31, 2015
 October Payments

4/5/2016
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Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	RBS	\$ 23,477	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	10/21/15 12:00 AM	4.5 \$	105,646
2	Banc of America Leasing	\$ 1,865	9/20/15 12:00 AM	10/21/15 12:00 AM	31	10/5/15 12:00 PM	10/7/15 12:00 AM	1.5 \$	2,798
3	Banc of America Leasing	\$ 3,491	9/20/15 12:00 AM	10/21/15 12:00 AM	31	10/5/15 12:00 PM	10/14/15 12:00 AM	8.5 \$	29,673
4	Banc of America Leasing	\$ 1,570	9/20/15 12:00 AM	10/21/15 12:00 AM	31	10/5/15 12:00 PM	10/21/15 12:00 AM	15.5 \$	24,330
5	Banc of America Leasing	\$ 521	9/20/15 12:00 AM	10/21/15 12:00 AM	31	10/5/15 12:00 PM	10/26/15 12:00 AM	20.5 \$	10,670
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16		<u>\$ 30,923</u>							<u>\$ 173,117</u>
17									
18									
19	Total October Payments					\$30,923			
20									
21	Total Weighted Dollar Days					\$173,117			
22									
23	October Payments (Lead) Lag Days					5.60			
24									

Unitil Energy Systems, Inc.
 Calculation of Operating Lease Lead Lag Days
 12 Months Ended Dec 31, 2015
 November Payments

4/5/2016
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 11204.09

Line No	Description of Payment	Payment Amount	Service Period Start	Service Period End	Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
1	RBS	\$ 23,641	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	11/18/15 12:00 AM	2.0 \$	47,281
2	Banc of America Leasing	\$ 5,356	10/20/15 12:00 AM	11/21/15 12:00 AM	32	11/5/15 12:00 AM	11/16/15 12:00 AM	11.0 \$	58,916
3	Banc of America Leasing	\$ 2,090	10/20/15 12:00 AM	11/21/15 12:00 AM	32	11/5/15 12:00 AM	11/23/15 12:00 AM	18.0 \$	37,623
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16		<u>\$ 31,087</u>							<u>\$ 143,821</u>
17									
18									
19		Total November Payments				\$31,087			
20									
21		Total Weighted Dollar Days				\$143,821			
22									
23		November Payments (Lead) Lag Days				4.63			
24									

Unitil Energy Systems, Inc.
Calculation of Operating Lease Lead Lag Days
12 Months Ended Dec 31, 2015
December Payments

4/5/2016
12:51:01 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	RBS	\$ 23,629	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	12/28/15 12:00 AM	11.5 \$	271,734
2	Banc of America Leasing	\$ 1,865	11/20/15 12:00 AM	12/21/15 12:00 AM	31	12/5/15 12:00 PM	12/9/15 12:00 AM	3.5 \$	6,528
3	Banc of America Leasing	\$ 3,491	11/20/15 12:00 AM	12/21/15 12:00 AM	31	12/5/15 12:00 PM	12/14/15 12:00 AM	8.5 \$	29,673
4	Banc of America Leasing	\$ 1,570	11/20/15 12:00 AM	12/21/15 12:00 AM	31	12/5/15 12:00 PM	12/21/15 12:00 AM	15.5 \$	24,330
5	Banc of America Leasing	\$ 521	11/20/15 12:00 AM	12/21/15 12:00 AM	31	12/5/15 12:00 PM	12/23/15 12:00 AM	17.5 \$	9,109
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16		<u>\$ 31,075</u>							<u>\$ 341,373</u>
17									
18									
19	Total December Payments					\$31,075			
20									
21	Total Weighted Dollar Days					\$341,373			
22									
23	December Payments (Lead) Lag Days					10.99			
24									

Unitil Energy Systems, Inc.
Calculation of Service Company Charges Lead Lag Days
12 Months Ended Dec 31, 2015
Summary of Service Company Charges

4/5/2016
1:10:15 PM

Line No	Annual Charges	Total Payments	Lag Days	Weighted Dollar Days
1				
2	10-20-10-00-5570100 USC-ELECT PRODUCTION ADMIN	\$281,438	37.32	\$10,504,453
3				
4	10-20-10-00-5610100 USC - NERC COMPLIANCE	\$80,772	37.24	\$3,007,913
5				
6	10-20-10-00-5800200 USC - ELECTRIC DISTRIBUTION	\$3,730,196		\$138,976,852
7	10-20-10-00-5800201 USC - ELECTRIC DISTRIBUTION-CAP	-\$2,579,108		-\$96,106,023
8	Total Acct 580	\$1,151,088	37.24	\$42,870,828
9				
10	10-20-10-00-5930400 USC-VEGETATION MANAGEMENT	\$159,397	37.24	\$5,935,876
11				
12	10-20-10-00-9030600 USC - CUSTOMER ACCOUNTING	\$2,005,950	37.28	\$74,782,662
13				
14	10-20-10-00-9230300 OS UNITIL SERVICE CORP	\$6,188,750		\$230,243,595
15	10-20-10-00-9230301 OS UNITIL SERVICE CORP-CAP	-\$1,182,074		-\$44,025,166
16	10-20-10-00-9230305 USC OUTSIDE SERVICES-DIRECT CHGS	\$352,748		\$13,135,416
17	10-20-10-00-9230307 DIRECT CHARGES CAPITALIZED	-\$136,980		-\$5,099,053
18	Total Acct 923	\$5,222,444	37.20	\$194,254,792
19				
20	Total Base before Reclassification	\$8,901,088	37.23	\$331,356,524
21				
22	Recassification to Acct 926 of expenses included above			
23	USC Allocated PBOP Expense	-\$492,210		
24	USC Allocated Pension Expense	-\$668,473		
25				
26	Total Account 923 per General Ledger	\$7,740,405	37.23	\$288,148,336
27				
28				
29	Source of Data: Monthly Service Bills and Unitil Cashpool (Cashtran file)			
30				

Unitil Energy Systems, Inc.
Calculation of Service Company Charges Lead Lag Days
12 Months Ended Dec 31, 2015
January Charges

4/5/2016
1:10:15 PM

Line No	Charges	Amount	Service Period		Total Days	Midpoint Service Period	Date Paid	Lag Days	Weighted Dollar Days
			Start	End					
1	<u>Base</u>								
2									
3									
4	10-20-10-00-5570100 USC-ELECT PRODUCTION ADMIN	\$23,368	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	2/24/2015	38.50	\$899,675
5	10-20-10-00-5610100 USC - NERC COMPLIANCE	\$6,170	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	2/24/2015	38.50	\$237,564
6	10-20-10-00-5800200 USC - ELECTRIC DISTRIBUTION	\$283,970	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	2/24/2015	38.50	\$10,932,843
7	10-20-10-00-5800201 USC - ELECTRIC DISTRIBUTION-CAP	-\$198,759	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	2/24/2015	38.50	-\$7,652,215
8	10-20-10-00-5930400 USC-VEGETATION MANAGEMENT	\$12,177	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	2/24/2015	38.50	\$468,813
9	10-20-10-00-9030600 USC - CUSTOMER ACCOUNTING	\$169,999	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	2/24/2015	38.50	\$6,544,965
10	10-20-10-00-9230300 OS UNITIL SERVICE CORP	\$523,366	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	2/24/2015	38.50	\$20,149,609
11	10-20-10-00-9230301 OS UNITIL SERVICE CORP-CAP	-\$106,014	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	2/24/2015	38.50	-\$4,081,549
12	10-20-10-00-9230305 USC OUTSIDE SERVICES-DIRECT CHGS	\$31,989	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	2/24/2015	38.50	\$1,231,568
13	10-20-10-00-9230307 DIRECT CHARGES CAPITALIZED	-\$13,739	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	2/24/2015	38.50	-\$528,953
14	Total Base	<u>\$732,528</u>						38.50	<u>\$28,202,321</u>
15									
16									
17									
18									
19									

Unitil Energy Systems, Inc.
 Calculation of Service Company Charges Lead Lag Days
 12 Months Ended Dec 31, 2015
 February Charges

4/5/2016
 1:10:15 PM

Line No	Charges	Amount	Service Period		Total Days	Midpoint Service Period	Date Paid	Lag Days	Weighted Dollar Days
			Start	End					
1	<u>Base</u>								
2									
3									
4	10-20-10-00-5570100 USC-ELECT PRODUCTION ADMIN	\$24,218	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM	3/24/2015	37.00	\$896,048
5	10-20-10-00-5610100 USC - NERC COMPLIANCE	\$6,726	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM	3/24/2015	37.00	\$248,856
6	10-20-10-00-5800200 USC - ELECTRIC DISTRIBUTION	\$317,053	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM	3/24/2015	37.00	\$11,730,951
7	10-20-10-00-5800201 USC - ELECTRIC DISTRIBUTION-CAP	-\$219,706	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM	3/24/2015	37.00	-\$8,129,126
8	10-20-10-00-5930400 USC-VEGETATION MANAGEMENT	\$13,273	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM	3/24/2015	37.00	\$491,097
9	10-20-10-00-9030600 USC - CUSTOMER ACCOUNTING	\$154,970	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM	3/24/2015	37.00	\$5,733,894
10	10-20-10-00-9230300 OS UNITIL SERVICE CORP	\$534,242	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM	3/24/2015	37.00	\$19,766,958
11	10-20-10-00-9230301 OS UNITIL SERVICE CORP-CAP	-\$101,429	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM	3/24/2015	37.00	-\$3,752,886
12	10-20-10-00-9230305 USC OUTSIDE SERVICES-DIRECT CHGS	\$29,431	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM	3/24/2015	37.00	\$1,088,951
13	10-20-10-00-9230307 DIRECT CHARGES CAPITALIZED	-\$11,861	2/1/15 12:00 AM	3/1/15 12:00 AM	28	2/15/15 12:00 AM	3/24/2015	37.00	-\$438,871
14	Total Base	<u>\$746,915</u>						37.00	<u>\$27,635,872</u>
15									
16									
17									
18									
19									

Unitil Energy Systems, Inc.
 Calculation of Service Company Charges Lead Lag Days
 12 Months Ended Dec 31, 2015
 March Charges

4/5/2016
 1:10:15 PM

Line No	Charges	Amount	Service Period		Total Days	Midpoint Service Period	Date Paid	Lag Days	Weighted Dollar Days
			Start	End					
1	<u>Base</u>								
2									
3									
4	10-20-10-00-5570100 USC-ELECT PRODUCTION ADMIN	\$30,994	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM	4/24/2015	38.50	\$1,193,280
5	10-20-10-00-5610100 USC - NERC COMPLIANCE	\$8,484	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM	4/24/2015	38.50	\$326,650
6	10-20-10-00-5800200 USC - ELECTRIC DISTRIBUTION	\$397,739	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM	4/24/2015	38.50	\$15,312,969
7	10-20-10-00-5800201 USC - ELECTRIC DISTRIBUTION-CAP	-\$276,754	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM	4/24/2015	38.50	-\$10,655,032
8	10-20-10-00-5930400 USC-VEGETATION MANAGEMENT	\$16,743	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM	4/24/2015	38.50	\$644,618
9	10-20-10-00-9030600 USC - CUSTOMER ACCOUNTING	\$199,106	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM	4/24/2015	38.50	\$7,665,592
10	10-20-10-00-9230300 OS UNITIL SERVICE CORP	\$627,324	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM	4/24/2015	38.50	\$24,151,987
11	10-20-10-00-9230301 OS UNITIL SERVICE CORP-CAP	-\$117,068	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM	4/24/2015	38.50	-\$4,507,134
12	10-20-10-00-9230305 USC OUTSIDE SERVICES-DIRECT CHGS	\$32,495	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM	4/24/2015	38.50	\$1,251,048
13	10-20-10-00-9230307 DIRECT CHARGES CAPITALIZED	-\$13,807	3/1/15 12:00 AM	4/1/15 12:00 AM	31	3/16/15 12:00 PM	4/24/2015	38.50	-\$531,561
14	Total Base	<u>\$905,258</u>						38.50	<u>\$34,852,417</u>
15									
16									
17									
18									
19									

Unitil Energy Systems, Inc.
 Calculation of Service Company Charges Lead Lag Days
 12 Months Ended Dec 31, 2015
 April Charges

4/5/2016
 1:10:15 PM

Line No	Charges	Amount	Service Period		Total Days	Midpoint Service Period	Date Paid	Lag Days	Weighted Dollar Days
			Start	End					
1	<u>Base</u>								
2									
3									
4	10-20-10-00-5570100 USC-ELECT PRODUCTION ADMIN	\$24,289	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM	5/22/2015	36.00	\$874,415
5	10-20-10-00-5610100 USC - NERC COMPLIANCE	\$6,325	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM	5/22/2015	36.00	\$227,691
6	10-20-10-00-5800200 USC - ELECTRIC DISTRIBUTION	\$293,982	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM	5/22/2015	36.00	\$10,583,349
7	10-20-10-00-5800201 USC - ELECTRIC DISTRIBUTION-CAP	-\$203,859	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM	5/22/2015	36.00	-\$7,338,925
8	10-20-10-00-5930400 USC-VEGETATION MANAGEMENT	\$12,481	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM	5/22/2015	36.00	\$449,330
9	10-20-10-00-9030600 USC - CUSTOMER ACCOUNTING	\$175,813	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM	5/22/2015	36.00	\$6,329,263
10	10-20-10-00-9230300 OS UNITIL SERVICE CORP	\$517,004	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM	5/22/2015	36.00	\$18,612,131
11	10-20-10-00-9230301 OS UNITIL SERVICE CORP-CAP	-\$95,046	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM	5/22/2015	36.00	-\$3,421,654
12	10-20-10-00-9230305 USC OUTSIDE SERVICES-DIRECT CHGS	\$28,456	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM	5/22/2015	36.00	\$1,024,411
13	10-20-10-00-9230307 DIRECT CHARGES CAPITALIZED	-\$10,705	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM	5/22/2015	36.00	-\$385,368
14	Total Base	<u>\$748,740</u>						36.00	<u>\$26,954,642</u>
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Unitil Energy Systems, Inc.
Calculation of Service Company Charges Lead Lag Days
12 Months Ended Dec 31, 2015
May Charges

4/5/2016
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Line No	Charges	Amount	Service Period		Total Days	Midpoint Service Period	Date Paid	Lag Days	Weighted Dollar Days
			Start	End					
1	<u>Base</u>								
2									
3									
4	10-20-10-00-5570100 USC-ELECT PRODUCTION ADMIN	\$25,045	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM	6/24/2015	38.50	\$964,227
5	10-20-10-00-5610100 USC - NERC COMPLIANCE	\$6,942	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM	6/24/2015	38.50	\$267,259
6	10-20-10-00-5800200 USC - ELECTRIC DISTRIBUTION	\$319,150	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM	6/24/2015	38.50	\$12,287,273
7	10-20-10-00-5800201 USC - ELECTRIC DISTRIBUTION-CAP	-\$222,940	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM	6/24/2015	38.50	-\$8,583,187
8	10-20-10-00-5930400 USC-VEGETATION MANAGEMENT	\$13,699	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM	6/24/2015	38.50	\$527,415
9	10-20-10-00-9030600 USC - CUSTOMER ACCOUNTING	\$165,207	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM	6/24/2015	38.50	\$6,360,453
10	10-20-10-00-9230300 OS UNITIL SERVICE CORP	\$491,131	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM	6/24/2015	38.50	\$18,908,560
11	10-20-10-00-9230301 OS UNITIL SERVICE CORP-CAP	-\$96,377	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM	6/24/2015	38.50	-\$3,710,521
12	10-20-10-00-9230305 USC OUTSIDE SERVICES-DIRECT CHGS	\$29,511	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM	6/24/2015	38.50	\$1,136,162
13	10-20-10-00-9230307 DIRECT CHARGES CAPITALIZED	-\$12,054	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM	6/24/2015	38.50	-\$464,086
14	Total Base	<u>\$719,313</u>						38.50	<u>\$27,693,554</u>
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Unitil Energy Systems, Inc.
Calculation of Service Company Charges Lead Lag Days
12 Months Ended Dec 31, 2015
June Charges

4/5/2016
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Line No	Charges	Amount	Service Period		Total Days	Midpoint Service Period	Date Paid	Lag Days	Weighted Dollar Days
			Start	End					
1	<u>Base</u>								
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4	10-20-10-00-5570100 USC-ELECT PRODUCTION ADMIN	\$23,672	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM	7/24/2015	38.00	\$899,523
5	10-20-10-00-5610100 USC - NERC COMPLIANCE	\$6,633	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM	7/24/2015	38.00	\$252,065
6	10-20-10-00-5800200 USC - ELECTRIC DISTRIBUTION	\$320,218	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM	7/24/2015	38.00	\$12,168,300
7	10-20-10-00-5800201 USC - ELECTRIC DISTRIBUTION-CAP	-\$221,779	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM	7/24/2015	38.00	-\$8,427,620
8	10-20-10-00-5930400 USC-VEGETATION MANAGEMENT	\$13,090	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM	7/24/2015	38.00	\$497,429
9	10-20-10-00-9030600 USC - CUSTOMER ACCOUNTING	\$165,460	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM	7/24/2015	38.00	\$6,287,468
10	10-20-10-00-9230300 OS UNITIL SERVICE CORP	\$425,280	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM	7/24/2015	38.00	\$16,160,622
11	10-20-10-00-9230301 OS UNITIL SERVICE CORP-CAP	-\$93,193	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM	7/24/2015	38.00	-\$3,541,315
12	10-20-10-00-9230305 USC OUTSIDE SERVICES-DIRECT CHGS	\$25,909	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM	7/24/2015	38.00	\$984,531
13	10-20-10-00-9230307 DIRECT CHARGES CAPITALIZED	-\$9,156	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM	7/24/2015	38.00	-\$347,923
14	Total Base	<u>\$656,134</u>						38.00	<u>\$24,933,080</u>
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Unitil Energy Systems, Inc.
 Calculation of Service Company Charges Lead Lag Days
 12 Months Ended Dec 31, 2015
 July Charges

4/5/2016
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Line No	Charges	Amount	Service Period		Total Days	Midpoint Service Period	Date Paid	Lag Days	Weighted Dollar Days
			Start	End					
1	<u>Base</u>								
2									
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4	10-20-10-00-5570100 USC-ELECT PRODUCTION ADMIN	\$25,281	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	8/24/2015	38.50	\$973,300
5	10-20-10-00-5610100 USC - NERC COMPLIANCE	\$6,633	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	8/24/2015	38.50	\$255,381
6	10-20-10-00-5800200 USC - ELECTRIC DISTRIBUTION	\$322,940	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	8/24/2015	38.50	\$12,433,178
7	10-20-10-00-5800201 USC - ELECTRIC DISTRIBUTION-CAP	-\$223,824	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	8/24/2015	38.50	-\$8,617,205
8	10-20-10-00-5930400 USC-VEGETATION MANAGEMENT	\$13,090	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	8/24/2015	38.50	\$503,974
9	10-20-10-00-9030600 USC - CUSTOMER ACCOUNTING	\$198,507	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	8/24/2015	38.50	\$7,642,526
10	10-20-10-00-9230300 OS UNITIL SERVICE CORP	\$486,973	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	8/24/2015	38.50	\$18,748,452
11	10-20-10-00-9230301 OS UNITIL SERVICE CORP-CAP	-\$96,433	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	8/24/2015	38.50	-\$3,712,670
12	10-20-10-00-9230305 USC OUTSIDE SERVICES-DIRECT CHGS	\$29,587	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	8/24/2015	38.50	\$1,139,087
13	10-20-10-00-9230307 DIRECT CHARGES CAPITALIZED	-\$9,153	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	8/24/2015	38.50	-\$352,382
14	Total Base	<u>\$753,601</u>						38.50	<u>\$29,013,642</u>
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Unitil Energy Systems, Inc.
 Calculation of Service Company Charges Lead Lag Days
 12 Months Ended Dec 31, 2015
 August Charges

4/5/2016
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Line No	Charges	Amount	Service Period		Total Days	Midpoint Service Period	Date Paid	Lag Days	Weighted Dollar Days
			Start	End					
1	<u>Base</u>								
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4	10-20-10-00-5570100 USC-ELECT PRODUCTION ADMIN	\$24,005	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	9/22/2015	36.50	\$876,170
5	10-20-10-00-5610100 USC - NERC COMPLIANCE	\$6,633	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	9/22/2015	36.50	\$242,115
6	10-20-10-00-5800200 USC - ELECTRIC DISTRIBUTION	\$316,131	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	9/22/2015	36.50	\$11,538,781
7	10-20-10-00-5800201 USC - ELECTRIC DISTRIBUTION-CAP	-\$217,565	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	9/22/2015	36.50	-\$7,941,118
8	10-20-10-00-5930400 USC-VEGETATION MANAGEMENT	\$13,090	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	9/22/2015	36.50	\$477,794
9	10-20-10-00-9030600 USC - CUSTOMER ACCOUNTING	\$147,830	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	9/22/2015	36.50	\$5,395,781
10	10-20-10-00-9230300 OS UNITIL SERVICE CORP	\$477,114	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	9/22/2015	36.50	\$17,414,678
11	10-20-10-00-9230301 OS UNITIL SERVICE CORP-CAP	-\$95,040	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	9/22/2015	36.50	-\$3,468,977
12	10-20-10-00-9230305 USC OUTSIDE SERVICES-DIRECT CHGS	\$26,978	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	9/22/2015	36.50	\$984,702
13	10-20-10-00-9230307 DIRECT CHARGES CAPITALIZED	-\$8,840	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	9/22/2015	36.50	-\$322,643
14	Total Base	<u>\$690,337</u>						36.50	<u>\$25,197,282</u>
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Unitil Energy Systems, Inc.
 Calculation of Service Company Charges Lead Lag Days
 12 Months Ended Dec 31, 2015
 September Charges

4/5/2016
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Line No	Charges	Amount	Service Period Start	End	Total Days	Midpoint Service Period	Date Paid	Lag Days	Weighted Dollar Days
1	<u>Base</u>								
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4	10-20-10-00-5570100 USC-ELECT PRODUCTION ADMIN	\$23,336	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	10/22/2015	36.00	\$840,080
5	10-20-10-00-5610100 USC - NERC COMPLIANCE	\$6,479	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	10/22/2015	36.00	\$233,244
6	10-20-10-00-5800200 USC - ELECTRIC DISTRIBUTION	\$298,233	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	10/22/2015	36.00	\$10,736,396
7	10-20-10-00-5800201 USC - ELECTRIC DISTRIBUTION-CAP	-\$203,068	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	10/22/2015	36.00	-\$7,310,448
8	10-20-10-00-5930400 USC-VEGETATION MANAGEMENT	\$12,786	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	10/22/2015	36.00	\$460,290
9	10-20-10-00-9030600 USC - CUSTOMER ACCOUNTING	\$149,911	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	10/22/2015	36.00	\$5,396,806
10	10-20-10-00-9230300 OS UNITIL SERVICE CORP	\$503,234	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	10/22/2015	36.00	\$18,116,411
11	10-20-10-00-9230301 OS UNITIL SERVICE CORP-CAP	-\$90,847	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	10/22/2015	36.00	-\$3,270,477
12	10-20-10-00-9230305 USC OUTSIDE SERVICES-DIRECT CHGS	\$32,734	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	10/22/2015	36.00	\$1,178,438
13	10-20-10-00-9230307 DIRECT CHARGES CAPITALIZED	-\$13,799	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	10/22/2015	36.00	-\$496,769
14	Total Base	<u>\$718,999</u>						36.00	<u>\$25,883,972</u>
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Unitil Energy Systems, Inc.
 Calculation of Service Company Charges Lead Lag Days
 12 Months Ended Dec 31, 2015
 October Charges

4/5/2016
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Line No	Charges	Amount	Service Period Start	End	Total Days	Midpoint Service Period	Date Paid	Lag Days	Weighted Dollar Days
1	<u>Base</u>								
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4	10-20-10-00-5570100 USC-ELECT PRODUCTION ADMIN	\$23,713	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	11/23/2015	37.50	\$889,227
5	10-20-10-00-5610100 USC - NERC COMPLIANCE	\$6,325	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	11/23/2015	37.50	\$237,178
6	10-20-10-00-5800200 USC - ELECTRIC DISTRIBUTION	\$271,998	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	11/23/2015	37.50	\$10,199,938
7	10-20-10-00-5800201 USC - ELECTRIC DISTRIBUTION-CAP	-\$185,660	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	11/23/2015	37.50	-\$6,962,246
8	10-20-10-00-5930400 USC-VEGETATION MANAGEMENT	\$12,481	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	11/23/2015	37.50	\$468,052
9	10-20-10-00-9030600 USC - CUSTOMER ACCOUNTING	\$168,344	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	11/23/2015	37.50	\$6,312,905
10	10-20-10-00-9230300 OS UNITIL SERVICE CORP	\$527,305	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	11/23/2015	37.50	\$19,773,935
11	10-20-10-00-9230301 OS UNITIL SERVICE CORP-CAP	-\$94,940	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	11/23/2015	37.50	-\$3,560,238
12	10-20-10-00-9230305 USC OUTSIDE SERVICES-DIRECT CHGS	\$31,702	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	11/23/2015	37.50	\$1,188,842
13	10-20-10-00-9230307 DIRECT CHARGES CAPITALIZED	-\$11,289	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	11/23/2015	37.50	-\$423,336
14	Total Base	<u>\$749,980</u>						37.50	<u>\$28,124,258</u>
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Unitil Energy Systems, Inc.
 Calculation of Service Company Charges Lead Lag Days
 12 Months Ended Dec 31, 2015
 November Charges

4/5/2016
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Line No	Charges	Amount	Service Period		Total Days	Midpoint Service Period	Date Paid	Lag Days	Weighted Dollar Days
			Start	End					
1	<u>Base</u>								
2									
3									
4	10-20-10-00-5570100 USC-ELECT PRODUCTION ADMIN	\$17,201	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/22/2015	36.00	\$619,237
5	10-20-10-00-5610100 USC - NERC COMPLIANCE	\$6,942	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/22/2015	36.00	\$249,905
6	10-20-10-00-5800200 USC - ELECTRIC DISTRIBUTION	\$302,247	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/22/2015	36.00	\$10,880,881
7	10-20-10-00-5800201 USC - ELECTRIC DISTRIBUTION-CAP	-\$209,016	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/22/2015	36.00	-\$7,524,585
8	10-20-10-00-5930400 USC-VEGETATION MANAGEMENT	\$13,699	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/22/2015	36.00	\$493,167
9	10-20-10-00-9030600 USC - CUSTOMER ACCOUNTING	\$159,016	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/22/2015	36.00	\$5,724,579
10	10-20-10-00-9230300 OS UNITIL SERVICE CORP	\$500,394	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/22/2015	36.00	\$18,014,169
11	10-20-10-00-9230301 OS UNITIL SERVICE CORP-CAP	-\$101,760	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/22/2015	36.00	-\$3,663,368
12	10-20-10-00-9230305 USC OUTSIDE SERVICES-DIRECT CHGS	\$24,419	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/22/2015	36.00	\$879,077
13	10-20-10-00-9230307 DIRECT CHARGES CAPITALIZED	-\$11,289	11/1/15 12:00 AM	12/1/15 12:00 AM	30	11/16/15 12:00 AM	12/22/2015	36.00	-\$406,403
14	Total Base	<u>\$701,852</u>						36.00	<u>\$25,266,660</u>
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**UES Lead Lag Study
Workpapers
Page 123 of 152**

Unitil Energy Systems, Inc.
Calculation of Service Company Charges Lead Lag Days
12 Months Ended Dec 31, 2015
December Charges

4/5/2016
1:10:15 PM

Line No	Charges	Amount	Service Period		Total Days	Midpoint Service Period	Date Paid	Lag Days	Weighted Dollar Days
			Start	End					
1	<u>Base</u>								
2									
3									
4	10-20-10-00-5570100 USC-ELECT PRODUCTION ADMIN	\$16,317	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	1/21/2016	35.50	\$579,271
5	10-20-10-00-5610100 USC - NERC COMPLIANCE	\$6,479	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	1/21/2016	35.50	\$230,005
6	10-20-10-00-5800200 USC - ELECTRIC DISTRIBUTION	\$286,535	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	1/21/2016	35.50	\$10,171,993
7	10-20-10-00-5800201 USC - ELECTRIC DISTRIBUTION-CAP	-\$196,178	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	1/21/2016	35.50	-\$6,964,315
8	10-20-10-00-5930400 USC-VEGETATION MANAGEMENT	\$12,786	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	1/21/2016	35.50	\$453,897
9	10-20-10-00-9030600 USC - CUSTOMER ACCOUNTING	\$151,787	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	1/21/2016	35.50	\$5,388,429
10	10-20-10-00-9230300 OS UNITIL SERVICE CORP	\$575,383	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	1/21/2016	35.50	\$20,426,083
11	10-20-10-00-9230301 OS UNITIL SERVICE CORP-CAP	-\$93,926	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	1/21/2016	35.50	-\$3,334,378
12	10-20-10-00-9230305 USC OUTSIDE SERVICES-DIRECT CHGS	\$29,538	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	1/21/2016	35.50	\$1,048,599
13	10-20-10-00-9230307 DIRECT CHARGES CAPITALIZED	-\$11,289	12/1/15 12:00 AM	1/1/16 12:00 AM	31	12/16/15 12:00 PM	1/21/2016	35.50	-\$400,758
14	Total Base	<u>\$777,432</u>						35.50	<u>\$27,598,825</u>
15									
16									
17									
18									
19									

Unitil Energy Systems, Inc.
Calculation of Other Operation & Maintenance Expense Lead Lag Days
12 Months Ended Dec 31, 2015

4/6/2016
2:44:39 PM

Line No	Strata	Sample Population	Sample Size	Sample	Sample Adj for Clearing to Non O&M	Sample Adjusted Weighted Dollars	Population Adjusted for Clearing	Population Adjusted Weighted Dollars	Lag Days
1	<u>Sratum 1 - Largest 25 vouchers</u>	\$2,312,283	25	\$2,312,283	\$2,312,283	\$146,291,362	\$2,312,283	\$146,291,362	63.27
2									
3	<u>Sratum 2 - Every 5th voucher down to \$7,500</u>	\$2,349,541	30	\$451,899	\$338,279	\$14,190,022	\$1,758,799	\$73,777,571	41.95
4									
5	<u>Sratum 3 - Every 25th voucher down to \$1,000</u>	\$3,508,401	56	\$137,178	\$91,360	\$2,456,697	\$2,336,590	\$62,831,259	26.89
6									
7	<u>Sratum 4 - Every 100th voucher under \$1,000</u>	\$1,515,209	64	\$15,147	\$10,117	\$247,581	\$1,012,025	\$24,766,322	24.47
8									
9	Total	<u>\$9,685,433</u>	<u>175</u>	<u>\$2,916,507</u>	<u>\$2,752,039</u>	<u>\$163,185,662</u>	<u>\$7,419,697</u>	<u>\$307,666,514</u>	<u>41.47</u>

Lag days for inflation Adjustment

<u>\$5,107,414</u>	<u>\$161,375,152</u>	<u>31.60</u>
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UES Lead Lag Study
 Worksheets
 Page 125 of 152
 Account Description

VEND_CODE	VOUCHER_NO	ACCT_CODE	PAYMENT_DATE	JNL_AMT	Adj for Clearing	SVC_START_DATE	SVC_END_DATE	DAYS_LAG	Service Period Midpoint	Lag Days	Weighted Dollars Davy	Account Description
LUCAS TREE	596805	102028005930416	1/6/16 12:00 PM	182,267.00	182,267.00	9/1/15 12:00 AM	11/28/15 12:00 AM	88	10/15/15 12:00 AM	83.5	\$15,219,295	Sub Transmission Vegetation control
ASPLUNDH TRE PA	595249	102028005930418	12/21/15 12:00 PM	173,842.50	173,842.50	10/1/15 12:00 AM	11/21/15 12:00 AM	51	10/26/15 12:00 PM	56	\$9,735,180	VMP Storm Hardening
MAYER TREE	593369	102028005930418	12/3/15 12:00 PM	167,704.00	167,704.00	10/1/15 12:00 AM	11/14/15 12:00 AM	44	10/23/15 12:00 AM	41.5	\$6,959,916	VMP Storm Hardening
MAYER TREE	595873	102028005930418	12/17/15 12:00 PM	167,704.00	167,704.00	10/1/15 12:00 AM	11/28/15 12:00 AM	58	10/30/15 12:00 AM	48.5	\$8,133,644	VMP Storm Hardening
LEWIS TREE	595471	102028005930410	12/21/15 12:00 PM	164,536.29	164,536.29	10/1/15 12:00 AM	11/28/15 12:00 AM	58	10/30/15 12:00 AM	52.5	\$8,638,155	Maintenance Circuit Pruning
ASPLUNDH TRE PA	574880	102028005930410	8/3/15 12:00 PM	133,219.35	133,219.35	2/16/15 12:00 AM	4/11/15 12:00 AM	54	3/15/15 12:00 AM	141.5	\$18,850,538	Maintenance Circuit Pruning
LUCAS TREE	593415	102028005930416	12/9/15 12:00 PM	112,879.00	112,879.00	6/1/15 12:00 AM	11/7/15 12:00 AM	159	8/19/15 12:00 PM	112	\$12,642,448	Sub Transmission Vegetation control
ASPLUNDH TRE PA	594387	102028005930410	12/14/15 12:00 PM	99,815.50	99,815.50	5/1/15 12:00 AM	11/21/15 12:00 AM	204	8/11/15 12:00 AM	125.5	\$12,526,845	Maintenance Circuit Pruning
SIENA TECH	553862	102026009350601	1/28/15 12:00 PM	99,281.36	99,281.36	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	-155	(\$15,388,611)	Maintenance - Software - Dispatch
LUCAS TREE	592497	102028005930410	12/7/15 12:00 PM	94,077.50	94,077.50	8/3/15 12:00 AM	10/31/15 12:00 AM	89	9/16/15 12:00 PM	82	\$7,714,355	Maintenance Circuit Pruning
ASPLUNDH TRE PA	573075	102028005930410	6/24/15 12:00 PM	88,169.47	88,169.47	2/2/15 12:00 AM	3/14/15 12:00 AM	40	2/22/15 12:00 AM	122.5	\$10,800,760	Maintenance Circuit Pruning
LEWIS TREE	584463	102028005930410	9/21/15 12:00 PM	76,511.77	76,511.77	3/2/15 12:00 AM	6/27/15 12:00 AM	117	4/29/15 12:00 PM	145	\$11,094,207	Maintenance Circuit Pruning
MAYER TREE	558177	102028005930410	2/19/15 12:00 PM	73,108.00	73,108.00	9/1/14 12:00 AM	12/20/14 12:00 AM	110	10/26/14 12:00 AM	116.5	\$8,517,082	Maintenance Circuit Pruning
LUCAS TREE	596034	102028005930410	12/30/15 12:00 PM	65,854.25	65,854.25	1/1/15 12:00 AM	11/28/15 12:00 AM	119	9/29/15 12:00 PM	92	\$6,058,591	Maintenance Circuit Pruning
MAYER TREE	596972	102028005930418	12/17/15 12:00 PM	63,820.00	63,820.00	12/1/15 12:00 AM	12/12/15 12:00 AM	11	12/6/15 12:00 PM	11	\$702,020	VMP Storm Hardening
MAYER TREE	595874	102028005930418	12/17/15 12:00 PM	63,820.00	63,820.00	12/1/15 12:00 AM	12/5/15 12:00 AM	4	12/3/15 12:00 AM	14.5	\$925,390	VMP Storm Hardening
DAVEY RESOURCE	580853	102060005930201	8/24/15 12:00 PM	60,500.00	60,500.00	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	53	\$3,206,500	Reliability Inspections
LUCAS TREE	583014	102028005930410	9/21/15 12:00 PM	54,839.77	54,839.77	2/2/15 12:00 AM	8/15/15 12:00 AM	194	5/10/15 12:00 AM	134.5	\$7,375,949	Maintenance Circuit Pruning
LUCAS TREE	569876	102028005930410	6/17/15 12:00 PM	54,839.23	54,839.23	2/2/15 12:00 AM	5/9/15 12:00 AM	96	3/22/15 12:00 AM	87.5	\$4,798,433	Maintenance Circuit Pruning
MAYER TREE	556279	102028005930418	2/5/15 12:00 PM	54,619.41	54,619.41	10/13/14 12:00 AM	12/17/14 12:00 AM	65	11/14/14 12:00 PM	83	\$4,533,411	VMP Storm Hardening
DELOITTE CONSUL	557790	102000002420800	2/17/15 12:00 PM	53,765.25	53,765.25	10/1/14 12:00 AM	2/3/15 12:00 AM	125	12/2/14 12:00 PM	77	\$4,139,924	Audit Fees
HUB INTERN NE	566804	102000001650100	5/6/15 12:00 PM	53,303.57	53,303.57	5/1/15 12:00 AM	5/1/16 12:00 AM	366	10/31/15 12:00 AM	-177.5	(\$9,461,384)	Prepaid Property Insurance
ASPLUNDH TRE PA	595246	102028005930418	12/21/15 12:00 PM	52,152.75	52,152.75	10/1/15 12:00 AM	11/21/15 12:00 AM	51	10/26/15 12:00 PM	56	\$2,920,554	VMP Storm Hardening
ASPLUNDH TRE PA	595984	102028005930418	12/23/15 12:00 PM	52,152.75	52,152.75	10/1/15 12:00 AM	11/21/15 12:00 AM	51	10/26/15 12:00 PM	58	\$3,024,860	VMP Storm Hardening
DAVEY RESOURCE	580853	102050005930201	8/24/15 12:00 PM	49,500.00	49,500.00	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	53	\$2,623,500	Reliability Inspections
ABB POWER IL	553956	102026009350601	1/12/15 12:00 PM	38,078.64	38,078.64	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	-171	(\$6,511,447)	Maintenance Software - Dispatch
DAVEY RESOURCE	589798	102060005930201	10/26/15 12:00 PM	30,250.00	30,250.00	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	116	\$3,509,000	Reliability Inspections
OKONITE COMP	567502	102060001540100	5/13/15 12:00 PM	28,188.60	1,071.17	4/23/15 12:00 AM	4/24/15 12:00 AM	1	4/23/15 12:00 PM	20	\$21,423	Materials & Supplies General
KUBRA DATA	592454	102021009030400	11/16/15 12:00 PM	26,171.10	26,171.10	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	31	\$811,304	Postage
DAVEY RESOURCE	589798	102050005930201	10/26/15 12:00 PM	24,750.00	24,750.00	1/1/15 12:00 AM	1/1/16 12:00 AM	365	7/2/15 12:00 PM	116	\$2,871,000	Reliability Inspections
ASPLUNDH TRE PA	556424	102028005930410	2/2/15 12:00 PM	24,393.60	24,393.60	7/1/14 12:00 AM	11/22/14 12:00 AM	144	9/11/14 12:00 AM	144.5	\$3,524,875	Maintenance Circuit Pruning
ASPLUNDH TRE PA	586495	102028005930415	10/7/15 12:00 PM	22,066.65	22,066.65	9/1/15 12:00 AM	5/1/16 12:00 AM	31	8/16/15 12:00 PM	52	\$1,147,466	Police Flagger Costs
MAYER TREE	595875	102028005930418	12/17/15 12:00 PM	20,800.00	20,800.00	11/2/15 12:00 AM	11/28/15 12:00 AM	26	11/15/15 12:00 AM	32.5	\$676,000	VMP Storm Hardening
ASPLUNDH TRE PA	558888	102028005930415	3/11/15 12:00 PM	18,506.04	18,506.04	1/1/15 12:00 AM	2/1/15 12:00 AM	31	1/16/15 12:00 PM	54	\$999,326	Police Flagger Costs
ASPLUNDH TRE PA	595974	102028005930410	12/23/15 12:00 PM	17,614.50	17,614.50	5/1/15 12:00 AM	11/21/15 12:00 AM	204	8/11/15 12:00 AM	134.5	\$2,369,150	Maintenance Circuit Pruning
TFMORAN	556002	102060001830000	2/4/15 12:00 PM	15,395.98	-	11/30/14 12:00 AM	12/28/14 12:00 AM	28	12/14/14 12:00 AM	52.5	\$0	Prelim Survey & Investigation
OKONITE COMP	592854	102060001540100	12/2/15 12:00 PM	14,412.34	547.67	11/5/15 12:00 AM	11/6/15 12:00 AM	1	11/5/15 12:00 PM	27	\$14,787	Materials & Supplies General
GRAYBAR ELEC	566284	102050001540100	5/4/15 12:00 PM	13,431.60	510.40	4/14/15 12:00 AM	4/15/15 12:00 AM	1	4/14/15 12:00 PM	20	\$10,208	Materials & Supplies General
ASPLUNDH TRE PA	595244	102028005930410	12/16/15 12:00 PM	12,380.24	12,380.24	5/1/15 12:00 AM	11/21/15 12:00 AM	204	8/11/15 12:00 AM	127.5	\$1,578,481	Maintenance Circuit Pruning
TFMORAN	575318	102060001830000	7/13/15 12:00 PM	11,928.01	-	4/26/15 12:00 AM	5/31/15 12:00 AM	35	5/13/15 12:00 PM	61	\$0	Prelim Survey & Investigation
TRAVELERS CL	590137	102050001650104	10/29/15 12:00 PM	11,283.34	4,172.58	10/1/15 12:00 AM	10/1/16 12:00 AM	366	4/1/16 12:00 AM	-154.5	(\$644,663)	Prepaid Workers Comp Ins - Capital Division
ASPLUNDH TRE PA	568065	102028005930415	6/3/15 12:00 PM	10,905.83	10,905.83	5/1/15 12:00 AM	6/1/15 12:00 AM	31	5/16/15 12:00 PM	18	\$196,305	Police Flagger Costs
BANK AMER NY	560891	102008009300200	3/12/15 12:00 PM	10,400.00	10,400.00	3/10/15 12:00 AM	3/11/15 12:00 AM	1	3/10/15 12:00 PM	2	\$20,800	Trustee/Registrar Exp - Purchase of Restricted Stock
ASPLUNDH TRE PA	574854	102028005930415	7/20/15 12:00 PM	9,920.40	9,920.40	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM	34.5	\$342,254	Police Flagger Costs
MASTER ROOFER	561676	102060005881200	3/26/15 12:00 PM	9,462.10	9,462.10	2/18/15 12:00 AM	2/22/15 12:00 AM	4	2/20/15 12:00 AM	34.5	\$326,442	Svc Cntr Expensed-Seacoast Division
ASPLUNDH TRE PA	569076	102028005930411	6/10/15 12:00 PM	9,053.35	9,053.35	4/27/15 12:00 AM	5/9/15 12:00 AM	12	5/3/15 12:00 AM	38.5	\$348,554	Hazard Tree Mitigation
ASPLUNDH TRE PA	560734	102028005930411	4/6/15 12:00 PM	8,617.76	8,617.76	2/9/15 12:00 AM	2/28/15 12:00 AM	19	2/18/15 12:00 PM	47	\$405,035	Hazard Tree Mitigation
ASPLUNDH TRE PA	555495	102028005930411	2/16/15 12:00 PM	8,499.72	8,499.72	1/5/15 12:00 AM	1/10/15 12:00 AM	5	1/7/15 12:00 PM	40	\$339,989	Hazard Tree Mitigation
ASPLUNDH TRE PA	596798	102028005930411	1/6/16 12:00 PM	8,167.02	8,167.02	11/30/15 12:00 AM	12/5/15 12:00 AM	5	12/2/15 12:00 PM	35	\$285,846	Hazard Tree Mitigation
MCFARLAND CASCA	572536	102050001540100	7/8/15 12:00 PM	8,131.60	309.00	6/5/15 12:00 AM	6/5/15 12:00 AM	1	6/5/15 12:00 PM	33	\$10,197	Materials & Supplies General
TRAVELERS CL	572952	102060001650104	6/25/15 12:00 PM	7,981.43	2,951.53	10/1/14 12:00 AM	10/1/15 12:00 AM	365	4/1/15 12:00 PM	85	\$250,880	Prepaid Workers Comp Ins - Seacoast
TRAVELERS CL	561359	102060001650104	3/19/15 12:00 PM	7,981.43	2,951.53	10/1/14 12:00 AM	10/1/15 12:00 AM	365	4/1/15 12:00 PM	-13	(\$38,370)	Prepaid Workers Comp Ins - Seacoast
I C REED & SONS	581616	102060005930200	8/26/15 12:00 PM	7,852.09	7,852.09	7/20/15 12:00 AM	7/25/15 12:00 AM	5	7/22/15 12:00 PM	35	\$274,823	Dist Maint Scheduled - Seacoast
MCFARLAND CASCA	577424	102060001540100	7/27/15 12:00 PM	7,692.33	292.31	7/14/15 12:00 AM	7/15/15 12:00 AM	1	7/14/15 12:00 PM	13	\$3,800	Materials & Supplies General
PIERCE AT ME	570360	10201009230400	6/3/15 12:00 PM	7,583.75	7,583.75	1/28/15 12:00 AM	1/5/15 12:00 AM	23	1/16/15 12:00 PM	138	\$1,046,558	OS Other
MCFARLAND CASCA	567691	102050001540100	5/13/15 12:00 PM	6,911.86	262.65	4/7/15 12:00 AM	4/8/15 12:00 AM	1	4/7/15 12:00 PM	36	\$9,455	Materials & Supplies General
ASPLUNDH TRE PA	568225	102028005930413	6/8/15 12:00 PM	6,376.66	6,376.66	4/27/15 12:00 AM	5/2/15 12:00 AM	5	4/29/15 12:00 PM	40	\$255,066	Forestry Reliability Assessment
ROCK CREST GAR	594899	102060005820201	12/3/15 12:00 PM	6,000.00	6,000.00	12/1/15 12:00 AM	5/1/16 12:00 AM	152	2/15/16 12:00 AM	-73.5	(\$441,000)	Dist Ops Snow/Outside-Seacoast Division
LUCAS TREE	581944	102028005930415	9/2/15 12:00 PM	5,659.50	5,659.50	7/20/15 12:00 AM	7/25/15 12:00 AM	5	7/22/15 12:00 PM	42	\$237,699	Police Flagger Costs
ASPLUNDH TRE PA	555501	102028005930413	1/26/15 12:00 PM	5,305.23	5,305.23	12/15/14 12:00 AM	12/20/14 12:00 AM	5	12/17/14 12:00 PM	40	\$212,209	Forestry Reliability Assessment
ASPLUNDH TRE PA	595967	102028005930411	12/28/15 12:00 PM	4,896.76</								

**UES Lead Lag Study
Workpapers
Page 126 of 152
Account Description**

VEND_CODE	VOUCHER_NO	ACCT_CODE	PAYMENT_DATE	JNL_AMT	Adj for Clearing	SVC_START_DATE	SVC_END_DATE	DAYS_LAG	Service Period Midpoint	Lag Days	Weighted Dollars	Description
GRAYBAR SEA	567451	102060001540100	5/11/15 12:00 PM	3,940.80	149.75	4/21/15 12:00 AM	4/22/15 12:00 AM	1	4/21/15 12:00 PM	20	\$2,995	Materials & Supplies General
ASPLUNDH TRE PA	556421	102028005930411	2/23/15 12:00 PM	3,655.00	3,655.00	1/12/15 12:00 AM	1/17/15 12:00 AM	5	1/14/15 12:00 PM	40	\$146,200	Hazard Tree Mitigation
ASPLUNDH TRE PA	558892	102028005930412	3/11/15 12:00 PM	3,416.80	3,416.80	2/2/15 12:00 AM	2/7/15 12:00 AM	5	2/4/15 12:00 PM	35	\$119,588	Mid-Cycle Review
ASPLUNDH TRE PA	573596	102028005930412	6/29/15 12:00 PM	3,283.44	3,283.44	5/18/15 12:00 AM	5/23/15 12:00 AM	5	5/20/15 12:00 PM	40	\$131,338	Mid-Cycle Review
YANKEE CLIP	559993	102060005881200	3/9/15 12:00 PM	3,190.00	3,190.00	12/1/14 12:00 AM	5/1/15 12:00 AM	151	2/14/15 12:00 PM	23	\$73,370	Svc Cntr Expensed-Seacoast Division
LUCAS TREE	592247	102028005930415	11/30/15 12:00 PM	3,087.00	3,087.00	10/12/15 12:00 AM	10/31/15 12:00 AM	19	10/21/15 12:00 PM	40	\$123,480	Police Flagger Costs
KUBRA DATA	592454	102021009030200	11/16/15 12:00 PM	2,981.45	2,981.45	10/1/15 12:00 AM	11/1/15 12:00 AM	31	10/16/15 12:00 PM	31	\$92,425	Billg/Acct Forms/Supplies
GRAYBAR SEA	589660	102060001540100	10/26/15 12:00 PM	2,882.16	109.52	9/28/15 12:00 AM	9/29/15 12:00 AM	1	9/28/15 12:00 PM	28	\$3,067	Materials & Supplies General
GRAYBAR ELEC	584003	102050001540100	9/16/15 12:00 PM	2,788.56	105.97	9/1/15 12:00 AM	9/2/15 12:00 AM	1	9/1/15 12:00 PM	15	\$1,589	Materials & Supplies General
MERCHANTS AUT	586499	102060001841203	10/5/15 12:00 PM	2,667.69	1,040.93	8/10/15 12:00 AM	9/10/15 12:00 AM	31	8/25/15 12:00 PM	41	\$42,678	LT Fuel
WESCO DISTRIBUT	591488	102060001540100	11/9/15 12:00 PM	2,578.00	97.96	9/21/15 12:00 AM	9/22/15 12:00 AM	1	9/21/15 12:00 PM	49	\$4,800	Materials & Supplies General
CALYPSO COMM	584360	102024009305400	9/16/15 12:00 PM	2,500.00	2,500.00	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	0.5	\$1,250	Media Services
KUBRA DATA	580835	102021009030400	8/24/15 12:00 PM	2,381.52	2,381.52	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	39	\$92,879	Postage
GRAYBAR SEA	557502	102060001540100	2/11/15 12:00 PM	2,304.00	87.55	1/29/15 12:00 AM	1/30/15 12:00 AM	1	1/29/15 12:00 PM	13	\$1,138	Materials & Supplies General
ASPLUNDH TRE PA	574853	102028005930415	7/20/15 12:00 PM	2,223.38	2,223.38	6/15/15 12:00 AM	6/20/15 12:00 AM	5	6/17/15 12:00 PM	33	\$73,372	Police Flagger Costs
UTILITY SERVICE	593403	102060001841301	12/7/15 12:00 PM	2,173.24	848.00	11/11/15 12:00 AM	11/12/15 12:00 AM	1	11/11/15 12:00 PM	26	\$22,048	HT Maint & Parts
ASPLUNDH TRE PA	563223	102028005930415	4/27/15 12:00 PM	2,106.45	2,106.45	3/16/15 12:00 AM	4/18/15 12:00 AM	33	4/1/15 12:00 PM	26	\$54,768	Police Flagger Costs
PIERCE AT ME	574116	10201009230400	7/1/15 12:00 PM	2,034.38	2,034.38	4/1/15 12:00 AM	4/28/15 12:00 AM	27	4/14/15 12:00 PM	78	\$158,682	OS Other
KUBRA DATA	584870	102021009030400	9/21/15 12:00 PM	1,964.89	1,964.89	8/1/15 12:00 AM	9/1/15 12:00 AM	31	8/16/15 12:00 PM	36	\$70,736	Postage
KUBRA DATA	576719	102021009030400	7/22/15 12:00 PM	1,905.42	1,905.42	6/1/15 12:00 AM	7/1/15 12:00 AM	30	6/16/15 12:00 AM	36.5	\$69,548	Postage
NEW ENGLAND TRA	573631	102050005930100	6/26/15 12:00 PM	1,870.00	1,870.00	6/8/15 12:00 AM	6/13/15 12:00 AM	5	6/10/15 12:00 PM	16	\$29,920	Dist Maint Unscheduled-Capital Division
LIBERTY LAND	572420	102060005881200	6/18/15 12:00 PM	1,800.00	1,800.00	5/1/15 12:00 AM	12/1/15 12:00 AM	214	8/16/15 12:00 AM	-58.5	(\$105,300)	Svc Cntr Expensed-Seacoast Division
WESCO DISTRIBUT	554370	102050001540100	2/4/15 12:00 PM	1,764.00	67.03	1/6/15 12:00 AM	1/7/15 12:00 AM	1	1/6/15 12:00 PM	29	\$1,944	Materials & Supplies General
ORR & RENO	565123	102000024205100	4/22/15 12:00 PM	1,692.00	1,692.00	2/4/15 12:00 AM	2/6/15 12:00 AM	2	2/5/15 12:00 AM	76.5	\$129,438	Misc Accounting
G RAY COLBY	557816	102050005881200	2/25/15 12:00 PM	1,660.00	1,660.00	12/1/14 12:00 AM	5/1/15 12:00 AM	151	2/14/15 12:00 PM	11	\$18,260	Svc Cntr Expensed-Capital Division
UTILITY SERVICE	577586	102050001841301	7/27/15 12:00 PM	1,632.40	636.96	7/15/15 12:00 AM	7/16/15 12:00 AM	1	7/15/15 12:00 PM	12	\$7,644	HT Maint & Parts
FANTASIA ASSOC	596575	102060005920400	12/23/15 12:00 PM	1,608.00	1,608.00	12/7/15 12:00 AM	12/8/15 12:00 AM	1	12/7/15 12:00 PM	16	\$25,728	Dist Maint Stat Equip SCADA-Seacoast Division
ASPLUNDH TRE PA	569075	102028005930420	6/8/15 12:00 PM	1,602.06	1,602.06	5/4/15 12:00 AM	5/9/15 12:00 AM	5	5/6/15 12:00 PM	33	\$52,868	Core Work - Customer Requests
LUCAS TREE	577749	102028005930415	8/3/15 12:00 PM	1,580.25	1,580.25	6/8/15 12:00 AM	6/13/15 12:00 AM	5	6/10/15 12:00 PM	54	\$85,334	Police Flagger Costs
GSFA CONSULT	589906	102024009305400	10/28/15 12:00 PM	1,542.20	1,542.20	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	42.5	\$65,544	Media Services
GRAYBAR ELEC	570086	102050001540100	6/3/15 12:00 PM	1,516.80	57.64	5/22/15 12:00 AM	5/23/15 12:00 AM	1	5/22/15 12:00 PM	12	\$692	Materials & Supplies General
GRAYBAR ELEC	582719	102050001840400	9/2/15 12:00 PM	1,473.00	7.07	8/28/15 12:00 AM	8/29/15 12:00 AM	1	8/28/15 12:00 PM	5	\$35	Suspense Clear Exempt Stock
GRAYBAR ELEC	567738	102050001840400	5/13/15 12:00 PM	1,440.00	6.91	5/1/15 12:00 AM	5/2/15 12:00 AM	1	5/1/15 12:00 PM	12	\$83	Suspense Clear Exempt Stock
I C REED & SONS	589237	102060005930100	10/21/15 12:00 PM	1,411.86	1,411.86	10/9/15 12:00 AM	10/10/15 12:00 AM	1	10/9/15 12:00 PM	12	\$16,942	Dist Maint Unscheduled-Seacoast Division
ASPLUNDH TRE PA	584048	102028005930415	9/28/15 12:00 PM	1,389.78	1,389.78	8/24/15 12:00 AM	8/29/15 12:00 AM	5	8/26/15 12:00 PM	33	\$45,863	Police Flagger Costs
GRAYBAR ELEC	564205	102050001540100	4/15/15 12:00 PM	1,361.92	51.75	3/31/15 12:00 AM	4/1/15 12:00 AM	1	3/31/15 12:00 PM	15	\$776	Materials & Supplies General
WESTERN UNION	583803	102021009030502	9/17/15 12:00 PM	1,324.22	1,324.22	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	63	\$83,426	Cost of Collections
A1 PHOENIX CLN	581623	102050005881200	9/14/15 12:00 PM	1,293.30	1,293.30	9/1/15 12:00 AM	10/1/15 12:00 AM	30	9/16/15 12:00 AM	-1.5	(\$1,940)	Svc Cntr Expensed-Capital Division
GRAYBAR SEA	560058	102060001840400	3/9/15 12:00 PM	1,260.00	6.05	2/23/15 12:00 AM	2/24/15 12:00 AM	1	2/23/15 12:00 PM	14	\$85	Susp Cl O/H Exempt Stock
G RAY COLBY	554436	102050005820200	1/26/15 12:00 PM	1,228.00	1,228.00	12/3/14 12:00 AM	12/14/14 12:00 AM	11	12/8/14 12:00 PM	49	\$60,172	Dist Oper Stat Snow/Grass-Capital Division
ASPLUNDH TRE PA	597694	102028005930411	1/11/16 12:00 PM	1,194.00	1,194.00	12/7/15 12:00 AM	12/12/15 12:00 AM	5	12/9/15 12:00 PM	33	\$39,402	Hazard Tree Mitigation
NEW ENGLAND TRA	592216	102050005930100	11/25/15 12:00 PM	1,144.00	1,144.00	10/26/15 12:00 AM	10/31/15 12:00 AM	5	10/28/15 12:00 PM	28	\$32,032	Dist Maint Unscheduled-Capital Division
KUBRA DATA	554645	102021009030400	1/19/15 12:00 PM	1,105.72	1,105.72	12/1/14 12:00 AM	1/1/15 12:00 AM	31	12/16/14 12:00 PM	34	\$37,594	Postage
MARMON UTILITY	588168	102050001540100	10/28/15 12:00 PM	1,086.96	41.30	10/6/15 12:00 AM	10/7/15 12:00 AM	1	10/6/15 12:00 PM	22	\$909	Materials & Supplies General
ECP ELECTRONIC	566295	102000001840001	5/11/15 12:00 PM	1,069.74	-	4/14/15 12:00 AM	4/15/15 12:00 AM	1	4/14/15 12:00 PM	27	\$0	Eng & Oper O/H
GRAYBAR ELEC	554147	102050001840400	1/12/15 12:00 PM	1,039.00	4.99	12/23/14 12:00 AM	12/24/14 12:00 AM	1	12/23/14 12:00 PM	20	\$100	Suspense Clear Exempt Stock
GRAYBAR ELEC	553791	102050001540100	1/7/15 12:00 PM	1,013.52	38.51	12/17/14 12:00 AM	12/17/14 12:00 AM	1	12/16/14 12:00 PM	22	\$847	Materials & Supplies General
ASPLUNDH TRE PA	566618	102028005930420	5/20/15 12:00 PM	989.52	989.52	4/13/15 12:00 AM	4/18/15 12:00 AM	5	4/15/15 12:00 PM	35	\$34,633	Core Work - Customer Requests
SULLOWAY & HOLL	566526	102000024204000	5/4/15 12:00 PM	917.18	917.18	3/7/15 12:00 AM	3/31/15 12:00 AM	24	3/19/15 12:00 AM	46.5	\$42,649	Legal Claims & Litigation
KUBRA DATA	569825	102021009030502	6/1/15 12:00 PM	840.14	840.14	4/1/15 12:00 AM	5/1/15 12:00 AM	30	4/16/15 12:00 AM	46.5	\$39,067	Cost of Collections
YANKEE GMC	593209	102050001841301	11/19/15 12:00 PM	779.66	304.22	8/12/15 12:00 AM	8/13/15 12:00 AM	1	8/12/15 12:00 PM	99	\$30,118	HT Maint & Parts
CAPITAL CONTRC	578371	102060005881200	8/10/15 12:00 PM	730.00	730.00	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	25	\$18,250	Svc Cntr Expensed-Seacoast Division
YANKEE GMC	569857	102050001841301	6/4/15 12:00 PM	690.45	269.41	5/18/15 12:00 AM	5/21/15 12:00 AM	3	5/19/15 12:00 PM	16	\$4,311	HT Maint & Parts
GRAYBAR ELEC	591018	102050001840400	11/9/15 12:00 PM	661.50	3.18	10/23/15 12:00 AM	10/24/15 12:00 AM	1	10/23/15 12:00 PM	17	\$54	Suspense Clear Exempt Stock
STUART C IRBY	580256	102000001840300	8/17/15 12:00 PM	620.28	368.82	8/4/15 12:00 AM	8/5/15 12:00 AM	1	8/4/15 12:00 PM	13	\$4,795	Small Tools
LUCAS TREE	588859	102028005930415	10/19/15 12:00 PM	589.05	589.05	9/14/15 12:00 AM	9/19/15 12:00 AM	5	9/16/15 12:00 PM	33	\$19,439	Police Flagger Costs
LEWIS TREE	596801	102028005930415	1/4/16 12:00 PM	549.00	549.00	11/30/15 12:00 AM	12/5/15 12:00 AM	5	12/2/15 12:00 PM	33	\$18,117	Police Flagger Costs
NORTHEAST CREAT	571440	102017009231500	6/15/15 12:00 PM	522.50	522.50	5/21/15 12:00 AM	5/22/15 12:00 AM	1	5/21/15 12:00 PM	25	\$13,063	Emergency Mgmt & Compliance
SEPTIC TECHNOLO	575103	102050001841301	7/8/15 12:00 PM	489.56	191.03	6/30/15 12:00 AM	7/1/15 12:00 AM	1	6/30/15 12:00 PM	8	\$1,528	HT Maint & Parts
ADA TRAFFIC CON	595467	102050005930100	12/10/15 12:00 PM	473.00	473.00	11/2/15 12:00 AM	11/7/15 12:00 AM	5	11/4/15 12:00 PM	36	\$17,028	Dist Maint Unscheduled-Capital Division
GRAYBAR SEA	564129	102060001840400	4/15/15 12:00 PM	447.00	2.15	3/30/15 12:00 AM	3/31/15 12:00 AM	1	3/30/15 12:00 PM	16	\$34	Susp Cl O/H Exempt Stock
GRAYBAR ELEC	597189	102050001540100	12/30/15 12:00 PM	421.80	16.03	12/11/15 12:00 AM	12/12/15 12:00 AM	1	12/11/15 12:00 PM	19	\$305	Materials & Supplies General
GRAYBAR SEA	571500	102060001540100	6/15/15 12:00 PM	399.20	15.17	6/1/15 12:00 AM	6/2/15 12:00 AM	1	6/1/15 12:00 PM	14	\$212	Materials & Supplies General

UES Lead Lag Study

Workpapers

Page 127 of 152

Account Description

VENN_CODE	VOUCHER_NO	ACCT_CODE	PAYMENT_DATE	JNL_AMT	Adj for Clearing	SVC_START_DATE	SVC_END_DATE	DAYS_LAG	Service Period Midpoint	Lag Days	Weighted Dollars	Days	Account Description
BETTERFORMS	589207	102021009030200	11/2/15 12:00 PM	374.73	374.73	10/8/15 12:00 AM	10/9/15 12:00 AM	1	10/8/15 12:00 PM	25	\$9,368	Billg/Acct Forms/Supplies	
HAWKINS SAFETY	578813	10200001840300	8/5/15 12:00 PM	353.95	210.46	7/17/15 12:00 AM	7/18/15 12:00 AM	1	7/17/15 12:00 PM	19	\$3,999	Small Tools	
KUBRA DATA	580928	102021009030504	8/26/15 12:00 PM	338.70	338.70	7/26/15 12:00 AM	7/31/15 12:00 AM	5	7/28/15 12:00 PM	29	\$9,822	O/S Vendor Services Mailroom	
PRICELINE AUTOS	569850	102050001841201	6/11/15 12:00 PM	320.00	124.86	5/26/15 12:00 AM	5/27/15 12:00 AM	1	5/26/15 12:00 PM	16	\$1,998	LT Main & Parts	
US POSTAL	556446	102021009030400	2/5/15 12:00 PM	294.55	294.55	3/25/15 12:00 AM	3/25/16 12:00 AM	366	9/24/15 12:00 AM	-230.5	(\$67,894)	Postage	
CONCORD 35	584033	102050005930100	9/17/15 12:00 PM	277.00	277.00	5/4/15 12:00 AM	9/5/15 12:00 AM	124	7/5/15 12:00 AM	74.5	\$20,637	Dist Maint Unscheduled-Capital Division	
I C REED & SONS	591934	102060005930100	11/16/15 12:00 PM	261.87	261.87	10/23/15 12:00 AM	10/24/15 12:00 AM	1	10/23/15 12:00 PM	24	\$6,285	Dist Maint Unscheduled-Seacoast Division	
VISION METER	553508	102060005860000	1/15/15 12:00 PM	250.00	250.00	12/22/14 12:00 AM	12/23/14 12:00 AM	1	12/22/14 12:00 PM	24	\$6,000	Dist Oper Gen Meter Exp-Seacoast Division	
N H BRAGG & SON	569138	102000001840300	6/10/15 12:00 PM	235.89	140.26	5/14/15 12:00 AM	5/15/15 12:00 AM	1	5/14/15 12:00 PM	27	\$3,787	Small Tools	
GRAYBAR SEA	580372	102060001840400	8/17/15 12:00 PM	224.40	1.08	7/30/15 12:00 AM	7/31/15 12:00 AM	1	7/30/15 12:00 PM	18	\$19	Susp Cl O/H Exempt Stock	
CADY COMMUNICAT	575044	102060005980200	7/9/15 12:00 PM	210.90	210.90	6/27/15 12:00 AM	6/28/15 12:00 AM	1	6/27/15 12:00 PM	12	\$2,531	Maint Communication Equip-Seacoast Division	
WEST MECH	553716	102060005881200	1/8/15 12:00 PM	199.00	199.00	12/29/14 12:00 AM	12/30/14 12:00 AM	1	12/29/14 12:00 PM	10	\$1,990	Svc Cntr Expensed-Seacoast Division	
LUCAS TREE	581945	102028005930411	9/16/15 12:00 PM	185.00	185.00	8/3/15 12:00 AM	8/8/15 12:00 AM	5	8/5/15 12:00 PM	42	\$7,770	Hazard Tree Mitigation	
GRAYBAR SEA	557498	102060001840400	2/11/15 12:00 PM	177.00	0.85	1/26/15 12:00 AM	1/27/15 12:00 AM	1	1/26/15 12:00 PM	16	\$14	Susp Cl O/H Exempt Stock	
RELIABLE-TEI	559260	102060005880100	3/11/15 12:00 PM	170.45	170.45	2/11/15 12:00 AM	2/12/15 12:00 AM	1	2/11/15 12:00 PM	20	\$4,773	Administrative Expenses-Seacoast Division	
GRAYBAR ELEC	567522	102050001540100	5/11/15 12:00 PM	160.74	6.11	4/21/15 12:00 AM	4/22/15 12:00 AM	1	4/21/15 12:00 PM	20	\$122	Materials & Supplies General	
YANKEE CLIP	556609	102060005820200	2/4/15 12:00 PM	150.15	150.15	1/23/15 12:00 AM	1/24/15 12:00 AM	1	1/23/15 12:00 PM	12	\$1,802	Dist Oper Stat Snow/Grass-Seacoast Division	
GRAYBAR SEA	560049	102060001540100	3/9/15 12:00 PM	143.88	5.47	2/25/15 12:00 AM	2/26/15 12:00 AM	1	2/25/15 12:00 PM	12	\$66	Materials & Supplies General	
NEWELL POST	579146	102050005900000	8/10/15 12:00 PM	131.60	131.60	7/16/15 12:00 AM	7/16/15 12:00 AM	1	7/15/15 12:00 PM	26	\$3,422	Dist Maint General Supervision-Capital Division	
GRAYBAR ELEC	579924	102000001840300	8/12/15 12:00 PM	124.86	74.24	7/31/15 12:00 AM	8/1/15 12:00 AM	1	7/31/15 12:00 PM	12	\$891	Small Tools	
GREAT AMER LEAS	585336	102000001840001	10/5/15 12:00 PM	117.73	-	9/15/15 12:00 AM	9/16/15 12:00 AM	1	9/15/15 12:00 PM	20	\$0	Eng & Oper O/H	
PETTY CASH CONC	555945	102050009250100	1/29/15 12:00 PM	109.92	109.92	1/20/15 12:00 AM	1/21/15 12:00 AM	1	1/20/15 12:00 PM	9	\$989	Injuries & Damages Safety-Capital Division	
UPS MD	553573	102050005860000	1/7/15 12:00 PM	104.39	104.39	12/6/14 12:00 AM	12/13/14 12:00 AM	7	12/9/14 12:00 PM	29	\$3,027	Dist Oper Gen Meter Exp-Capital Division	
ROSS EXPRESS	566018	102060005930100	5/4/15 12:00 PM	97.49	97.49	4/20/15 12:00 AM	4/21/15 12:00 AM	1	4/20/15 12:00 PM	14	\$1,365	Dist Maint Unscheduled-Seacoast Division	
FAIRPOINT 1	556297	102026005810000	2/9/15 12:00 PM	90.98	90.98	12/18/14 12:00 AM	1/18/15 12:00 AM	31	1/2/15 12:00 PM	38	\$3,457	Communication System Exp - UES	
INQUEST TECH	580920	102050005840400	8/24/15 12:00 PM	86.66	86.66	8/1/15 12:00 AM	8/2/15 12:00 AM	1	8/1/15 12:00 PM	23	\$1,993	Underground Equipment Inspections-Capital Division	
FAIRPOINT 1	569869	102026005810000	6/10/15 12:00 PM	81.44	81.44	4/18/15 12:00 AM	5/18/15 12:00 AM	30	5/3/15 12:00 AM	38.5	\$3,135	Communication System Exp - UES	
N H BRAGG & SON	570766	102000001840300	6/24/15 12:00 PM	79.33	47.17	6/1/15 12:00 AM	6/2/15 12:00 AM	1	6/1/15 12:00 PM	23	\$1,085	Small Tools	
GRAYBAR SEA	569265	102060001840400	5/27/15 12:00 PM	74.00	0.36	5/11/15 12:00 AM	5/12/15 12:00 AM	1	5/11/15 12:00 PM	16	\$6	Susp Cl O/H Exempt Stock	
UTILITY POWER	588173	102050001840400	10/28/15 12:00 PM	68.59	0.33	10/9/15 12:00 AM	10/10/15 12:00 AM	1	10/9/15 12:00 PM	19	\$6	Suspense Clear Exempt Stock	
ARJAY ACE HARDW	579077	102060005881200	8/10/15 12:00 PM	62.52	62.52	7/13/15 12:00 AM	7/14/15 12:00 AM	1	7/13/15 12:00 PM	28	\$1,751	Svc Cntr Expensed-Seacoast Division	
UPS MD	576887	102060005700200	7/22/15 12:00 PM	57.15	57.15	6/20/15 12:00 AM	7/4/15 12:00 AM	14	6/27/15 12:00 AM	25.5	\$1,457	Sub Trans Maint Stat Equip Annual-Seacoast Division	
UPS MD	590331	102050001630000	11/2/15 12:00 PM	51.09	1.94	10/17/15 12:00 AM	10/18/15 12:00 AM	1	10/17/15 12:00 PM	16	\$31	Stores Expense Undistributed	
CONTINENTAL IDE	557689	102060001840400	2/19/15 12:00 PM	45.80	0.22	1/30/15 12:00 AM	1/31/15 12:00 AM	1	1/30/15 12:00 PM	20	\$4	Susp Cl O/H Exempt Stock	
TYNDALE CO INC	575340	102000001840001	7/27/15 12:00 PM	42.50	-	6/2/15 12:00 AM	6/3/15 12:00 AM	1	6/2/15 12:00 PM	55	\$0	Eng & Oper O/H	
FAIRPOINT 1	589606	102026009020200	11/2/15 12:00 PM	38.48	38.48	9/9/15 12:00 AM	10/9/15 12:00 AM	30	9/24/15 12:00 AM	39.5	\$1,520	Meter Reading-Telephone Expense	
GRAYBAR SEA	576644	102000001840300	7/20/15 12:00 PM	37.32	22.19	6/23/15 12:00 AM	6/24/15 12:00 AM	1	6/23/15 12:00 PM	27	\$599	Small Tools	
LLOYD JR CHARLE	574997	102050009211700	7/6/15 12:00 PM	35.00	35.00	7/1/15 12:00 AM	8/1/15 12:00 AM	31	7/16/15 12:00 PM	-10	(\$350)	Telephone Services-Service Center-Capital Division	
SBS TRUCK	580785	102060001841301	8/20/15 12:00 PM	34.00	13.27	8/12/15 12:00 AM	8/13/15 12:00 AM	1	8/12/15 12:00 PM	8	\$106	HT Maint & Parts	
PRICELINE AUTOS	560944	102050001841201	3/19/15 12:00 PM	29.95	11.69	3/18/15 12:00 AM	3/19/15 12:00 AM	1	3/18/15 12:00 PM	1	\$12	LT Main & Parts	
GRAYBAR SEA	564110	102060001840400	4/13/15 12:00 PM	24.75	0.12	3/27/15 12:00 AM	3/28/15 12:00 AM	1	3/27/15 12:00 PM	17	\$2	Susp Cl O/H Exempt Stock	
GREAT AMER LEAS	574913	102050009210100	7/13/15 12:00 PM	21.41	21.41	6/24/15 12:00 AM	6/25/15 12:00 AM	1	6/24/15 12:00 PM	19	\$407	Gen Office Supplies & Exp-Capital Division	
STAPLES BUSINES	565847	102000001840001	5/13/15 12:00 PM	17.25	-	4/15/15 12:00 AM	4/16/15 12:00 AM	1	4/15/15 12:00 PM	28	\$0	Eng & Oper O/H	
GE CAPITAL RICO	559404	102050009210100	3/9/15 12:00 PM	12.59	12.59	2/13/15 12:00 AM	2/14/15 12:00 AM	1	2/13/15 12:00 PM	24	\$302	Gen Office Supplies & Exp-Capital Division	
RICOH USA INC	556294	102060009210100	2/2/15 12:00 PM	9.76	9.76	1/23/15 12:00 AM	2/23/15 12:00 AM	31	2/7/15 12:00 PM	-5	(\$49)	Admin Office & Tel Exp-Seacoast Division	
RELIABLE-TEI	563698	102050005880100	4/20/15 12:00 PM	7.69	7.69	3/24/15 12:00 AM	3/25/15 12:00 AM	1	3/24/15 12:00 PM	27	\$208	Administrative Expenses-Capital Division	
WB MASON CO	572435	102050005880100	7/6/15 12:00 PM	5.22	5.22	6/12/15 12:00 AM	6/13/15 12:00 AM	1	6/12/15 12:00 PM	24	\$125	Administrative Expenses-Capital Division	
NHDOT F-Z	558901	102050001841204	2/25/15 12:00 PM	2.00	0.78	1/26/15 12:00 AM	1/27/15 12:00 AM	1	1/26/15 12:00 PM	30	\$23	LT Taxes, Reg, Ins, Tolls	
STAPLES BUSINES	559890	102000001840001	3/25/15 12:00 PM	(12.92)	-	2/17/15 12:00 AM	2/18/15 12:00 AM	1	2/17/15 12:00 PM	36	\$0	Eng & Oper O/H	
				2,916,507.44	2,752,039.08								\$163,185,662

Unitil Energy Systems, Inc.
Calculation of Taxes Other Than Income Lead Lag Days
12 Months Ended Dec 31, 2015
Summary of Taxes Other Than Income Excluding Property Taxes

4/5/2016
1:25:32 PM

Line No	Type of Tax	Test Period Expense	(Lead) Lag Days	Test Period Weighted Dollar Days
1				
2	TAXES FICA - NH	\$366,762	11.72	\$4,297,788
3	TAXES FEDERAL UNEMPLOYMENT - NH	\$2,443	15.32	\$37,411
4	TAXES UNEMPLOYMENT - NH	\$813	26.07	\$21,194
5	NH SURPLUS TAX	\$11,060	-167.50	-\$1,852,625 See Note 1
6	NH BET TAX EXP- CURRENT	\$126,000	37.38	\$4,709,250 Business Enterprise Tax with four 25% estimated payments.
7	PAYROLL TAXES CAPITALIZED - NH	-\$231,485	11.77	-\$2,725,383
8				
9	Total Taxes Excluding Property Taxes	<u>\$275,593</u>	<u>16.28</u>	<u>\$4,487,635</u>
10				
11	Property Taxes	\$5,397,120		
12				
13	Property Tax Abatements	-\$367,492		
14				
15	Total Taxes Other Than Income Taxes	<u>\$5,305,221</u>		
16				
17				

Note 1: Insuranc Policies with NH Suplus Tax are paid in the first month of the annual policy period.
Lag is half of the prepaid annual service period less the 15 days for payment during the mid point of the first month.

Unitil Energy Systems, Inc.
Calculation of Property Taxes Lead Lag Days
12 Months Ended Dec 31, 2015
Summary of Property Taxes

4/5/2016
1:41:37 PM

Line No	Type of Tax	Test Period Charges	(Lead) Lag Days	Weighted Dollar Days
1	January Payments	\$ -	0.00	\$ -
2	February Payments	\$ -	0.00	\$ -
3	March Payments	\$ 301,096	70.00	\$ 21,076,727
4	April Payments	\$ 297,300	-176.50	\$ (52,473,450)
5	May Payments	\$ -	0.00	\$ -
6	June Payments	\$ 2,079,885	-113.84	\$ (236,781,643)
7	July Payments	\$ -	0.00	\$ -
8	August Payments	\$ -	0.00	\$ -
9	September Payments	\$ 585,004	-66.25	\$ (38,758,656)
10	October Payments	\$ -	0.00	\$ -
11	November Payments	\$ 1,016,048	65.48	\$ 66,532,170
12	December Payments	\$ 1,060,040	41.94	\$ 44,459,955
13				
14	Total Payments	<u>\$ 5,339,373</u>	-36.70	<u>\$ (195,944,897)</u>
15				
16				
17				
18	Property Tax Expense 12/31/15	<u>5,397,120</u>		
19				
20				
21	Difference	<u><u>\$ (57,748)</u></u>		
22				
23				
24				

Unitil Energy Systems, Inc.
 Calculation of Property Taxes Lead Lag Days
 12 Months Ended Dec 31, 2015
 January Payments

4/5/2016
 1:41:37 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	Allenstown	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
2	Atkinson	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
3	Boscawen	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
4	Bow	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
5	Brentwood	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
6	Canterbury	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
7	Chichester	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
8	Concord	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
9	Danville	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
10	Dunbarton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
11	East Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
12	Epsom	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
13	Exeter	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
14	Hampstead	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
15	Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
16	Hampton Falls	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
17	Hopkinton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
18	Kensington	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
19	Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
20	Loudon	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
21	Newton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
22	North Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
23	Pembroke	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
24	Plaislow	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
25	Salisbury	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
26	Seabrook	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
27	South Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
28	Stratham	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
29	Webster	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
30	State of New Hampshire	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
31									
32									
33									
34		<u>\$ -</u>						<u>\$ -</u>	
35									
36									
37		Total January Payments						\$0	
38									
39		Total Weighted Dollar Days						\$0	
40									
41		January Payments (Lead) Lag Days						#DIV/0!	
42									
43									
44									
45									
46									

Unitil Energy Systems, Inc.
 Calculation of Property Taxes Lead Lag Days
 12 Months Ended Dec 31, 2015
 February Payments

4/5/2016
 1:41:37 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	Allenstown	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
2	Atkinson	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
3	Boscawen	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
4	Bow	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
5	Brentwood	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
6	Canterbury	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
7	Chichester	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
8	Concord	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
9	Danville	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
10	Dunbarton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
11	East Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
12	Epsom	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
13	Exeter	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
14	Hampstead	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
15	Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
16	Hampton Falls	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
17	Hopkinton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
18	Kensington	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
19	Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
20	Loudon	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
21	Newton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
22	North Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
23	Pembroke	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
24	Plaistow	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
25	Salisbury	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
26	Seabrook	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
27	South Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
28	Stratham	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
29	Webster	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
30	State of New Hampshire	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
31									
32									
33									
34		<u>\$ -</u>						<u>\$ -</u>	
35									
36									
37		Total February Payments					\$0		
38									
39		Total Weighted Dollar Days					\$0		
40									
41		February Payments (Lead) Lag Days					#DIV/0!		
42									
43									
44									
45									
46									

Unitil Energy Systems, Inc.
Calculation of Property Taxes Lead Lag Days
12 Months Ended Dec 31, 2015
March Payments

4/5/2016
1:41:37 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	Allenstown	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
2	Atkinson	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
3	Boscawen	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
4	Bow	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
5	Brentwood	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
6	Canterbury	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
7	Chichester	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
8	Concord	\$ 301,096	7/1/14 12:00 AM	6/30/15 12:00 AM	364	12/30/14 12:00 AM	3/10/15 12:00 AM	70.0 \$	21,076,727
9	Danville	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
10	Dunbarton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
11	East Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
12	Epsom	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
13	Exeter	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
14	Hampstead	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
15	Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
16	Hampton Falls	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
17	Hopkinton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
18	Kensington	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
19	Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
20	Loudon	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
21	Newton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
22	North Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
23	Pembroke	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
24	Plaistow	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
25	Salisbury	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
26	Seabrook	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
27	South Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
28	Stratham	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
29	Webster	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
30	State of New Hampshire	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
31									
32									
33									
34		<u>\$ 301,096</u>						<u>\$ 21,076,727</u>	

Unitil Energy Systems, Inc.
 Calculation of Property Taxes Lead Lag Days
 12 Months Ended Dec 31, 2015
 April Payments

4/5/2016
 1:41:37 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	Allenstown	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
2	Atkinson	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
3	Boscawen	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
4	Bow	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
5	Brentwood	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
6	Canterbury	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
7	Chichester	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
8	Concord	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
9	Danville	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
10	Dunbarton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
11	East Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
12	Epsom	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
13	Exeter	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
14	Hampstead	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
15	Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
16	Hampton Falls	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
17	Hopkinton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
18	Kensington	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
19	Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
20	Loudon	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
21	Newton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
22	North Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
23	Pembroke	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
24	Plaistow	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
25	Salisbury	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
26	Seabrook	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
27	South Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
28	Stratham	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
29	Webster	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
30	State of New Hampshire	\$ 297,300	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	4/7/15 12:00 AM	-176.5 \$	(52,473,450)
31									
32									
33									
34		<u>\$ 297,300</u>							<u>\$ (52,473,450)</u>
35									
36									
37		Total April Payments				\$297,300			
38									
39		Total Weighted Dollar Days				-\$52,473,450			
40									
41		April Payments (Lead) Lag Days				-176.50			
42									
43									
44									
45									
46									

Unitil Energy Systems, Inc.
 Calculation of Property Taxes Lead Lag Days
 12 Months Ended Dec 31, 2015
 May Payments

4/5/2016
 1:41:37 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	Allenstown	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
2	Atkinson	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
3	Boscawen	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
4	Bow	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
5	Brentwood	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
6	Canterbury	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
7	Chichester	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
8	Concord	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
9	Danville	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
10	Dunbarton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
11	East Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
12	Epsom	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
13	Exeter	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
14	Hampstead	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
15	Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
16	Hampton Falls	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
17	Hopkinton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
18	Kensington	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
19	Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
20	Loudon	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
21	Newton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
22	North Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
23	Pembroke	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
24	Plaistow	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
25	Salisbury	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
26	Seabrook	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
27	South Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
28	Stratham	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
29	Webster	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
30	State of New Hampshire	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
31									
32									
33									
34		<u>\$ -</u>						<u>\$ -</u>	
35									
36									
37		Total May Payments				\$0			
38									
39		Total Weighted Dollar Days				\$0			
40									
41		May Payments (Lead) Lag Days				#DIV/0!			
42									
43									
44									
45									
46									

Unitil Energy Systems, Inc.
 Calculation of Property Taxes Lead Lag Days
 12 Months Ended Dec 31, 2015
 June Payments

4/5/2016
 1:41:37 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	Allenstown	\$ 1,217	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(128,394)
2	Atkinson	\$ 43,795	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(4,620,373)
3	Boscawen	\$ 73,850	1/1/15 12:00 AM	12/31/15 12:00 AM	364	7/2/15 12:00 AM	6/17/15 12:00 AM	-15.0 \$	(1,107,750)
4	Bow	\$ 205,701	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(21,701,456)
5	Brentwood	\$ 1,498	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(158,039)
6	Canterbury	\$ 29,597	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(3,122,484)
7	Chichester	\$ 43,583	1/1/15 12:00 AM	12/31/15 12:00 AM	364	7/2/15 12:00 AM	6/17/15 12:00 AM	-15.0 \$	(653,745)
8	Concord	\$ 287,704	7/1/15 12:00 AM	6/30/16 12:00 AM	365	12/30/15 12:00 PM	6/17/15 12:00 AM	-196.5 \$	(56,533,848)
9	Danville	\$ 48,518	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(5,118,649)
10	Dunbarton	\$ 6,386	1/1/15 12:00 AM	12/31/15 12:00 AM	364	7/2/15 12:00 AM	6/17/15 12:00 AM	-15.0 \$	(95,797)
11	East Kingston	\$ 50,671	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(5,345,791)
12	Epsom	\$ 40,040	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(4,224,220)
13	Exeter	\$ 180,007	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(18,990,702)
14	Hampstead	\$ 2,837	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(299,304)
15	Hampton	\$ 195,417	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(20,616,494)
16	Hampton Falls	\$ 40,006	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(4,220,633)
17	Hopkinton	\$ 5,343	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(563,687)
18	Kensington	\$ 61,011	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(6,436,661)
19	Kingston	\$ 86,234	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(9,097,636)
20	Loudon	\$ 5,892	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(621,606)
21	Newton	\$ 66,474	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(7,013,007)
22	North Hampton	\$ 476	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(50,218)
23	Pembroke	\$ 3,880	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(409,340)
24	Plaistow	\$ 81,566	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(8,605,213)
25	Salisbury	\$ 13,494	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(1,423,617)
26	Seabrook	\$ 109,000	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(11,499,500)
27	South Hampton	\$ 13,432	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(1,417,076)
28	Stratham	\$ 70,325	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(7,419,288)
29	Webster	\$ 14,631	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/17/15 12:00 AM	-105.5 \$	(1,543,571)
30	State of New Hampshire	\$ 297,300	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	6/9/15 12:00 AM	-113.5 \$	(33,743,550)
31									
32									
33									
34		<u>\$ 2,079,885</u>							<u>\$ (236,781,643)</u>
35									
36									
37		Total June Payments				\$2,079,885			
38									
39		Total Weighted Dollar Days				-\$236,781,643			
40									
41		June Payments (Lead) Lag Days				-113.84			
42									
43									
44									
45									
46									

Unitil Energy Systems, Inc.
 Calculation of Property Taxes Lead Lag Days
 12 Months Ended Dec 31, 2015
 July Payments

4/5/2016
 1:41:37 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	Allenstown	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
2	Atkinson	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
3	Boscawen	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
4	Bow	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
5	Brentwood	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
6	Canterbury	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
7	Chichester	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
8	Concord	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
9	Danville	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
10	Dunbarton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
11	East Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
12	Epsom	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
13	Exeter	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
14	Hampstead	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
15	Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
16	Hampton Falls	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
17	Hopkinton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
18	Kensington	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
19	Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
20	Loudon	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
21	Newton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
22	North Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
23	Pembroke	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
24	Plaistow	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
25	Salisbury	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
26	Seabrook	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
27	South Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
28	Stratham	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
29	Webster	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
30	State of New Hampshire	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
31									
32									
33									
34		<u>\$ -</u>						<u>\$ -</u>	
35									
36									
37		Total July Payments				\$0			
38									
39		Total Weighted Dollar Days				\$0			
40									
41		July Payments (Lead) Lag Days				#DIV/0!			
42									
43									
44									
45									
46									

Unitil Energy Systems, Inc.
 Calculation of Property Taxes Lead Lag Days
 12 Months Ended Dec 31, 2015
 August Payments

4/5/2016
 1:41:37 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	Allenstown	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
2	Atkinson	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
3	Boscawen	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
4	Bow	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
5	Brentwood	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
6	Canterbury	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
7	Chichester	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
8	Concord	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
9	Danville	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
10	Dunbarton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
11	East Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
12	Epsom	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
13	Exeter	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
14	Hampstead	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
15	Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
16	Hampton Falls	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
17	Hopkinton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
18	Kensington	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
19	Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
20	Loudon	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
21	Newton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
22	North Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
23	Pembroke	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
24	Plaistow	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
25	Salisbury	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
26	Seabrook	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
27	South Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
28	Stratham	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
29	Webster	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
30	State of New Hampshire	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
31									
32									
33									
34		<u>\$ -</u>						<u>\$ -</u>	
35									
36									
37		Total August Payments					\$0		
38									
39		Total Weighted Dollar Days					\$0		
40									
41		August Payments (Lead) Lag Days					#DIV/0!		
42									
43									
44									
45									
46									

Unitil Energy Systems, Inc.
 Calculation of Property Taxes Lead Lag Days
 12 Months Ended Dec 31, 2015
 September Payments

4/5/2016
 1:41:37 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	Allenstown	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
2	Atkinson	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
3	Boscawen	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
4	Bow	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
5	Brentwood	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
6	Canterbury	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
7	Chichester	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
8	Concord	\$ 287,704	7/1/15 12:00 AM	6/30/16 12:00 AM	365	12/30/15 12:00 PM	9/9/15 12:00 AM	-112.5 \$	(32,366,706)
9	Danville	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
10	Dunbarton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
11	East Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
12	Epsom	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
13	Exeter	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
14	Hampstead	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
15	Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
16	Hampton Falls	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
17	Hopkinton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
18	Kensington	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
19	Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
20	Loudon	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
21	Newton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
22	North Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
23	Pembroke	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
24	Plaistow	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
25	Salisbury	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
26	Seabrook	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
27	South Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
28	Stratham	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
29	Webster	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
30	State of New Hampshire	\$ 297,300	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	9/9/15 12:00 AM	-21.5 \$	(6,391,950)
31									
32									
33									
34		<u>\$ 585,004</u>							<u>\$ (38,758,656)</u>
35									
36									
37		Total September Payments				\$585,004			
38									
39		Total Weighted Dollar Days				-\$38,758,656			
40									
41		September Payments (Lead) Lag Days				-66.25			
42									
43									
44									
45									
46									

Unitil Energy Systems, Inc.
 Calculation of Property Taxes Lead Lag Days
 12 Months Ended Dec 31, 2015
 October Payments

4/5/2016
 1:41:37 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	Allenstown	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
2	Atkinson	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
3	Boscawen	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
4	Bow	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
5	Brentwood	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
6	Canterbury	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
7	Chichester	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
8	Concord	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
9	Danville	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
10	Dunbarton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
11	East Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
12	Epsom	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
13	Exeter	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
14	Hampstead	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
15	Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
16	Hampton Falls	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
17	Hopkinton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
18	Kensington	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
19	Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
20	Loudon	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
21	Newton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
22	North Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
23	Pembroke	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
24	Plaistow	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
25	Salisbury	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
26	Seabrook	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
27	South Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
28	Stratham	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
29	Webster	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
30	State of New Hampshire	\$ -			0	1/0/00 12:00 AM		0.0 \$ -	
31									
32									
33									
34		<u>\$ -</u>						<u>\$ -</u>	
35									
36									
37		Total October Payments					\$0		
38									
39		Total Weighted Dollar Days					\$0		
40									
41		October Payments (Lead) Lag Days					#DIV/0!		
42									
43									
44									
45									
46									

Unitil Energy Systems, Inc.
 Calculation of Property Taxes Lead Lag Days
 12 Months Ended Dec 31, 2015
 November Payments

4/5/2016
 1:41:37 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	Allenstown	\$ 1,129	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	11/24/15 12:00 AM	54.5 \$	61,531
2	Atkinson	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
3	Boscawen	\$ 78,771	1/1/15 12:00 AM	12/31/15 12:00 AM	364	7/2/15 12:00 AM	11/23/15 12:00 AM	144.0 \$	11,343,024
4	Bow	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
5	Brentwood	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
6	Canterbury	\$ 26,703	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	11/24/15 12:00 AM	54.5 \$	1,455,314
7	Chichester	\$ 41,793	1/1/15 12:00 AM	12/31/15 12:00 AM	364	7/2/15 12:00 AM	11/24/15 12:00 AM	145.0 \$	6,059,985
8	Concord	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
9	Danville	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
10	Dunbarton	\$ 10,917	1/1/15 12:00 AM	12/31/15 12:00 AM	364	7/2/15 12:00 AM	11/23/15 12:00 AM	144.0 \$	1,572,000
11	East Kingston	\$ 50,491	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	11/23/15 12:00 AM	53.5 \$	2,701,269
12	Epsom	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
13	Exeter	\$ 153,509	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	11/23/15 12:00 AM	53.5 \$	8,212,747
14	Hampstead	\$ 3,558	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	11/23/15 12:00 AM	53.5 \$	190,353
15	Hampton	\$ 153,871	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	11/23/15 12:00 AM	53.5 \$	8,232,099
16	Hampton Falls	\$ 46,909	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	11/24/15 12:00 AM	54.5 \$	2,556,532
17	Hopkinton	\$ 7,309	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	11/24/15 12:00 AM	54.5 \$	398,341
18	Kensington	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
19	Kingston	\$ 92,377	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	11/23/15 12:00 AM	53.5 \$	4,942,160
20	Loudon	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
21	Newton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
22	North Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
23	Pembroke	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
24	Plaistow	\$ 74,784	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	11/24/15 12:00 AM	54.5 \$	4,075,728
25	Salisbury	\$ 14,833	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	11/23/15 12:00 AM	53.5 \$	793,566
26	Seabrook	\$ 141,504	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	11/23/15 12:00 AM	53.5 \$	7,570,464
27	South Hampton	\$ 15,465	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	11/24/15 12:00 AM	54.5 \$	842,843
28	Stratham	\$ 60,529	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	11/24/15 12:00 AM	54.5 \$	3,298,831
29	Webster	\$ 41,596	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	11/23/15 12:00 AM	53.5 \$	2,225,386
30	State of New Hampshire	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
31									
32									
33									
34		<u>\$ 1,016,048</u>						<u>\$ 66,532,170</u>	
35									
36									
37		Total November Payments				\$1,016,048			
38									
39		Total Weighted Dollar Days				\$66,532,170			
40									
41		November Payments (Lead) Lag Days				65.48			
42									
43									
44									
45									
46									

Unitil Energy Systems, Inc.
Calculation of Property Taxes Lead Lag Days
12 Months Ended Dec 31, 2015
December Payments

4/5/2016
1:41:37 PM

Line No	Description of Payment	Payment Amount	Service Period		Total Days	Midpoint Service Period	Check Date	(Lead) Lag Days	Weighted Dollar Days
			Start	End					
1	Allenstown	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
2	Atkinson	\$ 36,972	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	12/3/15 12:00 AM	63.5 \$	2,347,722
3	Boscawen	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
4	Bow	\$ 232,060	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	12/3/15 12:00 AM	63.5 \$	14,735,810
5	Brentwood	\$ 2,436	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	12/3/15 12:00 AM	63.5 \$	154,686
6	Canterbury	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
7	Chichester	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
8	Concord	\$ 321,140	7/1/15 12:00 AM	6/30/16 12:00 AM	365	12/30/15 12:00 PM	12/21/15 12:00 AM	-9.5 \$	(3,050,828)
9	Danville	\$ 49,217	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	12/15/15 12:00 AM	75.5 \$	3,715,849
10	Dunbarton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
11	East Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
12	Epsom	\$ 90,102	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	12/3/15 12:00 AM	63.5 \$	5,721,477
13	Exeter	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
14	Hampstead	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
15	Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
16	Hampton Falls	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
17	Hopkinton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
18	Kensington	\$ 56,956	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	12/3/15 12:00 AM	63.5 \$	3,616,706
19	Kingston	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
20	Loudon	\$ 8,051	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	12/3/15 12:00 AM	63.5 \$	511,239
21	Newton	\$ 67,646	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	12/3/15 12:00 AM	63.5 \$	4,295,521
22	North Hampton	\$ 396	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	12/3/15 12:00 AM	63.5 \$	25,146
23	Pembroke	\$ 5,170	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	12/3/15 12:00 AM	63.5 \$	328,295
24	Plaistow	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
25	Salisbury	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
26	Seabrook	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
27	South Hampton	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
28	Stratham	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
29	Webster	\$ -			0	1/0/00 12:00 AM		0.0 \$	-
30	State of New Hampshire	\$ 189,895	4/1/15 12:00 AM	3/31/16 12:00 AM	365	9/30/15 12:00 PM	12/3/15 12:00 AM	63.5 \$	12,058,333
31									
32									
33									
34		<u>\$ 1,060,040</u>						<u>\$ 44,459,955</u>	
35									
36									
37		Total December Payments				\$1,060,040			
38									
39		Total Weighted Dollar Days				\$44,459,955			
40									
41		December Payments (Lead) Lag Days				41.94			
42									
43									
44									
45									
46									

Unitil Energy Systems, Inc.
Calculation of Income Taxes Lead Lag Days
12 Months Ended Dec 31, 2015
Federal Income Tax

4/5/2016
1:57:19 PM

Line No	Type of Payment	Tax Period		Total Days	Midpoint Service Period	Scheduled Payment Date	(Lead) Lag Days	Statutory % of Total Taxes for Year	Weighted Days
		Start	End						
1									
2	First Payment	1/1/15 12:00 AM	4/1/15 12:00 AM	90.0	02/15/15	4/15/15 12:00 PM	59.5	25.00%	14.88
3									
4	Second Payment	4/1/15 12:00 AM	7/1/15 12:00 AM	91.0	05/16/15	6/15/15 12:00 PM	30.0	25.00%	7.50
5									
6	Third Payment	7/1/15 12:00 AM	10/1/15 12:00 AM	92.0	08/16/15	9/15/15 12:00 PM	30.5	25.00%	7.63
7									
8	Fourth Payment	10/1/15 12:00 AM	1/1/16 12:00 AM	92.0	11/16/15	12/15/15 12:00 PM	29.5	25.00%	7.38
9									
10									
11									
12	Total			365.00					<u>37.38</u>
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
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Unitil Energy Systems, Inc.
Calculation of Income Taxes Lead Lag Days
12 Months Ended Dec 31, 2015
NH State Income Tax

4/5/2016
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Line No	Type of Payment	<u>Tax Period</u>	Total Days	Midpoint Service Period	Scheduled Payment Date	(Lead) Lag Days	Statutory % of Total Taxes for Year	Weighted Days
		Start End						
1								
2	First Payment	1/1/15 12:00 AM 4/1/15 12:00 AM	90.0	02/15/15	4/15/15 12:00 PM	59.5	25.00%	14.88
3								
4	Second Payment	4/1/15 12:00 AM 7/1/15 12:00 AM	91.0	05/16/15	6/15/15 12:00 PM	30.0	25.00%	7.50
5								
6	Third Payment	7/1/15 12:00 AM 10/1/15 12:00 AM	92.0	08/16/15	9/15/15 12:00 PM	30.5	25.00%	7.63
7								
8	Fourth Payment	10/1/15 12:00 AM 1/1/16 12:00 AM	92.0	11/16/15	12/15/15 12:00 PM	29.5	25.00%	7.38
9								
10								
11								
12	Total		365.00					<u>37.38</u>
13								
14								
15								
16								
17								
18								
19								
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Unitil Energy Systems, Inc.
 Calculation of (Lead) Lag
 Interest On Long Term Debt
 12 Months Ended Dec 31, 2015

Line No	Long Term Debt Obligation	Principal Outstanding	Interest Amount	Weighted Dollar Days	(Lead) Lag Days
1	Series I @ 8.49%	\$ 4,800,000	\$ 509,400	\$ 46,228,050	90.75
2	Series J @ 6.96%	10,000,000	696,000	31,407,000	45.13
3	Series K @ 8.00%	7,500,000	600,000	26,625,000	44.38
4	Series L @ 8.49%	7,200,000	764,100	69,342,075	90.75
5	Series M @ 6.96%	10,000,000	696,000	31,407,000	45.13
6	Series N @ 8.00%	7,500,000	600,000	26,625,000	44.38
7	Series O @ 6.32%	15,000,000	948,000	85,557,000	90.25
8	Series P @ 5.24%	15,000,000	786,000	71,722,500	91.25
9	Total	77,000,000	5,599,500	388,913,625	69.46
10					
11					
12					
13					
14					
15					

Unitil Energy Systems, Inc.
Calculation of (Lead) Lag
Interest On Long Term Debt
Series I @ 8.49%
12 Months Ended Dec 31, 2015

Line No	Month	Outstanding	Interest Payment Amount	Period Covered Interest From	Period Covered Interest To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days	Payment Type
1	January	\$ 6,000,000	\$ -			-	1/0/00 12:00 AM		-	\$ -	
2	February	6,000,000	-			-	1/0/00 12:00 AM		-	-	
3	March	6,000,000	-			-	1/0/00 12:00 AM		-	-	
4	April	6,000,000	254,700	10/14/14 12:00 AM	4/14/15 12:00 AM	182.00	1/13/15 12:00 AM	4/14/15 12:00 AM	91.00	23,177,700	Wire
5	May	6,000,000	-			-	1/0/00 12:00 AM		-	-	
6	June	6,000,000	-			-	1/0/00 12:00 AM		-	-	
7	July	6,000,000	-			-	1/0/00 12:00 AM		-	-	
8	August	6,000,000	-			-	1/0/00 12:00 AM		-	-	
9	September	6,000,000	-			-	1/0/00 12:00 AM		-	-	
10	October	4,800,000	254,700	4/14/15 12:00 AM	10/14/15 12:00 AM	183.00	7/14/15 12:00 PM	10/13/15 12:00 AM	90.50	23,050,350	Wire
11	November	4,800,000	-			-	1/0/00 12:00 AM		-	-	
12	December	4,800,000	-			-	1/0/00 12:00 AM		-	-	
13		<u>\$ 4,800,000</u>	<u>\$ 509,400</u>			<u>365.00</u>			90.75	<u>\$ 46,228,050</u>	
14											
15			10.61%								
16											
17											
18											
19											
20											

Unitil Energy Systems, Inc.
Calculation of (Lead) Lag
Interest On Long Term Debt
Series J @ 6.96%
12 Months Ended Dec 31, 2015

Line No	Month	Outstanding	Interest Payment Amount	Period Covered Interest From	Period Covered Interest To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days	Payment Type
1	January	\$ 10,000,000	\$ -			-	1/0/00 12:00 AM		-	\$ -	
2	February	10,000,000	-			-	1/0/00 12:00 AM		-	-	
3	March	10,000,000	174,000	12/1/14 12:00 AM	3/1/15 12:00 AM	90.00	1/15/15 12:00 AM	2/27/15 12:00 AM	43.00	7,482,000	Wire
4	April	10,000,000	-			-	1/0/00 12:00 AM		-	-	
5	May	10,000,000	-			-	1/0/00 12:00 AM		-	-	
6	June	10,000,000	174,000	3/1/15 12:00 AM	6/1/15 12:00 AM	92.00	4/16/15 12:00 AM	6/1/15 12:00 AM	46.00	8,004,000	Wire
7	July	10,000,000	-			-	1/0/00 12:00 AM		-	-	
8	August	10,000,000	-			-	1/0/00 12:00 AM		-	-	
9	September	10,000,000	174,000	6/1/15 12:00 AM	9/1/15 12:00 AM	92.00	7/17/15 12:00 AM	9/1/15 12:00 AM	46.00	8,004,000	Wire
10	October	10,000,000	-			-	1/0/00 12:00 AM		-	-	
11	November	10,000,000	-			-	1/0/00 12:00 AM		-	-	
12	December	10,000,000	174,000	9/1/15 12:00 AM	12/1/15 12:00 AM	91.00	10/16/15 12:00 PM	12/1/15 12:00 AM	45.50	7,917,000	Wire
		<u>\$ 10,000,000</u>	<u>\$ 696,000</u>			<u>365.00</u>			<u>45.13</u>	<u>\$ 31,407,000</u>	

6.96%

Unitil Energy Systems, Inc.
Calculation of (Lead) Lag
Interest On Long Term Debt
Series K @ 8.00%
12 Months Ended Dec 31, 2015

Line No	Month	Outstanding	Interest Payment Amount	Period Covered Interest From	Period Covered Interest To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days	Payment Type
1	January	\$ 7,500,000	\$ -			-	1/0/00 12:00 AM		-	\$ -	
2	February	7,500,000	150,000	11/1/14 12:00 AM	2/1/15 12:00 AM	92.00	12/17/14 12:00 AM	1/30/15 12:00 AM	44.00	6,600,000	Wire
3	March	7,500,000	-			-	1/0/00 12:00 AM		-	-	
4	April	7,500,000	-			-	1/0/00 12:00 AM		-	-	
5	May	7,500,000	150,000	2/1/15 12:00 AM	5/1/15 12:00 AM	89.00	3/17/15 12:00 PM	5/1/15 12:00 AM	44.50	6,675,000	Wire
6	June	7,500,000	-			-	1/0/00 12:00 AM		-	-	
7	July	7,500,000	-			-	1/0/00 12:00 AM		-	-	
8	August	7,500,000	150,000	5/1/15 12:00 AM	8/1/15 12:00 AM	92.00	6/16/15 12:00 AM	7/31/15 12:00 AM	45.00	6,750,000	Wire
9	September	7,500,000	-			-	1/0/00 12:00 AM		-	-	
10	October	7,500,000	-			-	1/0/00 12:00 AM		-	-	
11	November	7,500,000	150,000	8/1/15 12:00 AM	11/1/15 12:00 AM	92.00	9/16/15 12:00 AM	10/30/15 12:00 AM	44.00	6,600,000	Wire
12	December	7,500,000	-			-	1/0/00 12:00 AM		-	-	
		<u>\$ 7,500,000</u>	<u>\$ 600,000</u>			<u>365.00</u>			<u>44.38</u>	<u>\$ 26,625,000</u>	

8.00%

Unitil Energy Systems, Inc.
Calculation of (Lead) Lag
Interest On Long Term Debt
Series L @ 8.49%
12 Months Ended Dec 31, 2015

Line No	Month	Outstanding	Interest Payment Amount	Period Covered Interest From	Period Covered Interest To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days	Payment Type
1	January	\$ 9,000,000	\$ -			-	1/0/00 12:00 AM		-	\$ -	
2	February	9,000,000	-			-	1/0/00 12:00 AM		-	-	
3	March	9,000,000	-			-	1/0/00 12:00 AM		-	-	
4	April	9,000,000	382,050	10/14/14 12:00 AM	4/14/15 12:00 AM	182.00	1/13/15 12:00 AM	4/14/15 12:00 AM	91.00	34,766,550	Wire
5	May	9,000,000	-			-	1/0/00 12:00 AM		-	-	
6	June	9,000,000	-			-	1/0/00 12:00 AM		-	-	
7	July	9,000,000	-			-	1/0/00 12:00 AM		-	-	
8	August	9,000,000	-			-	1/0/00 12:00 AM		-	-	
9	September	9,000,000	-			-	1/0/00 12:00 AM		-	-	
10	October	7,200,000	382,050	4/14/15 12:00 AM	10/14/15 12:00 AM	183.00	7/14/15 12:00 PM	10/13/15 12:00 AM	90.50	34,575,525	Wire
11	November	7,200,000	-			-	1/0/00 12:00 AM		-	-	
12	December	7,200,000	-			-	1/0/00 12:00 AM		-	-	
		<u>\$ 7,200,000</u>	<u>\$ 764,100</u>			<u>365.00</u>			<u>90.75</u>	<u>\$ 69,342,075</u>	

10.61%

Unitil Energy Systems, Inc.
 Calculation of (Lead) Lag
 Interest On Long Term Debt
 Series M @ 6.96%
 12 Months Ended Dec 31, 2015

Line No	Month	Outstanding	Interest Payment Amount	Period Covered Interest From	Period Covered Interest To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days	Payment Type
1	January	\$ 10,000,000	\$ -			-	1/0/00 12:00 AM		-	\$ -	
2	February	10,000,000	-			-	1/0/00 12:00 AM		-	-	
3	March	10,000,000	174,000	12/1/14 12:00 AM	3/1/15 12:00 AM	90.00	1/15/15 12:00 AM	2/27/15 12:00 AM	43.00	7,482,000	Wire
4	April	10,000,000	-			-	1/0/00 12:00 AM		-	-	
5	May	10,000,000	-			-	1/0/00 12:00 AM		-	-	
6	June	10,000,000	174,000	3/1/15 12:00 AM	6/1/15 12:00 AM	92.00	4/16/15 12:00 AM	6/1/15 12:00 AM	46.00	8,004,000	Wire
7	July	10,000,000	-			-	1/0/00 12:00 AM		-	-	
8	August	10,000,000	-			-	1/0/00 12:00 AM		-	-	
9	September	10,000,000	174,000	6/1/15 12:00 AM	9/1/15 12:00 AM	92.00	7/17/15 12:00 AM	9/1/15 12:00 AM	46.00	8,004,000	Wire
10	October	10,000,000	-			-	1/0/00 12:00 AM		-	-	
11	November	10,000,000	-			-	1/0/00 12:00 AM		-	-	
12	December	10,000,000	174,000	9/1/15 12:00 AM	12/1/15 12:00 AM	91.00	10/16/15 12:00 PM	12/1/15 12:00 AM	45.50	7,917,000	Wire
		<u>\$ 10,000,000</u>	<u>\$ 696,000</u>			<u>365.00</u>			<u>45.13</u>	<u>\$ 31,407,000</u>	

6.96%

Unitil Energy Systems, Inc.
Calculation of (Lead) Lag
Interest On Long Term Debt
Series N @ 8.00%
12 Months Ended Dec 31, 2015

Line No	Month	Outstanding	Interest Payment Amount	Period Covered Interest From	Period Covered Interest To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days	Payment Type
1	January	\$ 7,500,000	\$ -			-	1/0/00 12:00 AM		-	\$ -	
2	February	7,500,000	150,000	11/1/14 12:00 AM	2/1/15 12:00 AM	92.00	12/17/14 12:00 AM	1/30/15 12:00 AM	44.00	6,600,000	Wire
3	March	7,500,000	-			-	1/0/00 12:00 AM		-	-	
4	April	7,500,000	-			-	1/0/00 12:00 AM		-	-	
5	May	7,500,000	150,000	2/1/15 12:00 AM	5/1/15 12:00 AM	89.00	3/17/15 12:00 PM	5/1/15 12:00 AM	44.50	6,675,000	Wire
6	June	7,500,000	-			-	1/0/00 12:00 AM		-	-	
7	July	7,500,000	-			-	1/0/00 12:00 AM		-	-	
8	August	7,500,000	150,000	5/1/15 12:00 AM	8/1/15 12:00 AM	92.00	6/16/15 12:00 AM	7/31/15 12:00 AM	45.00	6,750,000	Wire
9	September	7,500,000	-			-	1/0/00 12:00 AM		-	-	
10	October	7,500,000	-			-	1/0/00 12:00 AM		-	-	
11	November	7,500,000	150,000	8/1/15 12:00 AM	11/1/15 12:00 AM	92.00	9/16/15 12:00 AM	10/30/15 12:00 AM	44.00	6,600,000	Wire
12	December	7,500,000	-			-	1/0/00 12:00 AM		-	-	
		<u>\$ 7,500,000</u>	<u>\$ 600,000</u>			<u>365.00</u>			<u>44.38</u>	<u>\$ 26,625,000</u>	

8.00%

Unitil Energy Systems, Inc.
Calculation of (Lead) Lag
Interest On Long Term Debt
Series O @ 6.32%
12 Months Ended Dec 31, 2015

Line No	Month	Outstanding	Interest Payment Amount	Period Covered Interest From	Period Covered Interest To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days	Payment Type
1	January	\$ 15,000,000	\$ -			-	1/0/00 12:00 AM		-	\$ -	
2	February	15,000,000	-			-	1/0/00 12:00 AM		-	-	
3	March	15,000,000	474,000	9/15/14 12:00 AM	3/15/15 12:00 AM	181.00	12/14/14 12:00 PM	3/13/15 12:00 AM	88.50	41,949,000	Wire
4	April	15,000,000	-			-	1/0/00 12:00 AM		-	-	
5	May	15,000,000	-			-	1/0/00 12:00 AM		-	-	
6	June	15,000,000	-			-	1/0/00 12:00 AM		-	-	
7	July	15,000,000	-			-	1/0/00 12:00 AM		-	-	
8	August	15,000,000	-			-	1/0/00 12:00 AM		-	-	
9	September	15,000,000	474,000	3/15/15 12:00 AM	9/15/15 12:00 AM	184.00	6/15/15 12:00 AM	9/15/15 12:00 AM	92.00	43,608,000	Wire
10	October	15,000,000	-			-	1/0/00 12:00 AM		-	-	
11	November	15,000,000	-			-	1/0/00 12:00 AM		-	-	
12	December	15,000,000	-			-	1/0/00 12:00 AM		-	-	
		<u>\$ 15,000,000</u>	<u>\$ 948,000</u>			<u>365.00</u>			<u>90.25</u>	<u>\$ 85,557,000</u>	

6.32%

Unitil Energy Systems, Inc.
 Calculation of (Lead) Lag
 Interest On Long Term Debt
 Series P @ 5.24%
 12 Months Ended Dec 31, 2015

Line No	Month	Outstanding	Interest Payment Amount	Period Covered Interest From	Period Covered Interest To	Total Days	Mid-Point Calculation Date	Payment Date	(Lead) Lag Days	Weighted Dollar Days	Payment Type
1	January	\$ 15,000,000	\$ -			-	1/0/00 12:00 AM		-	\$ -	
2	February	15,000,000	-			-	1/0/00 12:00 AM		-	-	
3	March	15,000,000	393,000	9/2/14 12:00 AM	3/2/15 12:00 AM	181.00	12/1/14 12:00 PM	3/2/15 12:00 AM	90.50	35,566,500	Wire
4	April	15,000,000	-			-	1/0/00 12:00 AM		-	-	
5	May	15,000,000	-			-	1/0/00 12:00 AM		-	-	
6	June	15,000,000	-			-	1/0/00 12:00 AM		-	-	
7	July	15,000,000	-			-	1/0/00 12:00 AM		-	-	
8	August	15,000,000	-			-	1/0/00 12:00 AM		-	-	
9	September	15,000,000	393,000	3/2/15 12:00 AM	9/2/15 12:00 AM	184.00	6/2/15 12:00 AM	9/2/15 12:00 AM	92.00	36,156,000	Wire
10	October	15,000,000	-			-	1/0/00 12:00 AM		-	-	
11	November	15,000,000	-			-	1/0/00 12:00 AM		-	-	
12	December	15,000,000	-			-	1/0/00 12:00 AM		-	-	
		<u>\$ 15,000,000</u>	<u>\$ 786,000</u>			<u>365.00</u>			<u>91.25</u>	<u>\$ 71,722,500</u>	

5.24%