

**UNITIL ENERGY SYSTEMS, INC.  
DOCKET DE 21-030  
REVENUE REQUIREMENT WORKPAPERS**

UNITIL ENERGY SYSTEMS		ELECTRIC FLOWTHRU INCOME STATEMENTS BY MECHANISM												Workpaper - Flowthrough Detail		
FT Income Statement - Act by Mechanism		ACTUAL DATA												For Periods Ending December 31, 2020		
R_UES_4_B_FTxM														<a href="#">Table of Contents</a>		
	EE		Co-Gen	External	Stranded	Default	Default	RPS	RPS		Storm	EE	Lost	Total	Total	Total
	ODR	LIEAP	QF	Delivery	Cost	Service - Non G1	Service - G1	Non G1	G1	RGGI	Recovery	BB	Base Rev	Flowthru	Base	Base & Flowthru
OPERATING REVENUES																
Electric Service Revenue:																
Residential (440)	\$ 2,690,815	\$ (283,407)	\$ -	\$ 15,005,975	\$ (86,685)	\$ 36,633,258	\$ -	\$ 3,310,436	\$ -	\$ -	\$ 434,307	\$ -	\$ 377,337	\$ 58,082,035	\$ 31,580,284	\$ 89,662,319
Regular General (4421)	1,651,704	475,964	-	9,243,182	(49,753)	11,028,353	-	1,145,666	-	-	266,529	-	231,601	23,993,246	16,910,027	40,903,272
Large General (4422)	1,667,409	479,651	-	9,356,659	(54,721)	-	2,875,933	-	344,074	-	268,605	-	233,787	15,171,397	7,736,414	22,907,810
Public Street Light (444)	39,793	11,272	-	222,330	(1,303)	284,961	-	29,452	-	-	6,542	-	5,754	598,803	1,823,495	2,422,298
Sales to Public Auth (445)	130	37	-	734	(17)	262	-	27	-	-	21	-	18	1,212	6,333	7,545
Sales for Resale (447)	-	-	1,521,144	-	-	-	-	-	-	-	-	-	-	1,521,144	-	1,521,144
Other Sales (449)	533,356	(468,878)	(24,268)	1,430,204	(151,553)	(2,122,134)	147,482	(146,890)	(10,482)	(39,104)	-	(2,285)	(24,068)	(878,620)	280,812	(597,808)
Total Electric Service Revenue	\$ 6,583,206	\$ 214,640	\$ 1,496,876	\$ 35,259,083	\$ (344,033)	\$ 45,824,701	\$ 3,023,415	\$ 4,338,691	\$ 333,592	\$ (39,104)	\$ 976,004	\$ (2,285)	\$ 824,430	\$ 98,489,216	\$ 58,337,364	\$ 156,826,580
Other Operating Revenues:																
Late Payment Charges (450)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94,600	94,600
Misc. Service Revenues (451)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	194,996	194,996
Rent-elect. Property (454)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	585,200	585,200
Other Electric Rev (456)	947,170	-	-	-	-	-	-	-	-	128,893	-	2,285	-	1,078,347	143,733	1,222,080
Total Other Operating Revenues	\$ 947,170	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 128,893	\$ -	\$ 2,285	\$ -	\$ 1,078,347	\$ 1,018,528	\$ 2,096,875
TOTAL OPERATING REVENUES	\$ 7,530,376	\$ 214,640	\$ 1,496,876	\$ 35,259,083	\$ (344,033)	\$ 45,824,701	\$ 3,023,415	\$ 4,338,691	\$ 333,592	\$ 89,789	\$ 976,004	\$ -	\$ 824,430	\$ 99,567,563	\$ 59,355,892	\$ 158,923,455
OPERATING EXPENSES																
Operation & Maint. Expenses:																
Purchased Power (555-557)	-	-	1,496,876	(1,500,014)	(344,033)	45,346,245	2,969,642	4,427,065	340,488	-	-	-	-	52,736,269	284,252	53,020,521
Transmission (560-579)	-	-	-	35,400,175	-	-	-	-	-	-	-	-	-	35,400,175	68,559	35,468,734
Distribution (580-599)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9,476,199	9,476,199
Cust. Accounting (901-905)	-	-	-	-	-	319,643	2,029	-	-	-	-	-	-	321,671	3,965,244	4,286,916
Cust. Service (907-910)	7,208,391	-	-	-	-	-	-	-	-	89,789	-	-	-	7,298,180	28,775	7,326,955
Admin. & General (920-935)	-	214,640	-	510,513	-	44,888	55,333	-	-	-	-	-	-	825,374	8,925,457	9,750,830
Total O & M Expenses	\$ 7,208,391	\$ 214,640	\$ 1,496,876	\$ 34,410,673	\$ (344,033)	\$ 45,710,776	\$ 3,027,003	\$ 4,427,065	\$ 340,488	\$ 89,789	\$ -	\$ -	\$ -	\$ 96,581,669	\$ 22,748,486	\$ 119,330,155
Other Operating Expenses:																
Deprtn. (403)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12,680,791	12,680,791
Amort. (404-407)	-	-	-	83,266	-	-	-	-	-	-	976,004	-	-	1,059,270	2,203,158	3,262,428
Taxes-Other Than Inc. (408)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,166,678	7,166,678
Income Taxes-Federal (409)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(1,180,388)	(1,180,388)
State Income Tax (409)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(1,096,468)	(1,096,468)
Def. Income Taxes (410,411)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,203,294	5,203,294
Total Other Operating Expenses	\$ -	\$ -	\$ -	\$ 83,266	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 976,004	\$ -	\$ -	\$ 1,059,270	\$ 24,977,064	\$ 26,036,335
TOTAL OPERATING EXPENSES	\$ 7,208,391	\$ 214,640	\$ 1,496,876	\$ 34,493,939	\$ (344,033)	\$ 45,710,776	\$ 3,027,003	\$ 4,427,065	\$ 340,488	\$ 89,789	\$ 976,004	\$ -	\$ -	\$ 97,640,939	\$ 47,725,551	\$ 145,366,489
NET UTILITY OPERATING INCOME	\$ 321,985	\$ -	\$ -	\$ 765,144	\$ -	\$ 113,925	\$ (3,589)	\$ (88,374)	\$ (6,896)	\$ -	\$ -	\$ -	\$ 824,430	\$ 1,926,625	\$ 11,630,341	\$ 13,556,966
OTHER INCOME & DEDUCTIONS																
Other Income:																
Other (419, 421)	-	-	-	(522,056)	-	(113,925)	3,589	88,374	6,896	-	-	-	-	(537,123)	907,764	370,641
Other Income Deduc. (425, 426)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	272,574	272,574
Income Tax, Other Inc & Ded	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26,560	26,560
Net Other Income & Deductions	\$ -	\$ -	\$ -	\$ (522,056)	\$ -	\$ (113,925)	\$ 3,589	\$ 88,374	\$ 6,896	\$ -	\$ -	\$ -	\$ -	\$ (537,123)	\$ 608,630	\$ 71,508
GROSS INCOME	\$ 321,985	\$ -	\$ -	\$ 243,087	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 824,430	\$ 1,389,502	\$ 12,238,971	\$ 13,628,474
Interest Charges (427 - 432)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,495,092	5,495,092
NET INCOME	\$ 321,985	\$ -	\$ -	\$ 243,087	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 824,430	\$ 1,389,502	\$ 6,743,880	\$ 8,133,382
Less: Pref. Dividend Req.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11,322	11,322
EARN. AVAIL. FOR COMMON STOCK	\$ 321,985	\$ -	\$ -	\$ 243,087	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 824,430	\$ 1,389,502	\$ 6,732,558	\$ 8,122,060

UNITIL ENERGY SYSTEMS, INC.  
LATE PAYMENT REVENUE ADJUSTMENT  
12 MONTHS ENDED DECEMBER 31, 2020

Workpaper 1.1  
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LINE NO.	(1)	(2)
	DESCRIPTION	TOTAL
1	Normalized Late Payment Revenue <sup>(1)</sup>	\$ 275,537
2	Test Year Late Payment Revenue	94,600
3	Late Payment Revenue Adjustment	<u>\$ 180,938</u>

Notes

(1) Normalized Late Payment Revenue based on 2019 calendar year activity

**UNITIL ENERGY SYSTEMS, INC.  
UNION PAYROLL ADJUSTMENT  
12 MONTHS ENDED DECEMBER 31, 2020**

**Workpaper 2.1  
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<b>LINE NO.</b>	<b>(1)</b>		<b>(2)</b>	
	<b>DESCRIPTION</b>		<b>TOTAL</b>	
<b>1</b>	<b>Payroll - Five Months Ended May 31, 2020</b>		<b>\$ 1,917,269</b>	
<b>2</b>	<b>2020 Salary &amp; Wage Increase<sup>(1)</sup></b>		<b>3.00%</b>	
<b>3</b>	<b>Union Payroll Annualization</b>		<b><u>\$ 57,518</u></b>	

**Notes**

**(1) Average Union increase of 3% effective June 1, 2020**

UNITIL ENERGY SYSTEMS, INC.  
 UNION AND NONUNION PAYROLL/COMPENSATION <sup>(1)</sup>  
 12 MONTHS ENDED DECEMBER 31, 2020

Workpaper 2.2  
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LINE NO.	(1) DESCRIPTION	(2) TOTAL
1	Union Weekly Payroll	\$ 4,793,090
2	Total Nonunion Payroll <sup>(2)</sup>	<u>1,405,138</u>
3	Total Payroll <sup>(3)</sup>	<u>6,198,228</u>
4	Payroll Capitalization <sup>(3)</sup>	<u>(3,972,999)</u>
5	Test Year O&M Payroll	<u>\$ 2,225,229</u>

Notes

(1) Payroll Allocation to Union and Non-Union based on ADP 2020 Year End Payroll Registers

(2) Includes Incentive Compensation at Target of \$104,079

(3) Refer to Workpaper 2.3

UNITIL ENERGY SYSTEMS, INC.  
PAYROLL SUMMARY  
FOR COMPUTATION OF PAYROLL BENEFIT RELATED OVERHEADS

Workpaper 2.3  
Table of Contents

(1)		(2)
LINE NO.	DESCRIPTION	2020 INCENTIVE COMP AT TARGET
1	O&M PAYROLL:	
2	OPERATIONS	929,656
3	MAINTENANCE	883,050
4	TOTAL O&M PAYROLL	1,812,706
5	CONSTRUCTION PAYROLL:	
6	DIRECT	1,735,013
7	INDIRECT	1,355,228
8	TOTAL CONSTRUCTION PAYROLL	3,090,241
9	OTHER PAYROLL:	
10	CLEARING ACCOUNTS	182,391
11	UNPRODUCTIVE TIME	761,241
12	MOBILE DATA SYSTEMS (MDS)	247,571
13	INCENTIVE COMPENSATION at TARGET	104,079
14	TEMPORARY SERVICES	12,750
15	OTHER <sup>(1)</sup>	23,411
16	TOTAL OTHER PAYROLL	1,331,442
17	TOTAL PAYROLL	6,234,389
18	O&M PAYROLL:	
19	OPERATIONS	929,656
20	MAINTENANCE	883,050
21	ALLOCATED CLEARING	52,528
22	ALLOCATED UNPRODUCTIVE	114,186
23	ALLOCATED MDS	231,237
24	ALLOCATED INCENTIVE COMPENSATION	14,571
25	TOTAL O&M PAYROLL	2,225,229
26	CONSTRUCTION PAYROLL:	
27	DIRECT	1,735,013
28	INDIRECT	1,355,228
29	ALLOCATED CLEARING	129,862
30	ALLOCATED UNPRODUCTIVE	647,055
31	ALLOCATED MDS	16,334
32	ALLOCATED INCENTIVE COMPENSATION	89,508
33	TOTAL CONSTRUCTION PAYROLL	3,972,999
34	TOTAL PAYROLL, NET OF OTHER PAYROLL	6,198,228
35	TOTAL OTHER PAYROLL:	
36	BELOW THE LINE PAYROLL <sup>(2)</sup>	12,750
37	OTHER <sup>(1)</sup>	23,411
38	TOTAL OTHER PAYROLL	36,161
39	TOTAL PAYROLL, WITH INCENTIVE COMP ADJ TO TARGET	6,234,389

UNITIL ENERGY SYSTEMS, INC.  
PAYROLL - INCENTIVE COMPENSATION ADJUSTMENT  
12 MONTHS ENDED DECEMBER 31, 2020

Workpaper 2.4  
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LINE NO.	(1) Description	(2) Amount
1	<u>Unitil Energy Services, Inc. Payroll:</u>	
2	Adjustment to reflect Incentive Compensation at Target	
3	Test Year Accrued Incentive Compensation	\$ 104,079
4	Incentive Compensation at Target	<u>104,079</u>
5	Test Year Accounting Adjustment to reflect Incentive Compensation at Target	-
6	Capitalized Incentive Compensation at 82.00%	<u>-</u>
7	Test Year Incentive Comp Accounting Adjustment to O&M	<u>-</u>
8	<u>USC Payroll, allocated to Unitil Energy Systems, Inc.:</u>	
9	Adjustment to reflect Incentive Compensation at Target	
10	Test Year Accrued Incentive Compensation at USC	3,412,143
11	Test Year Accrued Incentive Compensation Percentage Billed to UES In 2020	27.50% 938,339
12	Incentive Compensation at Target	<u>938,339</u>
13	Test Year Accounting Adjustment to reflect Incentive Compensation at Target	-
14	Capitalized Incentive Compensation at 28.45%	<u>-</u>
15	Test Year Incentive Comp Accounting Adjustment to O&M	<u>-</u>

UNITIL ENERGY SYSTEMS, INC.  
MEDICAL AND DENTAL INSURANCE  
FOR THE 12 MONTHS ENDED DECEMBER 31, 2020

Workpaper 3.1  
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Line No.	Coverage	Employee Census <sup>(1)</sup>				2021 Rates <sup>(2)</sup>				- Cost -					
		- Medical -		- Dental -		- Medical -		- Dental -		- Medical -		- Dental -			
		CDHP	PPO	Plus	Standard	CDHP	PPO	Plus	Standard	CDHP	PPO	Plus	Standard	Total	
1	Individual	6	2	6	12	\$ 792.45	\$ 1,033.07	\$ 46.56	\$ 45.21	\$ 4,755	\$ 2,066	\$ 279	\$ 543	\$ 7,643	
2	Two Person	10	12	7	18	1,362.76	1,859.73	83.34	80.82	13,628	22,317	583	1,455	37,983	
3	Family	8	12	5	23	1,849.91	2,564.50	147.21	141.43	14,799	30,774	736	3,253	49,562	
4	Total	24	26	18	53					33,182	55,157	1,599	5,250	95,187	
5	2021 Annual Cost Based on Employee Enrollments at December 31, 2020										398,179	661,883	19,185	63,002	1,142,249
6	Employee Contribution <sup>(3)</sup>										(79,636)	(132,377)	(3,837)	(12,600)	(228,450)
7	Net Cost										318,543	529,506	15,348	50,402	913,799
8	Plus: Company Contribution to HSA										21,000	-	-	-	21,000
9	Payments to Employees to Opt out										9,920	12,830	-	-	22,750
10	Total HSA and Opt out Payments										30,920	12,830	-	-	43,750
11	Proformed 2021 Medical Cost										349,463	542,336	15,348	50,402	957,549
12	Projected Increase in Premium Rates Effective January 1, 2022 <sup>(4)</sup>										29,562	48,810	614	2,016	81,002
13	Proformed 2021 and 2022 Medical and Dental Cost										379,025	591,147	15,962	52,418	1,038,551
14	Amount Chargeable to Capital <sup>(5)</sup>										(296,639)	(468,326)	(12,706)	(41,724)	(819,396)
15	Total Pro-formed Medical and Dental Insurance O&M Expense														219,155
16	Less Test Year O&M Expense <sup>(6)</sup>														95,921
17	Total O&M Medical & Dental Insurance Adjustment														\$ 123,234

Notes

(1) Employee Benefit Census as of December 31, 2020

(2) Anthem and Northeast Delta Dental monthly insurance rates, effective January 1, 2021

(3) Employee Contributions: 20%

(4) Estimated increase effective January 1, 2022

Medical Increase 9.00%

Dental Increase 4.00%

(5) Capitalization Rate: 63.68%

(6) Refer to Workpaper 3.2



**UNITIL ENERGY SYSTEMS, INC.**  
**MEDICAL INSURANCE**  
**12 MONTHS ENDED DECEMBER 31, 2020**

**Workpaper 3.2**  
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<b>LINE NO.</b>	<b>(1) Description</b>	<b>(2) Amount</b>
1	Medical Insurance Expense	\$ 883,100
2	Benefits Cost Capitalized at	63.68% (562,358)
3	Subtotal Medical Costs	<u>320,742</u>
4	Employee Contribution	(203,241)
5	Drug Subsidy	<u>(28,556)</u>
6	Subtotal	<u>(231,797)</u>
7	Net Test Year Medical Insurance Expense	<u>88,945</u>
8	Dental Insurance Expense	52,306
9	Benefits Cost Capitalized at	63.68% (33,308)
10	Subtotal Dental Costs	<u>18,998</u>
11	Employee Contribution	<u>(12,021)</u>
12	Net Test Year Dental Costs	<u>6,976</u>
13	Net Test Year Medical & Dental Costs	<u>\$ 95,921</u>

UNITIL ENERGY SYSTEMS, INC.  
MEDICAL AND DENTAL INSURANCE - UNITIL SERVICE CORP  
FOR THE 12 MONTHS ENDED DECEMBER 31, 2020

Workpaper 3.3  
Table of Contents

Line No.	Coverage	Employee Census <sup>(1)</sup>				2021 Rates <sup>(2)</sup>				Costs					
		Medical		Dental		Medical		Dental		Medical		Dental			
		CDHP	PPO	Plus	Standard	CDHP	PPO	Plus	Standard	CDHP	PPO	Plus	Standard	Total	
1	Individual	80	-	79	48	\$ 792.45	\$ 1,033.07	\$ 46.56	\$ 45.21	\$ 63,396	\$ -	\$ 3,678	\$ 2,170	\$ 69,244	
2	Two Person	64	1	77	36	1,362.76	1,859.73	83.34	80.82	87,217	1,860	6,417	2,910	98,403	
3	Family	82	1	100	79	1,849.91	2,564.50	147.21	141.43	151,693	2,565	14,721	11,173	180,151	
4	Total	226	2	256	163					302,305	4,424	24,816	16,253	347,798	
5	2021 Annual Cost Based on Employee Enrollments at December 31, 2020										3,627,663	53,091	297,797	195,031	4,173,582
6	Employee Contribution <sup>(3)</sup>										(725,533)	(10,618)	(59,559)	(39,006)	(834,716)
7	Net Cost										2,902,130	42,473	238,238	156,025	3,338,865
8	Plus: Company Contribution to HSA										186,000	-	-	-	186,000
9	Payments to Employees to Opt out										178,400	-	-	-	178,400
10	Total HSA and Opt out Payments										364,400	-	-	-	364,400
11	Proformed 2021 Medical Cost										3,266,531	42,473	238,238	156,025	3,703,266
12	Projected Increase in Premium Rates Effective January 1, 2022 <sup>(4)</sup>										277,248	3,823	9,530	6,241	296,841
13	Proformed 2021 and 2022 Medical and Dental Cost										3,543,778	46,295	247,767	162,266	4,000,106
12	Apportionment to UES at 27.50%										974,539	12,731	68,136	44,623	1,100,029
13	Amount Chargeable to Capital at 29.42%										(286,709)	(3,746)	(20,046)	(13,128)	(323,629)
14	Total Pro-formed Medical and Dental Insurance O&M Expense														776,401
15	Less Test Year O&M Expense <sup>(5)</sup>														416,480
16	Total O&M Medical & Dental Insurance Adjustment														\$ 359,921

**Notes**

(1) Employee Benefit Census as of December 31, 2020.

(2) Health Plans, Inc. and Northeast Delta Dental monthly insurance rates, effective January 1, 2021.

(3) Employee Contributions: 20%

(4) Estimated increase effective January 1, 2022

Medical Increase 9.00%

Dental Increase 4.00%

(5) Refer to Workpaper 3.4

UNITIL SERVICE CORP.  
MEDICAL INSURANCE  
12 MONTHS ENDED DECEMBER 31, 2020

Workpaper 3.4  
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LINE NO.	(1) Description	(2) Medical	(3) Dental	(4) Total
1	Medical Insurance	\$ 2,587,331	\$ 304,575	\$ 2,891,906
2	Employee Contribution	(703,135)	(59,946)	(763,081)
3	Drug Subsidy	(34,106)	-	(34,106)
4	Subtotal	1,850,090	244,629	2,094,719
5	UES Apportionment at	28.17%	28.17%	28.17%
6	Expense Apportioned to UES	521,170	68,912	590,082
7	Capitalization Rate at	29.42%	29.42%	29.42%
8	UES Capitalization	(153,328)	(20,274)	(173,602)
9	Net USC Test Year Medical & Dental Costs Allocated to UES	\$ 367,842	\$ 48,638	\$ 416,480

Unitil Energy Systems, Inc.  
Pension Expense  
2020 Actual Expense Recorded and 2021 Forecast Expense

Workpaper 4.1  
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LINE NO.	(1) Description	(2) 2020 TEST YEAR	(3) 2021 FORECAST EXPENSE	(4) PROFORMA ADJUSTMENT
A1	USC Labor & Overhead Charged to UES	28.17%	28.17%	
A2	UES Capitalization Rates	63.68%	63.68%	
A3	USC Labor & Overhead to Construction	29.42%	29.42%	
A4	Total USC Pension Expense per Actuary	\$ 3,032,609	\$ 3,232,617	
<u>Calculation of Pension Expense, net of amounts chargeable to capital</u>				
<u>A. UES Pension Expense, net:</u>				
1	UES Pension Expense per Actuary	\$ 1,258,030	\$ 1,320,039	\$ 62,009
2	Less: Amounts chargeable to capital	(801,114)	(840,601)	(39,487)
3	Total UES Pension Expense, net	<u>\$ 456,916</u>	<u>\$ 479,438</u>	<u>\$ 22,522</u>
<u>B. Unitil Service Pension Expense allocated to UES, net:</u>				
4	Unitil Service Pension Expense per Actuary	\$ 854,286	\$ 910,628	\$ 56,342
5	Less: Amounts chargeable to capital	(251,331)	(267,907)	(16,576)
6	Unitil Service Pension Expense allocated to UES, net	<u>\$ 602,955</u>	<u>\$ 642,721</u>	<u>\$ 39,766</u>
7	Total UES Pension Expense	<u>\$ 1,059,872</u>	<u>\$ 1,122,160</u>	<u>\$ 62,288</u>

Unitil Energy Systems, Inc.  
PBOP Expense  
2020 Actual Expense Recorded and 2021 Forecast Expense

Workpaper 4.2  
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LINE NO.	(1) Description	(2) 2020 TEST YEAR	(3) 2021 FORECAST EXPENSE	(4) PROFORMA ADJUSTMENT
A1	USC Labor & Overhead Charged to UES	28.17%	28.17%	
A2	UES Capitalization Rates	63.68%	63.68%	
A3	USC Labor & Overhead to Construction	29.42%	29.42%	
A4	Total USC PBOP Expense per Actuary	\$ 1,510,206	\$ 1,358,914	
<u>Calculation of PBOP Expense, net of amounts chargeable to capital</u>				
<u>A. UES PBOP Expense, net:</u>				
1	UES PBOP Expense per Actuary	\$ 1,626,222	\$ 1,594,405	\$ (31,817)
2	Less: Amounts chargeable to capital	(1,035,578)	(1,015,317)	20,261
3	Total UES PBOP Expense, net	<u>\$ 590,644</u>	<u>\$ 579,088</u>	<u>\$ (11,556)</u>
<u>B. Unitil Service PBOP Expense allocated to UES, net:</u>				
4	Unitil Service PBOP Expense per Actuary	\$ 425,425	\$ 382,806	\$ (42,619)
5	Less: Amounts chargeable to capital	(125,160)	(112,622)	12,538
6	Unitil Service PBOP Expense Allocated to UES, net	<u>\$ 300,265</u>	<u>\$ 270,185</u>	<u>\$ (30,080)</u>
7	Total UES PBOP Expense	<u>\$ 890,909</u>	<u>\$ 849,272</u>	<u>\$ (41,636)</u>

Unitil Energy Systems, Inc.  
SERP Expense  
2020 Actual Expense Recorded and 2021 Forecast Expense

Workpaper 4.3  
Table of Contents

	(1)	(2)	(3)	(4)
LINE NO.	DESCRIPTION	2020 TEST YEAR	2021 EXPENSE	PROFORMA ADJUSTMENT
A1	USC Labor & Overhead Charged to UES	28.17%	28.17%	
A2	UES Capitalization Rates	63.68%	63.68%	
A3	USC Labor & Overhead to Construction	29.42%	29.42%	
A4	Total USC SERP Expense per Actuary	\$ 1,924,767	\$ 2,357,253	
<u>Calculation of SERP Expense, net of Amounts Chargeable to Construction</u>				
<u>A. UES SERP Expense, net:</u>				
1	UES SERP Expense	\$ -	\$ -	\$ -
2	Less: Amounts chargeable to construction	-	-	-
3	UES SERP Expense, net	\$ -	\$ -	\$ -
<u>B. Unitil Service SERP Expense Allocated to UES, net:</u>				
4	Unitil Service SERP Expense	\$ 542,207	\$ 664,038	\$ 121,831
5	Less: Amounts chargeable to construction	(159,517)	(195,360)	(35,843)
6	Unitil Service SERP Expense Allocated to UES, net	\$ 382,690	\$ 468,678	\$ 85,989
7	Total UES SERP Expense	\$ 382,690	\$ 468,678	\$ 85,989

Unitil Energy Systems, Inc.  
401K Expense  
2020 Actual Expense Recorded and 2021 & 2022 Forecast Expense

Workpaper 4.4  
Table of Contents

	(1)	(2)	(3)	(4)
Line No.	Description	2020 TEST YEAR	2021 & 2022 FORECAST EXPENSE	PROFORMA ADJUSTMENT
A1	USC Labor & Overhead Charged to UES	28.17%	28.17%	
A2	UES Capitalization Rates	63.68%	63.68%	
A3	USC Labor & Overhead to Construction	29.42%	29.42%	
A4	Total USC 401K Expense <sup>(1)</sup>	\$ 1,994,120	\$ 2,081,861	

Calculation of 401K Expense, net of Amounts Chargeable to Capital

A. UES 401K Expense, net:

1	UES 401K Expense 2021 Proformed <sup>(2)</sup>	\$ 266,172	\$ 274,557	\$ 8,385
2	UES 401K Expense adjusted for 2022 wage increase	-	8,649	8,649
3	Total UES 401K Expense - Proformed	266,172	283,206	17,034
4	Less: Amounts chargeable to capital	(169,498)	(180,346)	(10,847)
5	Total UES 401K Expense, net	\$ 96,674	\$ 102,860	\$ 6,187

B. Unitil Service 401K Expense allocated to UES, net:

6	Unitil Service 401K Expense 2021 Proformed	\$ 561,744	\$ 586,460	\$ 24,717
7	Unitil Service 401K Adjusted for 2022 Wage Increase <sup>(1)</sup>	-	25,804	25,804
8	Total USC 401K Expense - Proformed	561,744	612,264	50,521
9	Less: Amounts chargeable to capital	(165,265)	(180,128)	(14,863)
10	Unitil Service 401K Expense Allocated to UES, net	\$ 396,479	\$ 432,136	\$ 35,658
11	Total UES 401K Expense	\$ 493,152	\$ 534,997	\$ 41,844

Notes

(1) Unitil Service Corp. - Average 2020/2021 Payroll Increase of 4.40%

(2) See Workpaper 4.5

Unitil Energy Systems, Inc.  
401K Adjustment  
2020 & 2021 Weighted Average Pay Increase

Workpaper 4.5  
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	(1)	(2)	(3)	(4)	(5)	(6)
LINE NO.	DESCRIPTION	2020 ANNUALIZED PAYROLL	2021 AVERAGE PAY INCREASE <sup>(1)</sup>	WEIGHTED AVERAGE INCREASE	2022 AVERAGE PAY INCREASE <sup>(2)</sup>	WEIGHTED AVERAGE INCREASE
1	Nonunion	\$ 1,405,138	3.65%	0.82%	3.65%	0.82%
2	Union	\$ 4,850,608	3.00%	2.33%	3.00%	2.33%
3	Total	\$ 6,255,746		3.15%		3.15%

Notes

(1) Refer to Schedule RevReq-3-2, Page 1 of 2 for 2021 Payroll Increases

(2) Refer to Schedule RevReq-3-2, Page 1 of 2 for 2022 Payroll Increase



Unitil Energy Systems, Inc.  
Deferred Compensation Plan Expense  
2020 Actual Expense Recorded and 2021 & 2022 Forecast Expense

Workpaper 4.6  
Table of Contents

	(1)	(2)	(3)	(4)
Line No.	Description	2020 TEST YEAR	2021 & 2022 FORECAST EXPENSE	PROFORMA ADJUSTMENT
A1	USC Labor & Overhead Charged to UES	28.17%	28.17%	
A2	UES Capitalization Rates	63.68%	63.68%	
A3	USC Labor & Overhead to Construction	29.42%	29.42%	
A4	Total USC Eligible Base Compensation	\$ 369,511	\$ 2,802,136	
A5	Total USC Eligible Incentive Compensation (at target)	\$ 241,091	\$ 952,203	
<b><u>Calculation of Deferred Compensation Expense, net of Amounts Chargeable to Construction</u></b>				
<b><u>A. UES Deferred Compensation Expense, net:</u></b>				
1	UES Deferred Comp Expense 2021 Proformed	\$ -	\$ -	\$ -
2	UES Deferred Comp Expense adjusted for 2022 wage increase	-	-	-
3	Total UES Deferred Comp Expense - Proformed	-	-	-
4	Less: Amounts chargeable to capital	-	-	-
5	Total UES Deferred Comp Expense, net	\$ -	\$ -	\$ -
<b><u>B. Unitil Service Deferred Comp Expense allocated to UES, net:</u></b>				
6	Unitil Service 2020 Deferred Comp. Expense	\$ 36,951	\$ 280,214	\$ 243,263
7	Unitil Service Deferred Comp Expense Allocated to UES	10,409	78,936	68,527
8	Unitil Service Deferred Incentive Compensation Expense	24,109	95,220	71,111
9	Unitil Service Deferred Incentive Compensation Expense Allocated to UES	6,792	26,824	20,032
10	Unitil Service Deferred Comp. Adjusted for 2021 Wage Increase <sup>(1)</sup>	-	3,473	3,473
11	Total Unitil Service Deferred Comp Expense Allocated to UES - Proformed	17,201	109,233	92,032
12	Less: Amounts Chargeable to Construction	(5,061)	(32,136)	(27,075)
13	Unitil Service Deferred Comp Expense Allocated to UES, net	\$ 12,140	\$ 77,097	\$ 64,957
14	Total UES Deferred Comp Expense	\$ 12,140	\$ 77,097	\$ 64,957

**Notes**

(1) Unitil Service Corp - Estimated 2020 Average Payroll Increase of 4.40%

UNITIL ENERGY SYSTEMS, INC.  
PROPERTY AND LIABILITY INSURANCES ADJUSTMENT  
12 MONTHS ENDED DECEMBER 31, 2020

Workpaper 5.1  
Table of Contents

LINE NO.	DESCRIPTION	AMOUNT <sup>(1)</sup>
	Current Coverage Periods	
	Property:	
1	All Risk	\$ 111,753
2	Crime	2,374
3	K&E	325
4	Total Property	<u>\$ 114,452</u>
	Liability:	
5	Workers' Compensation	\$ 61,293
6	Excess	435,017
7	Automobile	37,164
8	Directors & Officers	74,047
9	Cyber	21,919
10	Fiduciary	7,253
11	Total Liability	<u>\$ 636,692</u>
12	Total Property & Liability Insurances (Lines 4 Plus 11)	751,145
13	Less: Amounts Chargeable to Capital	<u>422,627</u>
14	Amount to O&M Expense	328,517
15	Less Test Year O&M Expense	<u>273,026</u>
16	O&M Property and Liability Insurance Increase	<u><u>\$ 55,491</u></u>

**NOTES**

(1) See Workpaper W5.3

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

Workpaper 5.2  
Table of Contents

LINE NO.	DESCRIPTION	UNITIL SERVICE CORP. TOTAL <sup>(1)</sup>	AMOUNT TO UES	UES TOTAL
	USC Cost For Current Coverage Periods			
	Property:			
1	All Risk	\$ 8,805		\$ 2,421
2	Crime	682		188
3	K&E	130		36
4	Total Property	<u>\$ 9,617</u>	27.50%	<u>\$ 2,645</u>
	Liability:			
5	Workers' Compensation	\$ 59,336		\$ 16,317
6	Excess	108,060		29,717
7	Automobile	8,401		2,310
8	Directors and Officers	19,925		5,479
9	Cyber	5,898		1,622
10	Fiduciary	1,952		537
11	Total Liability	<u>\$ 203,573</u>	27.50%	<u>\$ 55,982</u>
12	Total USC Property & Liability Insurances			58,627
13	Less Amount Chargeable to Capital		29.42%	<u>17,248</u>
14	Total Property & Liability Insurances to O&M Expense			<u>41,379</u>
15	Less Test Year O&M Expense			<u>24,402</u>
16	O&M Property and Liability Insurance Increase			<u>\$ 16,977</u>

**NOTES**

(1) See Workpaper W5.3

Casualty & Property Insurance

Workpaper 5.3  
Table of Contents

		CASUALTY											PROPERTY							Total of Col.
		AL (prem)	NH-WC (prem)	XL* (prem)	XL (brkr) <sup>(3)</sup>	XL Surplus Tax	Cyber (prem)	FL (prem)	D&O (prem)	D&O Surplus Tax	D&O (brkr) <sup>(3)</sup>	CASUALTY TOTAL	ARP (prem) <sup>(4)</sup>	CRIME (prem)	K&E (prem)	TRANSIT (prem) <sup>(4)</sup>	TOTAL	TOTAL		
																	PROP			
UES	2018a	25,546	91,767	303,454	9,321	9,104	10,984	4,414	44,258	1,328	5,604	505,780	64,987	1,861	341	5,267	72,455	578,235		
	2019a	24,522	93,044	333,707	10,793	10,011	10,649	4,731	43,719	1,333	5,546	538,057	69,166	1,834	325	7,813	79,137	617,194		
	2020a	27,110	76,716	353,388	16,498	10,602	12,963	4,731	52,871	1,586	-	556,465	84,960	1,882	325	-	87,167	643,632		
	2021a/b <sup>(1)</sup>	35,225	58,096	384,418	16,375	11,533	21,919	7,253	72,413	1,634	-	608,864	111,753	2,374	325	-	114,452	723,317		
	2022e <sup>(2)</sup>	37,164	61,293	405,574	17,276	12,167						636,692					114,452	751,145		
USC	2018a	5,933	97,653	123,302	3,787	3,699	3,948	1,794	17,983	540	2,277	260,917	5,399	756	116		6,270	267,187		
	2019a	8,029	92,581	133,432	4,316	4,003	4,327	1,892	17,481	533	2,218	268,811	5,581	733	130		6,444	275,255		
	2020a	7,120	85,858	95,093	4,439	2,853	3,488	1,892	14,227	427	-	215,397	6,489	506	130		7,125	222,522		
	2021a/b <sup>(1)</sup>	9,206	65,019	110,396	4,702	3,312	5,898	1,952	19,486	440	-	220,410	8,805	682	130		9,617	230,026		
	2022e <sup>(2)</sup>	8,401	59,336	100,747	4,291	3,022						203,573					9,617	213,189		

**NOTES**

- (1) 2021 premiums reflect actuals for automobile, workers compensation, excess liability, cyber, crime, K&E and transit  
2021 premiums reflect budgeted amounts for fiduciary, directors & officers and all risk property and will be updated with actuals
- (2) 2022 premiums reflect annual growth rate from 2018 to 2020 for UES and USC automobile, workers compensation and excess liability  
2022 premiums for these three categories above will be updated with actuals while all other categories assume 2021 premium amounts
- (3) In 2020 the Company changed brokers and now the D&O broker fee is included in the XL broker fee
- (4) In 2020 the Company changed brokers and now the transit premium is included in the all risk property premium

**UNITIL SERVICE CORP.**  
**PROPERTY & LIABILITY INSURANCE TEST YEAR COSTS**  
**12 MONTHS ENDED DECEMBER 31, 2020**

**Workpaper 5.4**  
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DESCRIPTION	TOTAL
USC O&M Test Year	
12-30-08-00-9240100 PROPERTY INSURANCE	\$ 5,519
12-30-08-00-9250100 INJURIES & DAMAGES	<u>120,204</u>
Total	\$ 125,723
UES Apportionment	<u>27.50%</u>
UES Amount	\$ 34,574
Capitalization Rate	<u>29.42%</u>
Capitalization Amount	\$ 10,172
O&M Expense Amount	<u><u>24,402</u></u>

**UES - OPERATING FACILITY  
COMPUTATION OF BUILDING OVERHEAD  
12 MONTHS ENDED DECEMBER 31, 2020**

Workpaper 5.5  
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<u>SQUARE FOOTAGE OF SERVICE CENTER UPDATED:</u>		Dec-20	ALLOCATION OF
DESCRIPTION	SQ FT	%	SERVICE CENTER OVERHEADS
<b>SERVICE CENTER ALLOCATED:</b>			
General Area Capitalized (184.00.00)	25,919	31.02%	8,595
			63.68%
			5,473
Stock Area Capitalized (163.00.00)	19,127	22.89%	6,343
			90.00%
			5,709
<u>Garage Area Capitalized:</u>			
Auto-184.01.00	0	0.00%	0
Light Truck-184.02.00	20,273	24.27%	6,723
Heavy Truck-184.03.00	9,282	11.11%	3,078
Sub-Total Garage Area	29,555	35.38%	9,801
Ratio of Garage Area Capitalized			63.68%
Garage Area Capitalized			6,241
Total Service Center to DOC	74,601	89.29%	
			17,423
<u>Non-DOC Space:</u>			
Exclude: none	8,946	10.71%	JE782
TOTAL SERVICE CENTER	83,547	100.00%	924.00.01

**(b) DETERMINATION OF SERVICE CENTER PROPERTY INSURANCE:**

BUDGETED ALL RISK PROPERTY INSURANCE	88,470
RATIO OF SERVICE CENTER TO TOTAL PROPERTY	31.32%
TOTAL SERVICE CENTER PROPERTY INSURANCE	27,705
Service Center Property Insurance Capitalization Ratio	62.89%

**ASSET RPT 1025. Accts 101 & 106 12/31/20**

	<b>SERVICE CENTER</b>	<b>ALL STRUCTURE</b>	<b>SERVICE RATIO</b>
STRUCTURES - DISTRIBUTION ACCT. 361		2,173,616	
STRUCTURES-ADMIN ACCT. 390	19,114,262	19,114,262	
GENERAL PLANT - (TOTAL LESS COMM. EQ) (ACCT. 391,393,394,395,398)	4,861,899	4,861,899	
DISTR. PLANT - STATION (362)		50,412,132	
TOTAL COST	23,976,161	76,561,909	31.32%

**VEHICLE CLEARING ACCOUNT**  
**TOTAL CHARGES & TOTAL CLEARINGS TO EXPENSE & CAPITAL**  
**12 MONTHS ENDED DECEMBER 31, 2020**

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Total Clearings from Clearing Account:

	Expense	Capital	UES Total GL	Total Sch 12	Variance
Jan-20	49,152	52,974	102,125	102,125	-
Feb-20	36,457	42,705	79,162	79,162	-
Mar-20	38,294	36,396	74,690	74,690	-
Apr-20	78,350	61,901	140,251	140,251	-
May-20	55,237	51,110	106,347	106,347	-
Jun-20	54,669	46,389	101,058	101,058	-
Jul-20	54,380	80,659	135,039	135,039	-
Aug-20	58,668	63,409	122,077	122,077	-
Sep-20	41,817	53,338	95,155	95,155	-
Oct-20	27,614	37,600	65,213	65,213	-
Nov-20	16,131	29,010	45,142	45,142	-
Dec-20	83,871	21,875	105,746	105,746	-
	<u>594,638</u>	<u>577,366</u>	<u>1,172,004</u>	<u>1,172,004</u>	

Capitalization Rate 49.26%

**VEHICLE CLEARING ACCOUNT**  
**AUTO LIABILITY INSURANCE**

Auto Liability Insurance Payments into Clearing Account <sup>(1)</sup>

Jan-20	2,711
Feb-20	2,711
Mar-20	2,711
Apr-20	2,711
May-20	2,711
Jun-20	2,711
Jul-20	2,711
Aug-20	
Sep-20	
Oct-20	
Nov-20	7,045
Dec-20	3,523
Total	<u><u>29,545</u></u>

(1) Payments during test year (Jan-Jul) were for 2019-2020 coverage year 10/1/19-9/30/20  
Payments in November & December 2020 are for 10/1/20 - 9/30/21 coverage year

Auto Liability Insurance Expense through Clearing Account

	UES
Gross Amount	29,545
Cap. Rates	49.26%
Cap. Amount	<u>14,555</u>
O&M Amount	<u><u>14,990</u></u>

UNITIL ENERGY SYSTEMS, INC.  
INFLATION ALLOWANCE  
12 MONTHS ENDED DECEMBER 31, 2020

Workpaper 6.1  
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Source: Energy Information Administration  
Short-Term Energy Outlook  
Publication Date: February 9, 2021

Table 1. U.S. Energy Markets Summary

	2019												2020											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Macroeconomic																								
Real Gross Domestic Product (billion chained 2012 dollars - SAAR)	18,915	18,953	18,984	18,990	19,019	19,053	19,103	19,142	19,180	19,269	19,267	19,226	19,309	19,065	18,658	17,427	17,191	17,289	17,720	18,485	19,584	18,688	18,728	18,763
Percent change from prior year	2.3	2.3	2.2	2	1.9	1.9	2	2.1	2.1	2.6	2.4	2	2.1	0.6	-1.7	-8.2	-9.6	-9.3	-7.2	-3.4	2.1	-3	-2.8	-2.4
GDP Implicit Price Deflator (Index, 2012=100)	111.3	111.5	111.7	112.0	112.2	112.4	112.5	112.6	112.7	112.9	113.0	113.1	113.4	113.4	113.3	112.8	112.8	113.0	113.3	113.8	114.4	114.2	114.3	114.4
Percent change from prior year	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.8	1.7	1.5	0.7	0.5	0.5	0.7	1.0	1.5	1.2	1.2	1.2
Real Disposable Personal Income (billion chained 2012 dollars - SAAR)	14,841	14,864	14,856	14,817	14,810	14,827	14,840	14,912	14,934	14,936	14,997	14,960	15,070	15,163	14,949	17,287	16,454	16,150	16,237	15,693	15,786	15,665	15,467	15,588
Percent change from prior year	3.5	3.4	2.9	2.4	2.0	1.9	1.6	1.8	2.0	1.8	2.1	0.8	1.5	2.0	0.6	16.7	11.1	8.9	9.4	5.2	5.7	4.9	3.1	4.2
Manufacturing Production Index (Index, 2012=100)	106.9	106.3	106.3	105.4	105.5	106.1	105.7	106.4	105.7	105.1	106.1	106.4	106.2	106.1	100.8	84.8	88.1	95.0	99.0	100.4	100.4	101.7	102.6	103.6
Percent change from prior year	2.7	1.1	1	-0.4	0.5	0.3	-0.5	-0.3	-1	-1.5	-0.7	-1.1	-0.7	-0.2	-5.2	-19.5	-16.5	-10.5	-6.3	-5.6	-5	-3.2	-3.3	-2.6
Weather																								
U.S. Heating Degree-Days	859	719	632	288	158	34	5	10	41	254	589	715	740	652	484	358	156	25	5	7	58	247	422	748
U.S. Cooling Degree-Days	9	18	18	42	130	227	373	336	243	75	16	14	15	13	43	43	106	248	398	356	181	83	32	7

	2021												2022											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Macroeconomic																								
Real Gross Domestic Product (billion chained 2012 dollars - SAAR)	18,781	18,818	18,861	18,902	18,963	19,036	19,141	19,222	19,300	19,370	19,444	19,517	19,593	19,662	19,727	19,790	19,849	19,904	19,955	20,004	20,050	20,091	20,134	20,177
Percent change from prior year	-2.7	-1.3	1.1	8.5	10.3	10.1	8	4	-1.4	3.6	3.8	4	4.3	4.5	4.6	4.7	4.7	4.6	4.3	4.1	3.9	3.7	3.5	3.4
GDP Implicit Price Deflator (Index, 2012=100)	114.5	114.6	114.8	115.0	115.1	115.3	115.5	115.6	115.8	116.0	116.2	116.3	116.5	116.6	116.8	117.1	117.3	117.5	117.7	118.0	118.2	118.4	118.6	118.8
Percent change from prior year	1	1.1	1.3	1.9	2.1	2.1	1.9	1.6	1.2	1.6	1.6	1.6	1.7	1.8	1.8	1.8	1.9	1.9	2	2	2.1	2.1	2.1	2.1
Real Disposable Personal Income (billion chained 2012 dollars - SAAR)	16,277	16,371	16,286	15,683	15,499	15,391	15,455	15,433	15,419	15,405	15,413	15,437	15,502	15,533	15,559	15,569	15,591	15,615	15,644	15,669	15,695	15,711	15,742	15,778
Percent change from prior year	8	8	8.9	-9.3	-5.8	-4.7	-4.8	-1.7	-2.3	-1.7	-0.3	-1	-4.8	-5.1	-4.5	-0.7	0.6	1.5	1.2	1.5	1.8	2	2.1	2.2
Manufacturing Production Index (Index, 2012=100)	103.8	104.2	104.4	104.1	104.2	104.4	104.6	104.9	105.2	105.6	106.0	106.5	107.0	107.5	107.9	108.4	108.8	109.1	109.4	109.6	109.9	110.1	110.3	110.5
Percent change from prior year	-2.2	-1.8	3.5	22.7	18.3	9.9	5.6	4.5	4.8	3.8	3.3	2.8	3.1	3.2	3.4	4.1	4.4	4.6	4.6	4.5	4.5	4.2	4	3.8
Weather																								
U.S. Heating Degree-Days	785	679	550	308	134	28	7	10	53	239	485	769	848	684	558	314	134	28	7	10	53	239	485	769
U.S. Cooling Degree-Days	6	12	24	43	127	247	359	333	183	68	22	11	11	12	23	40	127	247	359	333	184	68	22	11

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



**Inflation Adjustment  
Test Year USC Amortizations**

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	<b>2020</b>
<b>12-30-10-00-404-03-00 SOFTWARE AMORT - OTHER</b>	<b>\$ 343,313</b>
<b>12-30-10-00-404-04-00 FINANCIAL REPORT WRITER AMORTIZATION</b>	<b>7,350</b>
<b>12-30-10-00-404-23-00 POWER TAX SYSTEM AMORT</b>	<b>30,284</b>
<b>12-30-10-00-404-25-00 AMORTIZATION - PAYMENT SYSTEM</b>	<b>1,492</b>
<b>Total</b>	<b>\$ 382,438</b>
 <b>UES Allocation</b>	 <b>28.17%</b>
 <b>Amount Billed to UES</b>	 <b>107,733</b>

**Inflation Adjustment  
Test Year Facility Leases**

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	<b>2020</b>
12-30-10-00-9310100 BUILDING RENT	<b>\$ 1,252,284</b>
12-30-10-00-9310700 CALL CENTER RENT	<b>158,796</b>
12-30-10-00-9310800 PORTSMOUTH RENT EXPENSE	<b>203,988</b>
Total	<b>\$ 1,615,068</b>
UES Allocation	<b>28.17%</b>
Amount Billed to UES	<b>454,965</b>

UNITIL ENERGY SYSTEMS, INC.  
TEST YEAR AMORTIZATION EXPENSE  
12 MONTHS ENDED DECEMBER 31, 2020

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LINE NO.	(1) DESCRIPTION	(2) BEGINNING UNAMORTIZED BALANCE 2020 <sup>(1)</sup>	(3) 2020 AMORTIZATION EXPENSE	(4) ENDING UNAMORTIZED BALANCE 2020
1	Unitil Energy Systems 303-Intangible Plant:			
2	2014 Web Map Improvements	\$ 45	\$ 45	\$ -
3	Enhance critical financial systems	1,453	1,453	-
4	Desktop Client Mgmt	148	148	-
5	2014 Gen Software Enhancements	311	311	-
6	EETS Enhancements 2014	114	114	-
7	Electric Inspections	10,429	10,429	-
8	Milsoft IVR Upgrade	322	322	-
9	MV90xi Upgrade from 2.0 SP1 tp 5.0	4,517	4,517	-
10	2015 IT Infrastructure	11,310	8,482	2,827
11	303-00/ 1/2 : Intangible Software 5 yr	1,936	1,162	774
12	Municipal Maps & Reports	10,557	6,334	4,223
13	MV-90 xi TCIP Network Function/Lisc	3,833	2,300	1,533
14	First Responder - iRestore	48,180	24,090	24,090
15	Enhancements for Third Party Attach	7,083	3,400	3,683
16	Electric Inspections	17,661	7,849	9,812
17	General Software Enhancements	5,036	2,238	2,798
18	2015 Cyber Security Enhancements11	172	76	95
19	2016 IT Infrastructure	28,173	12,521	15,652
20	GPS OMS - Interface	1,553	690	863
21	2016 Cyber Security Enhancements	264	118	147
22	Unify Workforce Management System	7,418	3,297	4,121
23	General Software Enhancements	4,170	1,853	2,317
24	DPU ORP System	10,868	4,830	6,038
25	303-00/ 1/2 : Intangible Software 5 yr	68,677	23,546	45,130
26	EETS Enhancements	19,346	6,633	12,713
27	303-00/ 1/2 : Intangible Software 5 yr	2,525	842	1,683
28	24 Hr Damage Assess. & Field Rest.	43,631	13,425	30,206
29	2017 Cyber Security	2,366	710	1,656
30	2017 IT Infrastructure	10,374	3,112	7,262
31	Electronic Time Sheet Phase One	6,275	1,793	4,482
32	Eintake Migration	20,026	5,589	14,437
33	AMI Command Center Version Upgrade	7,422	1,936	5,486
34	Meter Data Archiving Plan	2,871	749	2,122
35	Upgrade OMS Webpage	5,390	1,320	4,070
36	Powerplan Updated License	72,023	17,638	54,385
37	303-00/ 1/2 : Intangible Software 5 yr	73,752	19,240	54,513
38	IS Project Tracker Replacement	6,999	1,826	5,173
39	Legacy Interface Job Rewrite	3,765	941	2,824
40	General Software Enhancements - 2018	16,888	4,222	12,666
41	UPS Reporting	971	228	742
42	Reset In Service Date	N/A	(11,313)	N/A
43	2018 IT Infrastructure	38,777	9,665	20,119
44	2018 Cyber Security Enhancements	5,491	1,432	4,058
45	WebOps Replacements - Year 1 of 3	15,895	3,974	11,921
46	Dev/ Staging Refresh	9,380	1,908	7,472
47	OMS Regulatory Reports	6,459	1,314	5,146
48	Microsoft Exchange Upgrade	4,279	870	3,409
49	Electronic Time Sheet Phase 2	23,922	4,865	19,056
50	Metersense Upgrade 4.2 to 4.3	491	100	391
51	FCS Upgrade	971	198	774
52	Power Plant Assets	44,323	18,996	25,327
53	Power Plant Assets	30,339	13,002	17,336
54	OMS ABB Purchase	296,165	101,542	194,623
55	OMS Integration & Implementation	184,760	63,346	121,414
56	OMS Osmose Field Survey	66,874	22,928	43,946
57	OMS Internal Labor	8,264	2,833	5,431
58	Power Plant Asset Upgrade	31,634	8,077	23,558
59	Meter Data Management	1,898,800	239,848	1,658,951
60	TESS Replacement	7,023	759	6,264
61	FCS Upgrade	10,361	889	9,472
62	2019 General Software Enhancements	18,921	3,808	14,851
63	WebOps Replacement - Year 2 of 3	21,675	4,146	17,190
64	Reporting Blanket	35,245	6,877	27,832
65	2019 Infrastructure PC & Network	314,152	62,386	246,600
66	Regulatory Work Blanket	8,972	1,078	7,860
67	GIS Overlay Electronic Inspection	19,040	3,808	14,915
68	OMS Upgrade to V9.	4,457	371	4,086
69	GIS Enhancements	6,520	543	5,977
70	Generator Interconnection Database	49,881	10,086	38,961
71	2019 Voice System Replacement	383,511	38,479	341,805
72	2019 Interface Enhancements	21,083	2,065	18,850
73	2019 Customer Facing Enhancements	371,975	37,455	331,506
74	303-00/ 1/2 : Intangible Software 5 yr	17,338	3,468	9,536
75	E-intake Functionality to GEM	28,776	480	28,297
76	EE Tracking & Reporting Syst	81,190	1,353	79,837
77	MV90xi Upgrade v4.5 to 6.0	15,326	255	15,071
78	Replace MV-90 Communication Bank Modules	5,172	922	4,194
79	AMI Command Center Upgrade	37,259	621	36,638
80	Metersense Upgrade 2020	557	9	548
81	Reporting Blanket	37,767	629	37,137
82	Cyber Security Enhancements	36,913	615	36,298
83	Power Plan Upgrade	111,894	1,865	110,029
84	2020 IT Infrastructure Budget	492,478	8,208	484,270
85	2020 Customer Facing Enhancements	232,051	3,868	228,183
86	2020 Interface Enhancements	50,185	836	49,349
87	2020 General Software Enhancements	1,488	25	1,463
88	2017 CIS Amortization	9,199,227	512,318	8,686,909
89	Total UES Amortization Expense for Account 303	\$ 14,826,115	\$ 1,392,138	\$ 13,395,382

**NOTES**

(1) Projects Installed in 2020 Reflect Total Project Cost

UNITIL ENERGY SYSTEMS, INC.  
RATE YEAR AMORTIZATION EXPENSE

Workpaper 7.2  
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LINE NO.	(1) DESCRIPTION	(2) TOTAL PROJECT COST	(3) ANNUAL AMORTIZATION EXPENSE
1	Unitil Energy Systems 303-Intangible Plant:		
2	First Responder - iRestore	120,450	24,090
3	Enhancements for Third Party Attach	17,000	3,400
4	Electric Inspections	39,247	7,849
5	General Software Enhancements	11,191	2,238
6	2015 Cyber Security Enhancements11	381	76
7	2016 IT Infrastructure	62,607	12,522
8	GPS OMS - Interface	3,450	690
9	2016 Cyber Security Enhancements	588	118
10	Unify Workforce Management System	16,484	3,297
11	General Software Enhancements	9,266	1,853
12	DPU ORP System	24,150	4,830
13	303-00/ 1/2 : Intangible Software 5 yr	117,732	23,546
14	EETS Enhancements	33,165	6,633
15	303-00/ 1/2 : Intangible Software 5 yr	4,207	841
16	24 Hr Damage Assess. & Field Rest.	67,124	13,425
17	2017 Cyber Security	3,549	710
18	2017 IT Infrastructure	15,561	3,112
19	Electronic Time Sheet Phase One	8,964	1,793
20	Eintake Migration	27,943	5,589
21	AMI Command Center Version Upgrade	9,681	1,936
22	Meter Data Archiving Plan	3,744	749
23	Upgrade OMS Webpage	6,600	1,320
24	Powerplan Updated License	88,191	17,638
25	303-00/ 1/2 : Intangible Software 5 yr	96,044	19,240
26	IS Project Tracker Replacement	9,129	1,826
27	Legacy Interface Job Rewrite	4,775	941
28	General Software Enhancements - 2018	22,077	4,222
29	UPS Reporting	1,142	228
30	2018 IT Infrastructure	49,114	9,665
31	2018 Cyber Security Enhancements	7,175	1,432
32	WebOps Replacements - Year 1 of 3	22,788	3,974
33	Dev/ Staging Refresh	9,539	1,908
34	OMS Regulatory Reports	6,569	1,314
35	Microsoft Exchange Upgrade	4,352	870
36	Electronic Time Sheet Phase 2	24,327	4,865
37	Metersense Upgrade 4.2 to 4.3	499	100
38	FCS Upgrade	985	198
39	Power Plant Assets	189,956	18,996
40	Power Plant Assets	130,023	13,002
41	OMS ABB Purchase	1,015,424	101,542
42	OMS Integration & Implementation	633,462	63,346
43	OMS Osmose Field Survey	229,282	22,928
44	OMS Internal Labor	28,334	2,833
45	Power Plant Asset Upgrade	80,769	8,077
46	Meter Data Management	2,398,484	239,848
47	TESS Replacement	7,593	759
48	FCS Upgrade	10,361	2,320
49	2019 General Software Enhancements	18,921	3,637
50	WebOps Replacement - Year 2 of 3	21,675	4,126
51	Reporting Blanket	35,245	6,680
52	2019 Infrastructure PC & Network	314,152	60,392
53	Regulatory Work Blanket	8,972	2,007
54	GIS Overlay Electronic Inspection	19,040	3,808
55	OMS Upgrade to V9.	4,457	891
56	GIS Enhancements	6,520	1,304
57	Generator Interconnection Database	49,881	9,948
58	2019 Voice System Replacement	383,511	37,630
59	2019 Interface Enhancements	21,083	2,114
60	2019 Customer Facing Enhancements	371,975	37,178
61	303-00/ 1/2 : Intangible Software 5 yr	17,338	3,468
62	E-intake Functionality to GEM	28,776	5,755
63	EE Tracking & Reporting Syst	81,190	16,238
64	MV90xi Upgrade v4.5 to 6.0	15,326	3,065
65	Replace MV-90 Communication Bank Modules	5,172	11,735
66	AMI Command Center Upgrade	37,259	7,452
67	Metersense Upgrade 2020	557	111
68	Reporting Blanket	37,767	7,553
69	Cyber Security Enhancements	36,913	7,383
70	Power Plan Upgrade	111,894	22,379
71	2020 IT Infrastructure Budget	492,478	98,496
72	2020 Customer Facing Enhancements	232,051	46,410
73	2020 Interface Enhancements	50,185	10,037
74	2020 General Software Enhancements	1,488	298
75	2017 CIS Amortization	9,756,286	512,318
76	Total UES Amortization Expense for Account 303	\$ 17,833,591	\$ 1,585,103

UNITIL ENERGY SYSTEMS, INC.  
TEST YEAR USC AMORTIZATION EXPENSE  
12 MONTHS ENDED DECEMBER 31, 2020

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		(1)	(2)	(3)	(4)
LINE NO.	DESCRIPTION	BEGINNING UNAMORTIZED BALANCE 2020 <sup>(1)</sup>	2020 AMORTIZATION EXPENSE	ENDING UNAMORTIZED BALANCE 2020	
1	Financial Report Writer Replacement	\$ 7,350	\$ 7,350	\$ -	
2	Flexi Upgrade	10,798	5,890	4,908	
3	Dataview Upgrade	4,553	2,602	1,951	
4	Powertax Repair Module	75,709	30,284	45,425	
5	USC Time & Billing Enhancements	32,287	12,108	20,179	
6	PC & Furniture 032018	310,955	143,517	167,437	
7	Software - Facilities WO&PM Tracking/Reporting	17,052	4,991	12,061	
8	PC & Furniture 082018	312,111	120,817	191,294	
9	Upgrade C-Series Bottomline Check Printing	5,597	1,492	4,104	
10	ADP Vacation Enhancements	2,635	687	1,948	
11	General Infrastructure Enhancements	9,113	2,377	6,736	
12	2018 Flexi upgrade	16,530	4,048	12,482	
13	Flexi Report Writer	6,370	1,560	4,810	
14	USC Furn & Equipment - Hamp&CSC	4,263	867	3,396	
15	IT Control Testing Automation	320,088	21,339	298,749	
16	HR & Payroll Record Scanning	26,917	1,794	25,122	
17	USC 2019 Furniture & PC's	310,711	20,714	289,996	
18	Total	\$ 1,473,037	\$ 382,438	\$ 1,090,598	
19	UES Apportionment		27.50%		
20	Total Billed to Unitil Energy Systems		105,171		

**NOTES**

(1) Projects Installed in 2020 Reflect Total Project Cost

**UNITIL ENERGY SYSTEMS, INC.**  
**RATE YEAR USC AMORTIZATION EXPENSE**

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		(1)	(2)	(3)
LINE NO.	DESCRIPTION	TOTAL PROJECT COST	ANNUAL AMORTIZATION EXPENSE	
1	Powertax Repair Module	151,418	30,284	
2	USC Time & Billing Enhancements	58,522	12,108	
3	PC & Furniture 032018	574,070	143,517	
4	Software - Facilities WO&PM Tracking/Reporting	24,953	4,991	
5	PC & Furniture 082018	483,268	120,817	
6	Upgrade C-Series Bottomline Check Printing	7,462	1,492	
7	ADP Vacation Enhancements	3,437	115	
8	General Infrastructure Enhancements	11,887	396	
9	2018 Flexi upgrade	20,241	4,048	
10	Flexi Report Writer	7,800	1,560	
11	USC Furn & Equipment - Hamp&CSC	4,335	867	
12	IT Control Testing Automation	320,088	64,018	
13	HR & Payroll Record Scanning	26,917	5,383	
14	USC 2019 Furniture & PC's	310,711	62,142	
15	SOX Modernization	75,517	15,103	
16	USC Time & Billing Upgrade/Replacement	587,704	117,541	
17	2020 Flexi Upgrade	25,531	5,106	
18	Total	<u>\$ 2,693,861</u>	<u>\$ 589,489</u>	
19	UES Apportionment		27.50%	
20	Total Billed to Unitil Energy Systems		<u>162,109</u>	