



## ATRIUM ECONOMICS

### John D. Taylor

Managing Partner, Atrium Economics LLC

Mr. Taylor is a utility pricing expert with experience developing cost of service studies for both electric and gas utilities and transmission companies. He has deep experience with developing residential and commercial rates, analyzing midstream transportation and storage capacity resources, and assessing the relationship between price signals and the adoption of distributed generation assets. He has filed testimony as an expert witness on class cost of service studies for both electric and natural gas utilities, return on equity, and on the appropriate use of statistical analysis during audit testing. Mr. Taylor has supported projects involving financial analysis, regulatory support and strategy, market assessment, litigation support, and organizational and operations reviews. He has an expert knowledge of cost allocation principles for utility cost of service studies and for affiliate transaction and service agreements. Mr. Taylor's work often involves providing support for regulatory proceedings by conducting various studies and analyses related to revenue requirements, affiliate transactions, class cost of service, and cash working capital studies. He has also been involved in the sale of generating assets as sell side advisors, supporting due diligence efforts, financial analyses, and regulatory approval processes.

#### **EXPERT WITNESS TESTIMONY PRESENTATION**

##### United States

- Delaware Public Service Commission
- Federal Energy Regulatory Commission
- Illinois Commerce Commission
- Indiana Utility Regulatory Commission
- Maine Public Service Commission
- Massachusetts Department of Public Utilities
- Minnesota Public Utilities Commission
- North Carolina Utilities Commission
- Oregon Public Utility Commission
- Pennsylvania Public Utility Commission
- Washington Utilities and Transportation Commission

##### Canada

- Alberta Utilities Commission
- British Columbia Utilities Commission
- Ontario Energy Board

#### **EDUCATION**

M.A., Economics, American University

B.A., Environmental Economics, University of North Carolina at Asheville

#### **YEARS EXPERIENCE**

15

#### **PROFESSIONAL ASSOCIATIONS**

#### **RELEVANT EXPERTISE**

Utility Costing and Pricing, Expert Witness Testimony, Transaction Facilitation, Revenue Requirements, Statistics, Valuation, Market Studies, Rate Case Management, New Product and Service Development, Strategic Business Planning, Marketing and Sales

## **REPRESENTATIVE EXPERIENCE**

### Rate Design and Regulatory Proceedings

Mr. Taylor has worked on dozens of electric and gas rate cases including the development of revenue requirements, class cost of service studies, and projects related to utility rate design issues. Specifically, he has:

- Lead expert and witness for class costs of service studies across North America and worked on dozens of other class cost of service and rate design projects for other lead witnesses.
- Developed WNA mechanism for a gas utility including back casting results and supporting expert witness testimony and exhibits.
- Developed revenue requirement model to comply with a new performance based formula ratemaking process for a Midwest electric utility.
- Supported the developed of time of use rates, demand rates, economic development rates, load retention rates, and line extension policies.
- Analyzed and summarized allocation methodology for a shared services company.
- Assessed the reasonableness of costs through various benchmarking efforts.
- Led the effort to collect and organize plant addition documentation for six Midwest utilities associated with the state commission's audit of rate base.
- Supported lead-lag analyses and testimonies.
- Analyzed customer usage profiles to support reclassification of rate classes for a gas utility.
- Helped conduct a marginal cost analysis to support rate design testimony.

### Litigation Support and Expert Testimony

Mr. Taylor has testified in several cases on class cost of service studies and statistical audit methods. He has also supported numerous other expert testimonies. Specifically, he has:

- Filed testimony as an expert witness on allocated class cost of service studies for both electric and gas utilities.
- Filed testimony as an expert witness on the application of statistical analysis.
- Filed testimony before FERC on the rate of return for an Annual Transmission Revenue Requirement and participated in FERC settlement conferences.
- Part of two person expert witness team that provided an expert report to the British Columbia Utilities Commission on the use of facilities for transportation balancing services for Fortis BC.
- Part of two person expert witness team that provided an expert report on affiliate transactions and capitalized overhead allocations for Hydro One on three separate occasions.
- Sole expert for expert report on affiliate allocations for Alectra utilities, the second largest publicly owned electric utility in North America. This was conducted shortly after the merger of four distinct utilities.

- Sole expert for expert report on the allocation of overhead costs between transmission and distribution businesses for EPCOR.

### Transaction Experience

Mr. Taylor has been involved with several generating asset transactions supporting both buy side and sell side analysis and due diligence. His work has included:

- Worked as buy side advisor for a large water utility in the mid-Atlantic region including supporting the review of revenue requirements, rates, and forecasts.
- Helped facilitate and manage processes for a nuclear plant auction by processing Q&A, collecting relevant documentation and managing the virtual data room for auction participants.
- Supported the auction process for steam and chilled water distribution and generation assets in the Midwest.
- Supported the development of a financial model to ascertain the net present value of several competing wholesale power purchase agreements and guided the client with a decision matrix for the qualitative aspects of the offers.
- Provided research on comparable transactions, previous mergers and acquisitions, and potential transaction opportunities for several clients.

### Financial Analysis and Market Research

Other financial analysis and market research Mr. Taylor has conducted include:

- Estimated the rate impact and costs associated with moving California energy market to 100% renewable.
- Assessed the consequences of a divestiture on the cost of service model for a New England gas distribution company.
- Developed distributed CNG/LNG market studies for two separate utilities and two separate competitive market participants.
- Modeling alternative mechanisms for the allocation of overhead costs to a nuclear plant.

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UNITIL ENERGY SYSTEMS, INC.  
12 Months Ended December 31, 2020  
Rate Design

Row	Description	Units	Actual Bill Units	Actual Rates & Revenue		Proposed Bill Units	Proposed Rates & Revenue		Difference Over Actual		Rounding	
				Rate	Revenue		Rate	Revenue	Amount	%	Amount	%
A	B	C	D	E	F	G	H	I	J	K	L	M
1	<b>Domestic</b>											
2	Customer Charge		815,280	\$16.22	\$ 13,223,834	815,280	\$21.07	\$ 17,179,309	\$ 3,955,476	29.9%		
3	Energy Charge	kWh	515,968,592	\$ 0.03558	\$ 18,358,163	515,968,592	\$ 0.04622	\$ 23,848,068	\$ 5,489,906	29.9%		
4	Subtotal: Domestic				\$ 31,581,996			\$ 41,027,378				
5	<b>TOU-D</b>											
6	Customer Charge						\$21.07					
7	Distribution Charge											
8	Summer											
9	Peak						\$ 0.04622					
10	Mid-Peak						\$ 0.04622					
11	Off-Peak						\$ 0.04622					
12	Winter											
13	Peak						\$ 0.04622					
14	Mid-Peak						\$ 0.04622					
15	Off-Peak						\$ 0.04622					
16	Subtotal: Domestic - TOU											
17	Total Schedule D				\$ 31,581,996			\$ 41,027,378	\$ 9,445,382	29.9%	\$ (824)	-0.002%
18	<b>G2 - kWh</b>											
19	Customer Charge		4,543	\$18.38	\$ 83,500	4,543	\$20.28	\$ 92,124	\$ 8,624	10.3%		
20	Energy Charge	kWh	438,744	\$ 0.00883	\$ 3,874	438,744	\$ 0.00974	\$ 4,273	\$ 399	10.3%		
21	Subtotal G2 kWh				\$ 87,374			\$ 96,398	\$ 9,023	10.3%		
22	<b>G2 QR WH /SH</b>											
23	Customer Charge		3,089	\$9.73	\$ 30,056	3,089	\$10.73	\$ 33,160	\$ 3,104	10.3%		
24	Energy Charge	kWh	4,483,579	\$ 0.03204	\$ 143,654	4,483,579	\$ 0.03535	\$ 158,495	\$ 14,841	10.3%		
25	Subtotal G2 QR WH/SH		7,632		\$ 173,710	7,632		\$ 191,655	\$ 17,945	10.3%		
26	<b>G2 Demand</b>											
27	Customer Charge		126,712	\$ 29.19	\$ 3,698,724	126,712	\$ 32.20	\$ 4,080,735	\$ 382,012	10.3%		
28	Demand Charge	kW	1,234,532	\$ 10.51	\$ 12,974,933	1,234,532	\$ 11.59	\$ 14,308,228	\$ 1,333,295	10.3%		
29	Transformer Ownership credit	kW	36,843	\$ (0.50)	\$ (18,421)	36,843	\$ (0.50)	\$ (18,421)	\$ -	0.0%		
30	Energy Charge	kWh	312,134,498	\$ -	\$ -	312,134,498	\$ -	\$ -	\$ -	0.0%		
31	Subtotal G2 Demand				\$ 16,655,236			\$ 18,370,542	\$ 1,715,306	10.3%		
32	Total G2				\$ 16,916,320			\$ 18,658,595	\$ 1,742,275	10.3%	\$ (4,881)	-0.026%

UNITIL ENERGY SYSTEMS, INC.  
12 Months Ended December 31, 2020  
Rate Design

Row	Description	Units	Actual Bill Units	Actual Rates & Revenue		Proposed Bill Units	Proposed Rates & Revenue		Difference Over Actual		Rounding	
				Rate	Revenue		Rate	Revenue	Amount	%	Amount	%
A	B	C	D	E	F	G	H	I	J	K	L	M
33	<b>G1</b>											
34	Customer Charge											
35	Secondary		1,615	\$ 162.18	\$ 261,921	1,615	\$ 178.93	\$ 288,972	\$ 27,052	10.3%		
36	Primary		395	\$ 86.49	\$ 34,164	395	\$ 95.42	\$ 37,692	\$ 3,528	10.3%		
37	Subtotal: Customer Charge				\$ 296,084			\$ 326,664	\$ 30,580	10.3%		
38	Demand Charge	kVA	1,000,283	\$ 7.60	\$ 7,602,153	1,000,283	\$ 8.37	\$ 8,372,371	\$ 770,218	10.1%		
39	Energy Charge	kWh	319,767,459	\$ -	\$ -	319,767,459	\$ -	\$ -	\$ -	0.0%		
40	Transformer Ownership credit	kVA	323,647	\$ (0.50)	\$ (161,824)	323,647	\$ (0.50)	\$ (161,824)	\$ -	0.0%		
41	Total G1				\$ 7,736,414			\$ 8,537,212	\$ 800,798	10.4%	\$ 1,766	0.021%
42	<b>TOU-EV-D</b>											
43	Customer Charge						\$ 5.26					
44	Distribution Charge											
45	Summer											
46	Peak	kWh					\$ 0.08797					
47	Off-Peak	kWh					\$ 0.02941					
48	Mid-Peak	kWh					\$ 0.04941					
49	Winter											
50	Peak	kWh					\$ 0.09213					
51	Off-Peak	kWh					\$ 0.02965					
52	Mid-Peak	kWh					\$ 0.04965					
53	Total EV TOU - Domestic						\$ -		\$ -	0.0%		
54	<b>TOU-EV-G-2</b>											
55	Customer Charge						\$ 32.20					
56	Distribution Charge											
57	Summer											
58	Peak	kWh					\$ -					
59	Off-Peak	kWh					\$ -					
60	Mid-Peak	kWh					\$ -					
61	Winter											
62	Peak	kWh					\$ -					
63	Off-Peak	kWh					\$ -					
64	Mid-Peak	kWh					\$ -					
65	Demand Charge	kW					\$ 11.59					
66	Transformer Ownership credit	kW					\$ (0.50)					
67	Total EV TOU - G2						\$ -		\$ -	0.0%		
68	<b>TOU-EV-G-1</b>											
69	Customer Charge											

UNITIL ENERGY SYSTEMS, INC.  
12 Months Ended December 31, 2020  
Rate Design

Row	Description	Units	Actual Bill Units	Actual Rates & Revenue		Proposed Bill Units	Proposed Rates & Revenue		Difference Over Actual		Rounding				
				Rate	Revenue		Rate	Revenue	Amount	%	Amount	%			
A	B	C	D	E	F	G	H	I	J	K	L	M			
70	Secondary						\$	178.93							
71	Primary						\$	95.42							
72	Distribution Charge														
73	Summer														
74	Peak	kWh					\$	-							
75	Off-Peak	kWh					\$	-							
76	Mid-Peak	kWh					\$	-							
77	Winter														
78	Peak	kWh					\$	-							
79	Off-Peak	kWh					\$	-							
80	Mid-Peak	kWh					\$	-							
81	Demand Charge	kVA					\$	8.37							
82	Transformer Ownership credit	kVA					\$	(0.50)							
83	Total EV TOU - G1						\$	-	\$	-	0.0%				
84	OL														
85	100W Mercury Vapor Street		13,919	\$	13.28	\$	184,842	13,919	\$	13.73	\$	191,071	\$	6,230	3.4%
86	175W Mercury Vapor Street		793	\$	15.75	\$	12,493	793	\$	15.73	\$	12,481	\$	(12)	-0.1%
87	250W Mercury Vapor Street		771	\$	17.85	\$	13,754	771	\$	17.25	\$	13,294	\$	(459)	-3.3%
88	400W Mercury Vapor Street		1,298	\$	21.25	\$	27,584	1,298	\$	17.25	\$	22,397	\$	(5,187)	-18.8%
89	1000W Mercury Vapor Street		24	\$	42.19	\$	1,013	24	\$	24.78	\$	595	\$	(418)	-41.3%
90	250W Mercury Vapor Flood		665	\$	19.02	\$	12,652	665	\$	18.25	\$	12,143	\$	(509)	-4.0%
91	400W Mercury Vapor Flood		901	\$	22.75	\$	20,505	901	\$	21.57	\$	19,445	\$	(1,060)	-5.2%
92	1000W Mercury Vapor Flood		144	\$	37.70	\$	5,429	144	\$	25.29	\$	3,641	\$	(1,787)	-32.9%
93	100W Mercury Vapor Power Bracket		3,894	\$	13.41	\$	52,213	3,894	\$	13.44	\$	52,339	\$	126	0.2%
94	175W Mercury Vapor Power Bracket		557	\$	14.87	\$	8,277	557	\$	14.65	\$	8,154	\$	(123)	-1.5%
95	50W Sodium Vapor Street		35,908	\$	13.52	\$	485,479	35,908	\$	13.73	\$	492,933	\$	7,453	1.5%
96	100W Sodium Vapor Street		1,309	\$	15.22	\$	19,930	1,309	\$	15.73	\$	20,604	\$	674	3.4%
97	150W Sodium Vapor Street		3,906	\$	15.28	\$	59,691	3,906	\$	17.25	\$	67,402	\$	7,711	12.9%
98	250W Sodium Vapor Street		12,893	\$	19.14	\$	246,776	12,893	\$	19.53	\$	251,813	\$	5,037	2.0%
99	400W Sodium Vapor Street		2,711	\$	24.13	\$	65,421	2,711	\$	24.78	\$	67,195	\$	1,774	2.7%
100	1000W Sodium Vapor Street		1,606	\$	41.66	\$	66,885	1,606	\$	42.51	\$	68,250	\$	1,365	2.0%
101	150W Sodium Vapor Flood		2,690	\$	17.61	\$	47,379	2,690	\$	18.25	\$	49,114	\$	1,734	3.7%
102	250W Sodium Vapor Flood		3,790	\$	20.76	\$	78,671	3,790	\$	21.57	\$	81,756	\$	3,084	3.9%
103	400W Sodium Vapor Flood		4,857	\$	23.58	\$	114,525	4,857	\$	25.29	\$	122,818	\$	8,293	7.2%
104	1000W Sodium Vapor Flood		2,467	\$	42.03	\$	103,675	2,467	\$	42.89	\$	105,791	\$	2,116	2.0%
105	50W Sodium Vapor Power Bracket		1,387	\$	12.51	\$	17,355	1,387	\$	13.44	\$	18,649	\$	1,294	7.5%
106	100W Sodium Vapor Power Bracket		904	\$	14.04	\$	12,691	904	\$	14.65	\$	13,242	\$	551	4.3%
107	175W Metal Halide Street		1	\$	19.91	\$	20	1	\$	17.25	\$	17	\$	(3)	-13.3%
108	250W Metal Halide Street		0	\$	21.65	\$	-	0		Discontinued					
109	400W Metal Halide Street		0	\$	22.45	\$	-	0		Discontinued					
110	175W Metal Halide Flood		0	\$	23.00	\$	-	0		Discontinued					
111	250W Metal Halide Flood		0	\$	24.83	\$	-	0		Discontinued					
112	400W Metal Halide Flood		0	\$	24.88	\$	-	0		Discontinued					
113	175W Metal Halide Power Bracket		0	\$	18.63	\$	-	0		Discontinued					
114	250W Metal Halide Power Bracket		0	\$	19.81	\$	-	0		Discontinued					
115	400W Metal Halide Power Bracket		0	\$	21.17	\$	-	0		Discontinued					
116	1000W Metal Halide Flood (Contracts)		535	\$	32.22	\$	17,222	535	\$	25.29	\$	13,516	\$	(3,705)	-21.5%

UNITIL ENERGY SYSTEMS, INC.  
12 Months Ended December 31, 2020  
Rate Design

Row	Description	Units	Actual Bill Units	Actual Rates & Revenue		Proposed Bill Units	Proposed Rates & Revenue		Difference Over Actual		Rounding	
				Rate	Revenue		Rate	Revenue	Amount	%	Amount	%
A	B	C	D	E	F	G	H	I	J	K	L	M
117	<b>LED</b>											
118	42W 3780 K LED Area Light Fixture		0	\$	13.16	\$	-	0	Discontinued			
119	57W 5130K LED Area Light Fixture		0	\$	13.21	\$	-	0	Discontinued			
120	25W 2500K LED Cobra Head Fixture		0	\$	13.11	\$	-	0	Discontinued			
121	88W 8800K LED Cobra Head Fixture		0	\$	13.30	\$	-	0	Discontinued			
122	108W 10800K LED Cobra Head Fixture		0	\$	13.36	\$	-	0	Discontinued			
123	193W 19300K LED Cobra Head Fixture		0	\$	13.62	\$	-	0	Discontinued			
124	123W 11070K LED Flood Light Fixture		0	\$	13.41	\$	-	0	Discontinued			
125	227W 20340K LED Flood Light Fixture		0	\$	13.62	\$	-	0	Discontinued			
126	365W 32850K LED Flood Light Fixture		0	\$	13.93	\$	-	0	Discontinued			
127	<b>Company Paid LED Fixture</b>											
128	STREETLIGHT LED 30W						\$	13.73				
129	STREETLIGHT LED 50W						\$	15.73				
130	STREETLIGHT LED 100W						\$	17.25				
131	STREETLIGHT LED 120W						\$	19.53				
132	STREETLIGHT LED 140W						\$	24.78				
133	STREETLIGHT LED 260W						\$	42.51				
134	YARDLIGHT LED 35W						\$	13.44				
135	YARDLIGHT LED 47W						\$	14.65				
136	FLOODLIGHT LED 70W						\$	18.25				
137	FLOODLIGHT LED 90W						\$	21.57				
138	FLOODLIGHT LED 110W						\$	25.29				
139	FLOODLIGHT LED 370W						\$	42.89				
140	<b>Customer Paid LED Fixture</b>											
141	STREETLIGHT LED 30W						\$	9.71				
142	STREETLIGHT LED 50W						\$	11.92				
143	STREETLIGHT LED 100W						\$	12.48				
144	STREETLIGHT LED 120W						\$	14.76				
145	STREETLIGHT LED 140W						\$	17.83				
146	STREETLIGHT LED 260W						\$	33.56				
147	YARDLIGHT LED 35W						\$	7.00				
148	YARDLIGHT LED 47W						\$	8.21				
149	FLOODLIGHT LED 70W						\$	11.24				
150	FLOODLIGHT LED 90W						\$	14.56				
151	FLOODLIGHT LED 110W						\$	17.36				
152	FLOODLIGHT LED 370W						\$	27.00				
153	Special Agreement Customer Installed LED		10,671	per contracts	\$	140,376	10,671	per contracts	\$	106,541	\$	(33,835) -24.1%
154	Pole Charges				\$	8,639		\$	8,639	\$	- 0.0%	
155	<b>Total OL</b>				\$	1,823,495		\$	1,823,840	\$	345 0.0%	\$ 345 0.019%
156	<b>Total System</b>				\$	58,058,225		\$	70,047,024	\$	11,988,799 20.6%	\$ (3,594) -0.005%

Unitil Lighting Rate Analysis  
 HID to LED Lighting Fixture Conversion Table with Rates

Line No.	A		B	C	D	E		F
	Current Outdoor Lighting Tariff Offering		Annual Bills	Present Rates	Fixture Status	Equivalent Active Legacy Fixture	Replacement LED Fixture	
1	100W	Mercury Vapor Street	13,919	\$13.28	Discontinued	50W Sodium Vapor Street	STREETLIGHT LED 30W	
2	175W	Mercury Vapor Street	793	\$15.75	Discontinued	100W Sodium Vapor Street	STREETLIGHT LED 50W	
3	250W	Mercury Vapor Street	771	\$17.85	Discontinued	150W Sodium Vapor Street	STREETLIGHT LED 100W	
4	400W	Mercury Vapor Street	1,298	\$21.25	Discontinued	150W Sodium Vapor Street	STREETLIGHT LED 100W	
5	1000W	Mercury Vapor Street	24	\$42.19	Discontinued	400W Sodium Vapor Street	STREETLIGHT LED 140W	
6	250W	Mercury Vapor Flood	665	\$19.02	Discontinued	150W Sodium Vapor Flood	FLOODLIGHT LED 70W	
7	400W	Mercury Vapor Flood	901	\$22.75	Discontinued	250W Sodium Vapor Flood	FLOODLIGHT LED 90W	
8	1000W	Mercury Vapor Flood	144	\$37.70	Discontinued	400W Sodium Vapor Flood	FLOODLIGHT LED 110W	
9	100W	Mercury Vapor Power Bracket	3,894	\$13.41	Discontinued	50W Sodium Vapor Power Bracket	YARDLIGHT LED 35W	
10	175W	Mercury Vapor Power Bracket	557	\$14.87	Discontinued	100W Sodium Vapor Power Bracket	YARDLIGHT LED 47W	
11	50W	Sodium Vapor Street	35,908	\$13.52	Active	50W Sodium Vapor Street	STREETLIGHT LED 30W	
12	100W	Sodium Vapor Street	1,309	\$15.22	Active	100W Sodium Vapor Street	STREETLIGHT LED 50W	
13	150W	Sodium Vapor Street	3,906	\$15.28	Active	150W Sodium Vapor Street	STREETLIGHT LED 100W	
14	250W	Sodium Vapor Street	12,893	\$19.14	Active	250W Sodium Vapor Street	STREETLIGHT LED 120W	
15	400W	Sodium Vapor Street	2,711	\$24.13	Active	400W Sodium Vapor Street	STREETLIGHT LED 140W	
16	1000W	Sodium Vapor Street	1,606	\$41.66	Discontinued	1000W Sodium Vapor Street	STREETLIGHT LED 260W	
17	150W	Sodium Vapor Flood	2,690	\$17.61	Active	150W Sodium Vapor Flood	FLOODLIGHT LED 70W	
18	250W	Sodium Vapor Flood	3,790	\$20.76	Active	250W Sodium Vapor Flood	FLOODLIGHT LED 90W	
19	400W	Sodium Vapor Flood	4,857	\$23.58	Active	400W Sodium Vapor Flood	FLOODLIGHT LED 110W	
20	1000W	Sodium Vapor Flood	2,467	\$42.03	Active	1000W Sodium Vapor Flood	FLOODLIGHT LED 370W	
21	50W	Sodium Vapor Power Bracket	1,387	\$12.51	Active	50W Sodium Vapor Power Bracket	YARDLIGHT LED 35W	
22	100W	Sodium Vapor Power Bracket	904	\$14.04	Active	100W Sodium Vapor Power Bracket	YARDLIGHT LED 47W	
23	175W	Metal Halide Street	1	\$19.91	Discontinued	150W Sodium Vapor Street	STREETLIGHT LED 100W	

**Unitil Lighting Rate Analysis**  
**HID to LED Lighting Fixture Conversion Table with Rates**

Line No.	A		B	G	H	I	J	K
	Current Outdoor Lighting Tariff Offering		Annual Bills	LED Fixture Cost (per month)	Current Revenue	Proposed Revenue	Proposed Rate Company Installed	Proposed Rate Customer Installed
1	100W	Mercury Vapor Street	13,919	\$8.02	\$184,841.76	\$191,071.30	\$13.73	\$9.71
2	175W	Mercury Vapor Street	793	\$7.97	\$12,493.30	\$12,481.16	\$15.73	\$11.92
3	250W	Mercury Vapor Street	771	\$9.30	\$13,753.53	\$13,294.33	\$17.25	\$12.48
4	400W	Mercury Vapor Street	1,298	\$9.30	\$27,583.55	\$22,396.58	\$17.25	\$12.48
5	1000W	Mercury Vapor Street	24	\$11.78	\$1,012.56	\$594.82	\$24.78	\$17.83
6	250W	Mercury Vapor Flood	665	\$11.31	\$12,651.82	\$12,142.73	\$18.25	\$11.24
7	400W	Mercury Vapor Flood	901	\$11.46	\$20,505.06	\$19,445.04	\$21.57	\$14.56
8	1000W	Mercury Vapor Flood	144	\$12.53	\$5,428.80	\$3,641.39	\$25.29	\$17.36
9	100W	Mercury Vapor Power Bracket	3,894	\$10.48	\$52,212.69	\$52,339.12	\$13.44	\$7.00
10	175W	Mercury Vapor Power Bracket	557	\$10.57	\$8,276.65	\$8,153.84	\$14.65	\$8.21
11	50W	Sodium Vapor Street	35,908	\$8.02	\$485,479.46	\$492,932.68	\$13.73	\$9.71
12	100W	Sodium Vapor Street	1,309	\$7.97	\$19,929.85	\$20,603.82	\$15.73	\$11.92
13	150W	Sodium Vapor Street	3,906	\$9.30	\$59,690.64	\$67,402.08	\$17.25	\$12.48
14	250W	Sodium Vapor Street	12,893	\$9.45	\$246,776.06	\$251,813.31	\$19.53	\$14.76
15	400W	Sodium Vapor Street	2,711	\$11.78	\$65,421.44	\$67,195.25	\$24.78	\$17.83
16	1000W	Sodium Vapor Street	1,606	\$14.67	\$66,885.13	\$68,250.41	\$42.51	\$33.56
17	150W	Sodium Vapor Flood	2,690	\$11.31	\$47,379.38	\$49,113.84	\$18.25	\$11.24
18	250W	Sodium Vapor Flood	3,790	\$11.46	\$78,671.40	\$81,755.83	\$21.57	\$14.56
19	400W	Sodium Vapor Flood	4,857	\$12.53	\$114,524.98	\$122,817.88	\$25.29	\$17.36
20	1000W	Sodium Vapor Flood	2,467	\$22.44	\$103,674.51	\$105,790.74	\$42.89	\$27.00
21	50W	Sodium Vapor Power Bracket	1,387	\$10.48	\$17,354.97	\$18,648.58	\$13.44	\$7.00
22	100W	Sodium Vapor Power Bracket	904	\$10.57	\$12,690.85	\$13,241.65	\$14.65	\$8.21
23	175W	Metal Halide Street	1	\$9.30	\$19.91	\$17.25	\$17.25	\$12.48

Unitil Lighting Rate Analysis  
 HID to LED Lighting Fixture Conversion Table with Rates

A		B	C	D	E		F
Line No.	Current Outdoor Lighting Tariff Offering	Annual Bills	Present Rates	Fixture Status	Equivalent Active Legacy Fixture		Replacement LED Fixture
24	250W Metal Halide Street	0	\$21.65	Discontinued	N/A		
25	400W Metal Halide Street	0	\$22.45	Discontinued	N/A		
26	175W Metal Halide Flood	0	\$23.00	Discontinued	N/A		
27	250W Metal Halide Flood	0	\$24.83	Discontinued	N/A		
28	400W Metal Halide Flood	0	\$24.88	Discontinued	N/A		
29	175W Metal Halide Power Bracket	0	\$18.63	Discontinued	N/A		
30	250W Metal Halide Power Bracket	0	\$19.81	Discontinued	N/A		
31	400W Metal Halide Power Bracket	0	\$21.17	Discontinued	N/A		
32	1000W Metal Halide Flood (Contracts)	535	\$32.22	Active	400W Sodium Vapor Flood	FLOODLIGHT LED 110W	
33	42W 3780 K LED Area Light Fixture	0	\$13.16	Discontinued	N/A		
34	57W 5130K LED Area Light Fixture	0	\$13.21	Discontinued	N/A		
35	25W 2500K LED Cobra Head Fixture	0	\$13.11	Discontinued	N/A		
36	88W 8800K LED Cobra Head Fixture	0	\$13.30	Discontinued	N/A		
37	108W 10800K LED Cobra Head Fixture	0	\$13.36	Discontinued	N/A		
38	193W 19300K LED Cobra Head Fixture	0	\$13.62	Discontinued	N/A		
39	123W 11070K LED Flood Light Fixture	0	\$13.41	Discontinued	N/A		
40	227W 20340K LED Flood Light Fixture	0	\$13.62	Discontinued	N/A		
41	365W 32850K LED Flood Light Fixture	0	\$13.93	Discontinued	N/A		
42	Special Agreement Customer Installed LED	10,671	\$13.19	Active			
43		108,600					

**Unitil Lighting Rate Analysis**  
**HID to LED Lighting Fixture Conversion Table with Rates**

Line No.	A		B	G	H	I	J	K
	Current Outdoor Lighting Tariff Offering		Annual Bills	LED Fixture Cost (per month)	Current Revenue	Proposed Revenue	Proposed Rate Company Installed	Proposed Rate Customer Installed
24	250W	Metal Halide Street	0		\$0.00	\$0.00		
25	400W	Metal Halide Street	0		\$0.00	\$0.00		
26	175W	Metal Halide Flood	0		\$0.00	\$0.00		
27	250W	Metal Halide Flood	0		\$0.00	\$0.00		
28	400W	Metal Halide Flood	0		\$0.00	\$0.00		
29	175W	Metal Halide Power Bracket	0		\$0.00	\$0.00		
30	250W	Metal Halide Power Bracket	0		\$0.00	\$0.00		
31	400W	Metal Halide Power Bracket	0		\$0.00	\$0.00		
32	1000W	Metal Halide Flood (Contracts)	535	\$12.53	\$17,221.59	\$13,516.15	\$25.29	\$17.36
33	42W	3780 K LED Area Light Fixture	0		\$0.00	\$0.00		
34	57W	5130K LED Area Light Fixture	0		\$0.00	\$0.00		
35	25W	2500K LED Cobra Head Fixture	0		\$0.00	\$0.00		
36	88W	8800K LED Cobra Head Fixture	0		\$0.00	\$0.00		
37	108W	10800K LED Cobra Head Fixture	0		\$0.00	\$0.00		
38	193W	19300K LED Cobra Head Fixture	0		\$0.00	\$0.00		
39	123W	11070K LED Flood Light Fixture	0		\$0.00	\$0.00		
40	227W	20340K LED Flood Light Fixture	0		\$0.00	\$0.00		
41	365W	32850K LED Flood Light Fixture	0		\$0.00	\$0.00		
42	Special Agreement Customer Installed LED		10,671		\$140,720.82	\$106,540.92		
43			108,600		\$1,815,200.71	\$1,815,200.71		

Unitil Lighting Rate Analysis  
 HID to LED Lighting Fixture Conversion Table with Rates

	A	B	G	H	I	J	K	
			LED Fixture Cost			Proposed Rate	Proposed Rate	
Line No.	Current Outdoor Lighting Tariff Offering	Annual Bills	(per month)	Current Revenue	Proposed Revenue	Company Installed	Customer Installed	
44								
45								
			LED Fixture Cost			Proposed Rate	Proposed Rate	Discount on
46	Current Outdoor Lighting Tariff Offering	Annual Bills	(per month)	Current Revenue	Proposed Revenue	Company Installed	Customer Installed	Customer Installed
47	STREETLIGHT LED 30W	49,827	\$8.02	\$ 670,321	\$ 684,004	\$ 13.73	\$ 9.71	\$ 4.02
48	STREETLIGHT LED 50W	2,103	\$7.97	\$ 32,423	\$ 33,085	\$ 15.73	\$ 11.92	\$ 3.82
49	STREETLIGHT LED 100W	5,976	\$9.30	\$ 101,048	\$ 103,110	\$ 17.25	\$ 12.48	\$ 4.77
50	STREETLIGHT LED 120W	12,893	\$9.45	\$ 246,776	\$ 251,813	\$ 19.53	\$ 14.76	\$ 4.77
51	STREETLIGHT LED 140W	2,735	\$11.78	\$ 66,434	\$ 67,790	\$ 24.78	\$ 17.83	\$ 6.96
52	STREETLIGHT LED 260W	1,606	\$14.67	\$ 66,885	\$ 68,250	\$ 42.51	\$ 33.56	\$ 8.95
53	YARDLIGHT LED 35W	5,281	\$10.48	\$ 69,568	\$ 70,988	\$ 13.44	\$ 7.00	\$ 6.44
54	YARDLIGHT LED 47W	1,461	\$10.57	\$ 20,968	\$ 21,395	\$ 14.65	\$ 8.21	\$ 6.44
55	FLOODLIGHT LED 70W	3,356	\$11.31	\$ 60,031	\$ 61,257	\$ 18.25	\$ 11.24	\$ 7.01
56	FLOODLIGHT LED 90W	4,691	\$11.46	\$ 99,176	\$ 101,201	\$ 21.57	\$ 14.56	\$ 7.01
57	FLOODLIGHT LED 110W	5,535	\$12.53	\$ 137,175	\$ 139,975	\$ 25.29	\$ 17.36	\$ 7.93
58	FLOODLIGHT LED 370W	2,467	\$22.44	\$ 103,675	\$ 105,791	\$ 42.89	\$ 27.00	\$ 15.89
59	Special Agreement Customer Installed LED	10,671		\$ 140,721	\$ 106,541		\$ -	\$ -
60		108,600		\$ 1,815,201	\$ 1,815,201			
61								

Unitil Lighting Rate Analysis  
 Cost Based Analysis of HID and LED Lighting Fixtures

A		B	C	D	E	F	G
Line No.	Description	Watts	Installed Cost \$2021	Demand Costs B x Demand Cost/1000	Customer Costs Customer Component*12	Annual Distribution Revenue Requirement D+E	Annual Fixture Carrying Charge C x ECCR
1	Current HID Lighting Stock						
2	FLOODLIGHT 150W HPS	150	\$398.08	\$13.47	\$45.31	\$58.78	\$70.45
3	FLOODLIGHT 250W HPS	250	\$434.99	\$22.45	\$45.31	\$67.76	\$76.98
4	FLOODLIGHT 400W HPS	400	\$459.15	\$35.91	\$45.31	\$81.22	\$81.26
5	FLOODLIGHT 1000W HPS	1000	\$459.66	\$89.78	\$45.31	\$135.09	\$81.35
6	FLOODLIGHT 1000WMV/MH	1000	\$659.61	\$89.78	\$45.31	\$135.09	\$116.73
7	LUMINAIRE HPS 50	50	\$284.92	\$4.49	\$45.31	\$49.80	\$50.42
8	LUMIN HPS 50W YARD LT	50	\$401.89	\$4.49	\$45.31	\$49.80	\$71.12
9	LUMINAIRE HPS 100	100	\$278.95	\$8.98	\$45.31	\$54.29	\$49.37
10	LUMIN HPS 100 YARD LT	100	\$401.89	\$8.98	\$45.31	\$54.29	\$71.12
11	LUMINAIRE HPS 150	150	\$312.63	\$13.47	\$45.31	\$58.78	\$55.33
12	LUMINAIRE HPS 250	250	\$359.19	\$22.45	\$45.31	\$67.76	\$63.57
13	LUMINAIRE HPS 250 COF	250	\$316.50	\$22.45	\$45.31	\$67.76	\$56.01
14	LUMINAIRE HPS 400	400	\$425.04	\$35.91	\$45.31	\$81.22	\$75.22
15	LUMINAIRE HPS 400 COF	400	\$354.58	\$35.91	\$45.31	\$81.22	\$62.75
16							

**Unitil Lighting Rate Analysis**  
**Cost Based Analysis of HID and LED Lighting Fixtures**

H	I	J	K
Total Annual Cost for Company Installed Light Fixtures	Monthly Cost for Company Installed Light Fixtures	Monthly Cost for Customer Installed Light Fixtures	Installation Discount
F+G	H/12	F/12	I-J
\$129.23	\$10.77		
\$144.74	\$12.06		
\$162.48	\$13.54		
\$216.44	\$18.04		
\$251.83	\$20.99		
\$100.22	\$8.35		
\$120.92	\$10.08		
\$103.66	\$8.64		
\$125.41	\$10.45		
\$114.11	\$9.51		
\$131.32	\$10.94		
\$123.77	\$10.31		
\$156.44	\$13.04		
\$143.98	\$12.00		

Unitil Lighting Rate Analysis  
 Cost Based Analysis of HID and LED Lighting Fixtures

Line No.	Description	A Watts	B Installed Cost \$2021	C Demand Costs B x Demand Cost/1000	D Customer Costs Customer Component*12	E Annual Distribution Revenue Requirement D+E	F Annual Fixture Carrying Charge C x ECCR
37	Replacement LED Lighting Stock						
38	STREETLIGHT LED 30W	30	\$327.51	\$2.69	\$45.31	\$48.00	\$48.22
39	STREETLIGHT LED 50W	50	\$311.24	\$4.49	\$45.31	\$49.80	\$45.83
40	STREETLIGHT LED 100W	100	\$389.14	\$8.98	\$45.31	\$54.29	\$57.30
41	STREETLIGHT LED 120W	120	\$389.14	\$10.77	\$45.31	\$56.08	\$57.30
42	STREETLIGHT LED 140W	140	\$567.05	\$12.57	\$45.31	\$57.88	\$83.49
43	STREETLIGHT LED 260W	260	\$729.62	\$23.34	\$45.31	\$68.65	\$107.43
44	YARDLIGHT LED 35W	35	\$525.00	\$3.14	\$45.31	\$48.45	\$77.30
45	YARDLIGHT LED 47W	47	\$525.00	\$4.22	\$45.31	\$49.53	\$77.30
46	FLOODLIGHT LED 70W	70	\$571.50	\$6.28	\$45.31	\$51.60	\$84.15
47	FLOODLIGHT LED 90W	90	\$571.50	\$8.08	\$45.31	\$53.39	\$84.15
48	FLOODLIGHT LED 110W	110	\$646.37	\$9.88	\$45.31	\$55.19	\$95.17
49	FLOODLIGHT LED 370W	370	\$1,295.26	\$33.22	\$45.31	\$78.53	\$190.71
50							
51							
52	<u>Description</u>		<u>Amount</u>		<u>Source</u>		
53	Demand Component Cost (\$/kW)		\$ 89.78		ACOSS		
54	Customer-Related Revenue Requirement		\$ 1,220,529		ACOSS		
55	Revenue Requirement Associated with Fixtures		\$ 810,466		ACOSS		
56	Total Customer Component w/o Fixtures		\$ 410,063				
57	Number of Fixtures		108,600				
58	Customer Component Cost (\$/fixture)		\$ 3.78				
59	Proposed Revenue to Cost Ratio of Existing Lighting		1.32		Revenue Apportionment		

Unitil Lighting Rate Analysis  
 Cost Based Analysis of HID and LED Lighting Fixtures

H	I	J	K
Total Annual Cost for Company Installed Light Fixtures	Monthly Cost for Company Installed Light Fixtures	Monthly Cost for Customer Installed Light Fixtures	Installation Discount
F+G	H/12	F/12	I-J
\$96.23	\$8.02	\$4.00	\$4.02
\$95.63	\$7.97	\$4.15	\$ 3.82
\$111.59	\$9.30	\$4.52	\$ 4.77
\$113.38	\$9.45	\$4.67	\$ 4.77
\$141.37	\$11.78	\$4.82	\$ 6.96
\$176.08	\$14.67	\$5.72	\$ 8.95
\$125.75	\$10.48	\$4.04	\$ 6.44
\$126.83	\$10.57	\$4.13	\$ 6.44
\$135.74	\$11.31	\$4.30	\$ 7.01
\$137.54	\$11.46	\$4.45	\$ 7.01
\$150.36	\$12.53	\$4.60	\$ 7.93
\$269.24	\$22.44	\$6.54	\$15.89

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**Unitil Energy Systems, Inc.**  
**Typical Bill Impacts as a Result of Proposed Rates**  
**Impact on D Rate Customers**

<u>Range Monthly kWh</u>	<u>Percentage Bills</u>	<u>Average kWh</u>	<u>Total Bill Using Rates Effective 12/1/2020</u>	<u>Total Bill Using Rates Proposed</u>	<u>Total Difference</u>	<u>% Total Difference</u>
0-100	7.6%	38	\$22.71	\$27.87	\$5.17	22.7%
101-200	8.2%	154	\$42.79	\$48.93	\$6.14	14.3%
201-300	10.4%	252	\$59.78	\$66.74	\$6.96	11.6%
301-400	11.2%	351	\$76.89	\$84.67	\$7.78	10.1%
401-500	10.8%	450	\$94.06	\$102.68	\$8.62	9.2%
501-750	21.6%	617	\$122.87	\$132.88	\$10.01	8.1%
750-1,000	13.0%	864	\$165.67	\$177.74	\$12.08	7.3%
1,000-1,500	11.2%	1,201	\$223.98	\$238.87	\$14.90	6.7%
1,501-2,000	3.6%	1,707	\$311.56	\$330.69	\$19.13	6.1%
2,001-3,500	2.0%	2,447	\$439.52	\$464.83	\$25.32	5.8%
3,501-5,000	0.2%	4,021	\$711.82	\$750.30	\$38.48	5.4%
5,000+	0.0%	6,632	\$1,163.39	\$1,223.70	\$60.31	5.2%
600 kWh bill		600	\$120.00	\$129.87	\$9.87	8.2%

**Unitil Energy Systems, Inc.**  
**Rates - Effective 12/1/2020:**

Customer Charge	<b>\$16.22</b>
	<u>All kWh</u>
Distribution Charge	\$0.03558
External Delivery Charge	\$0.03613
Stranded Cost Charge	(\$0.00025)
System Benefits Charge	\$0.00752
Storm Recovery Adjustment Factor	\$0.00084
Fixed Default Service Charge	<u>\$0.09315</u>
<b>TOTAL</b>	<b>\$0.17297</b>

**Unitil Energy Systems, Inc.**  
**Rates - Proposed:**

Customer Charge	<b>\$21.07</b>
	<u>All kWh</u>
Distribution Charge	\$0.04622
External Delivery Charge [1]	\$0.03478
Stranded Cost Charge	(\$0.00025)
System Benefits Charge [1]	\$0.00659
Storm Recovery Adjustment Factor	\$0.00084
Fixed Default Service Charge	<u>\$0.09315</u>
<b>TOTAL</b>	<b>\$0.18133</b>

Note [1]: Present rates adjusted to reflect costs moving into base distribution charge rates

Unitil Energy Systems, Inc. Typical Bill Impacts as a Result of Proposed Rates Impact on G2 Rate Customers								
<u>Average Load Factor</u>	<u>kW Range</u>	<u>Percentage Bills</u>	<u>Average Monthly kW</u>	<u>Average Monthly kWh</u>	<u>Total Bill Using Rates Effective 12/1/2020</u>	<u>Total Bill Using Rates Proposed</u>	<u>Total Difference</u>	<u>% Total Difference</u>
17%	0-1.0	26.9%	1.0	125	\$55.95	\$59.76	\$3.80	6.8%
28%	1.1-2	10.6%	1.5	308	\$85.30	\$89.22	\$3.92	4.6%
24%	2.1-3	7.4%	2.5	438	\$113.14	\$117.89	\$4.74	4.2%
24%	3.1-4	6.5%	3.5	625	\$148.39	\$153.80	\$5.41	3.6%
25%	4.1-5	5.9%	4.5	821	\$184.69	\$190.74	\$6.05	3.3%
24%	5.1-6	5.4%	5.5	965	\$213.92	\$220.71	\$6.80	3.2%
24%	6.1-7	4.2%	6.5	1,141	\$247.50	\$254.97	\$7.47	3.0%
25%	7.1-8	3.6%	7.5	1,351	\$285.67	\$293.75	\$8.09	2.8%
26%	8.1-9	3.0%	8.5	1,622	\$331.70	\$340.24	\$8.53	2.6%
27%	9.1-10	2.6%	9.5	1,872	\$375.07	\$384.13	\$9.05	2.4%
28%	10.1-12	4.2%	11.0	2,219	\$435.87	\$445.70	\$9.83	2.3%
29%	12.1-14	2.9%	13.0	2,800	\$533.28	\$543.96	\$10.68	2.0%
31%	14.1-16	2.4%	15.0	3,390	\$631.83	\$643.34	\$11.51	1.8%
33%	16.1-18	1.8%	17.0	4,048	\$739.35	\$751.53	\$12.17	1.6%
33%	18.1-20	1.4%	19.0	4,598	\$832.52	\$845.61	\$13.08	1.6%
34%	20.1-22.5	1.4%	21.3	5,309	\$949.55	\$963.44	\$13.89	1.5%
35%	22.6-25	1.2%	23.7	6,017	\$1,068.24	\$1,083.17	\$14.93	1.4%
37%	25.1-30	1.6%	27.4	7,335	\$1,280.33	\$1,296.26	\$15.93	1.2%
40%	30.1-35	1.1%	32.5	9,376	\$1,601.39	\$1,618.12	\$16.73	1.0%
40%	35.1-40	0.9%	37.5	11,085	\$1,878.99	\$1,897.30	\$18.30	1.0%
40%	40.1-45	0.7%	42.5	12,531	\$2,120.89	\$2,141.25	\$20.35	1.0%
43%	45.1-50	0.6%	47.5	14,838	\$2,476.64	\$2,497.16	\$20.52	0.8%
42%	50.1-60	0.9%	54.8	16,705	\$2,798.24	\$2,822.37	\$24.14	0.9%
43%	60.1-70	0.7%	64.8	20,391	\$3,387.75	\$3,414.32	\$26.57	0.8%
44%	70.1-80	0.5%	75.2	24,069	\$3,979.96	\$4,009.39	\$29.43	0.7%
44%	80.1-90	0.4%	84.7	27,000	\$4,464.59	\$4,497.59	\$33.00	0.7%
41%	90.1-100	0.3%	94.4	28,369	\$4,745.98	\$4,786.32	\$40.35	0.9%
45%	100.1-120	0.4%	109.2	35,732	\$5,869.22	\$5,908.84	\$39.62	0.7%
45%	120.1-140	0.2%	129.0	42,752	\$6,998.78	\$7,043.75	\$44.98	0.6%
43%	140.1-160	0.1%	149.1	46,963	\$7,762.33	\$7,819.39	\$57.06	0.7%
40%	160.1-200	0.1%	175.7	51,679	\$8,660.41	\$8,735.45	\$75.04	0.9%
26%	200.1+	0.0%	348.8	66,522	\$12,422.12	\$12,650.29	\$228.17	1.8%

Unitil Energy Systems, Inc. Typical Bill Impacts as a Result of Proposed Rates Impact on G2 Rate Customers			
Unitil Energy Systems, Inc. Rates - Effective 12/1/2020:		Unitil Energy Systems, Inc. Rates - Proposed:	
Customer Charge	<b>\$29.19</b>	Customer Charge	<b>\$ 32.20</b>
	<u>All kW</u>		<u>All kW</u>
Distribution Charge	\$10.51	Distribution Charge	\$ 11.59
Stranded Cost Charge	(\$0.05)	Stranded Cost Charge	(\$0.05)
<b>TOTAL</b>	<b>\$10.46</b>	<b>TOTAL</b>	<b>\$11.54</b>
	<u>kWh</u>		<u>kWh</u>
Distribution Charge	\$0.00000	Distribution Charge	\$0.00000
External Delivery Charge	\$0.03613	External Delivery Charge [1]	\$0.03478
Stranded Cost Charge	(\$0.00005)	Stranded Cost Charge	(\$0.00005)
System Benefits Charge	\$0.00752	System Benefits Charge [1]	\$0.00659
Storm Recovery Adjustment Factor	\$0.00084	Storm Recovery Adjustment Factor	\$0.00084
Fixed Default Service Charge	<u>\$0.08702</u>	Fixed Default Service Charge	<u>\$0.08702</u>
<b>TOTAL</b>	<b>\$0.13146</b>	<b>TOTAL</b>	<b>\$0.12918</b>
		Note [1]: Present rates adjusted to reflect costs moving into base distribution charge rates	

Unitil Energy Systems, Inc. Typical Bill Impacts as a Result of Proposed Rates Impact on G2 - kWh meter Rate Customers							
Range Monthly kWh	Percentage Bills	Average Monthly kWh	Total Bill Using Rates Effective 12/1/2020	Total Bill Using Rates Proposed	Total Difference	% Total Difference	
0-50	58.8%	18	\$20.93	\$22.80	\$1.87	9.0%	
51-100	16.6%	71	\$28.33	\$30.14	\$1.80	6.4%	
101-200	13.3%	146	\$38.84	\$40.54	\$1.70	4.4%	
201-300	4.8%	243	\$52.36	\$53.93	\$1.57	3.0%	
301-400	2.3%	346	\$66.87	\$68.29	\$1.43	2.1%	
401-500	1.3%	452	\$81.71	\$82.99	\$1.28	1.6%	
501-600	1.1%	543	\$94.44	\$95.60	\$1.16	1.2%	
601-700	0.6%	639	\$107.87	\$108.90	\$1.02	1.0%	
701-800	0.3%	742	\$122.30	\$123.19	\$0.88	0.7%	
801-1,000	0.3%	890	\$142.99	\$143.68	\$0.68	0.5%	
1,000+	0.7%	2,084	\$310.31	\$309.35	(\$0.95)	-0.3%	
<b>Unitil Energy Systems, Inc. Rates - Effective 12/1/2020:</b>				<b>Unitil Energy Systems, Inc. Rates - Proposed:</b>			
Customer Charge		<b>\$18.38</b>		Customer Charge		<b>\$20.28</b>	
		<u>All kWh</u>				<u>All kWh</u>	
Distribution Charge		\$0.00883		Distribution Charge		\$0.00974	
External Delivery Charge		\$0.03613		External Delivery Charge [1]		\$0.03478	
Stranded Cost Charge		(\$0.00025)		Stranded Cost Charge		(\$0.00025)	
System Benefits Charge		\$0.00752		System Benefits Charge [1]		\$0.00659	
Storm Recovery Adjustment Factor		\$0.00084		Storm Recovery Adjustment Factor		\$0.00084	
Fixed Default Service Charge		<u>\$0.08702</u>		Fixed Default Service Charge		<u>\$0.08702</u>	
<b>TOTAL</b>		<b>\$0.14009</b>		<b>TOTAL</b>		<b>\$0.13872</b>	
				Note [1]: Present rates adjusted to reflect costs moving into base distribution charge rates			

Unitil Energy Systems, Inc. Typical Bill Impacts as a Result of Proposed Rates Impact on G2 - QRWH and SH Rate Customers							
Range Monthly kWh	Percentage Bills	Average kWh	Total Bill Using Rates Effective 12/1/2020	Total Bill Using Rates Proposed	Total Difference	% Total Difference	
0-250	41.9%	79	\$22.65	\$23.74	\$1.09	4.8%	
251-500	13.0%	365	\$69.39	\$70.77	\$1.38	2.0%	
501-750	8.0%	624	\$111.66	\$113.31	\$1.65	1.5%	
751-1,000	5.5%	869	\$151.56	\$153.46	\$1.90	1.3%	
1,001-2,000	12.5%	1,415	\$240.83	\$243.30	\$2.47	1.0%	
2,001-3,000	7.1%	2,448	\$409.46	\$412.99	\$3.53	0.9%	
3,001-4,000	3.5%	3,453	\$573.56	\$578.13	\$4.57	0.8%	
4,001-5,000	2.3%	4,506	\$745.59	\$751.25	\$5.66	0.8%	
5,001-6,000	1.0%	5,516	\$910.42	\$917.12	\$6.70	0.7%	
6,001-7,000	0.9%	6,474	\$1,067.00	\$1,074.69	\$7.69	0.7%	
7,001-8,000	0.9%	7,429	\$1,222.92	\$1,231.59	\$8.68	0.7%	
8,001-9,000	0.4%	8,471	\$1,392.98	\$1,402.73	\$9.75	0.7%	
9,001-10,000	0.5%	9,612	\$1,579.40	\$1,590.33	\$10.93	0.7%	
10,001+	2.6%	18,764	\$3,073.89	\$3,094.27	\$20.38	0.7%	

  

Unitil Energy Systems, Inc. Rates - Effective 12/1/2020:		Unitil Energy Systems, Inc. Rates - Proposed:	
Customer Charge	<b>\$9.73</b>	Customer Charge	<b>\$10.73</b>
	<u>All kWh</u>		<u>All kWh</u>
Distribution Charge	\$0.03204	Distribution Charge	\$0.03535
External Delivery Charge	\$0.03613	Ext External Delivery Charge [1]	\$0.03478
Stranded Cost Charge	(\$0.00025)	Stranded Cost Charge	(\$0.00025)
System Benefits Charge	\$0.00752	Sys System Benefits Charge [1]	\$0.00659
Storm Recovery Adjustment Factor	\$0.00084	Storm Recovery Adjustment Factor	\$0.00084
Fixed Default Service Charge	<u>\$0.08702</u>	Fixed Default Service Charge	<u>\$0.08702</u>
<b>TOTAL</b>	<b>\$0.16330</b>	<b>TOTAL</b>	<b>\$0.16433</b>

Note [1]: Present rates adjusted to reflect costs moving into base distribution charge rates

**Unitil Energy Systems, Inc.**  
**Typical Bill Impacts as a Result of Proposed Rates**  
**Impact on G1 Rate Customers**

<u>Customer</u>	<u>Load Factor</u>	<u>Average Monthly kVA</u>	<u>Average kWh</u>	<u>Voltage Discount Tier</u>	<u>Transformer Ownership Credit</u>	<u>Total Bill Using Rates Effective 12/1/2020</u>	<u>Total Bill Using Rates Proposed</u>	<u>Total Difference</u>	<u>% Total Difference</u>
1	32.0%	291	67,950		Yes	\$11,060.75	\$11,437.84	\$377.10	3.4%
2	40.1%	158	46,305	1	Yes	\$7,089.30	\$7,269.60	\$180.30	2.5%
3	20.3%	489	72,292		Yes	\$13,018.01	\$13,735.15	\$717.14	5.5%
4	15.5%	567	64,125			\$12,786.49	\$13,093.53	\$307.04	2.4%
5	16.8%	193	23,717		Yes	\$4,611.28	\$4,916.01	\$304.73	6.6%
6	33.2%	288	69,841	1	Yes	\$10,986.64	\$11,339.00	\$352.36	3.2%
7	40.1%	290	84,900			\$13,404.46	\$13,450.98	\$46.52	0.3%
8	24.8%	316	57,185			\$9,996.30	\$10,126.51	\$130.21	1.3%
9	49.2%	186	66,885	1	Yes	\$9,906.91	\$10,089.27	\$182.36	1.8%
10	29.4%	673	144,575	1	Yes	\$23,184.57	\$24,038.75	\$854.18	3.7%
11	57.5%	450	189,070			\$28,180.03	\$28,112.73	(\$67.31)	-0.2%
12	44.0%	322	103,375			\$16,053.68	\$16,082.95	\$29.27	0.2%
13	36.9%	451	121,500			\$19,387.76	\$19,475.16	\$87.40	0.5%
14	52.9%	318	123,050			\$18,588.82	\$18,570.49	(\$18.33)	-0.1%
15	42.0%	291	89,400			\$14,002.79	\$14,040.32	\$37.52	0.3%
16	23.2%	459	77,850			\$13,759.96	\$13,952.61	\$192.65	1.4%
17	53.7%	716	280,803	1	Yes	\$40,867.83	\$41,492.32	\$624.49	1.5%
18	70.0%	538	275,100			\$40,048.98	\$39,853.59	(\$195.39)	-0.5%
19	66.9%	1,432	699,283	2	Yes	\$97,705.19	\$98,624.02	\$918.83	0.9%
20	26.6%	640	124,101	1	Yes	\$20,341.65	\$21,183.76	\$842.11	4.1%
21	50.9%	254	94,302	1	Yes	\$13,874.29	\$14,113.12	\$238.83	1.7%
22	21.6%	228	35,933	1	Yes	\$6,247.65	\$6,572.32	\$324.67	5.2%
23	55.0%	495	198,707			\$29,773.41	\$29,718.70	(\$54.71)	-0.2%
24	57.4%	420	175,773			\$26,219.25	\$26,158.83	(\$60.41)	-0.2%
25	35.7%	293	76,309	1	Yes	\$11,846.91	\$12,193.56	\$346.65	2.9%
26	62.3%	558	254,016	2	Yes	\$35,804.18	\$36,208.37	\$404.19	1.1%
27	49.8%	692	251,233		Yes	\$37,752.38	\$38,421.27	\$668.89	1.8%
28	34.1%	379	94,439	1	Yes	\$14,758.06	\$15,214.38	\$456.32	3.1%
29	14.6%	274	29,187		Yes	\$5,894.70	\$6,330.53	\$435.83	7.4%
30	42.8%	179	55,967			\$8,802.57	\$8,829.86	\$27.29	0.3%

**Unitil Energy Systems, Inc.**  
**Typical Bill Impacts as a Result of Proposed Rates**  
**Impact on G1 Rate Customers**

<u>Customer</u>	<u>Load Factor</u>	<u>Average Monthly kVA</u>	<u>Average kWh</u>	<u>Voltage Discount Tier</u>	<u>Transformer Ownership Credit</u>	<u>Total Bill Using Rates Effective 12/1/2020</u>	<u>Total Bill Using Rates Proposed</u>	<u>Total Difference</u>	<u>% Total Difference</u>
31	21.9%	468	74,603	1	Yes	\$12,834.46	\$13,487.99	\$653.53	5.1%
32	25.4%	392	72,567			\$12,568.69	\$12,721.99	\$153.30	1.2%
33	37.9%	218	60,330			\$9,661.83	\$9,708.90	\$47.06	0.5%
34	54.1%	2,781	1,099,095	2	Yes	\$157,112.29	\$159,454.98	\$2,342.69	1.5%
35	45.5%	277	91,980			\$14,228.22	\$14,248.58	\$20.36	0.1%
36	58.4%	561	238,900			\$35,502.69	\$35,406.94	(\$95.75)	-0.3%
37	57.5%	429	180,133	2	Yes	\$25,642.65	\$25,989.02	\$346.37	1.4%
38	36.9%	342	92,233			\$14,755.09	\$14,825.30	\$70.21	0.5%
39	22.2%	382	62,000		Yes	\$10,925.40	\$11,476.85	\$551.45	5.0%
40	32.6%	227	53,960			\$8,898.12	\$8,966.42	\$68.30	0.8%
41	69.3%	2,259	1,143,565	2	Yes	\$159,159.15	\$160,513.51	\$1,354.36	0.9%
42	61.5%	1,286	577,482	2	Yes	\$81,401.66	\$82,337.92	\$936.26	1.2%
43	62.8%	2,917	1,336,786	2		\$189,321.97	\$188,560.64	(\$761.33)	-0.4%
44	36.1%	498	131,232	1	Yes	\$20,272.73	\$20,852.75	\$580.03	2.9%
45	25.4%	431	79,983			\$13,828.20	\$13,994.58	\$166.39	1.2%
46	53.6%	1,072	419,655	2	Yes	\$60,111.19	\$61,028.64	\$917.44	1.5%
47	65.3%	644	307,000			\$44,999.74	\$44,813.00	(\$186.74)	-0.4%
48	51.5%	159	59,867			\$9,159.52	\$9,162.50	\$2.98	0.0%
49	25.0%	133	24,333			\$4,336.18	\$4,400.13	\$63.95	1.5%
50	22.6%	246	40,675			\$7,316.92	\$7,430.70	\$113.78	1.6%
51	22.0%	397	63,750			\$11,454.59	\$11,631.46	\$176.87	1.5%
52	16.5%	372	44,875			\$8,809.70	\$9,010.49	\$200.80	2.3%
53	57.7%	762	320,917			\$47,704.98	\$47,577.71	(\$127.26)	-0.3%
54	40.5%	183	54,200			\$8,603.02	\$8,637.45	\$34.43	0.4%
55	53.2%	695	270,150			\$40,588.83	\$40,525.68	(\$63.15)	-0.2%
56	48.6%	199	70,633			\$10,862.68	\$10,871.87	\$9.19	0.1%
57	48.2%	243	85,567			\$13,139.61	\$13,148.70	\$9.09	0.1%
58	51.0%	315	117,293			\$17,815.26	\$17,807.60	(\$7.66)	0.0%
59	33.1%	333	80,643			\$13,178.69	\$13,268.46	\$89.78	0.7%
60	31.4%	389	89,200			\$14,715.29	\$14,828.69	\$113.40	0.8%

**Unitil Energy Systems, Inc.**  
**Typical Bill Impacts as a Result of Proposed Rates**  
**Impact on G1 Rate Customers**

<u>Customer</u>	<u>Load Factor</u>	<u>Average Monthly kVA</u>	<u>Average kWh</u>	<u>Voltage Discount Tier</u>	<u>Transformer Ownership Credit</u>	<u>Total Bill Using Rates Effective 12/1/2020</u>	<u>Total Bill Using Rates Proposed</u>	<u>Total Difference</u>	<u>% Total Difference</u>
61	45.3%	325	107,333			\$16,590.08	\$16,612.46	\$22.38	0.1%
62	23.2%	1,393	236,250		Yes	\$40,734.58	\$42,678.01	\$1,943.43	4.8%
63	21.5%	482	75,480			\$13,625.22	\$13,841.02	\$215.81	1.6%
64	41.2%	297	89,533			\$14,065.15	\$14,106.96	\$41.82	0.3%
65	47.8%	259	90,500			\$13,903.14	\$13,913.35	\$10.21	0.1%
66	41.3%	154	46,583			\$7,393.18	\$7,422.71	\$29.53	0.4%
67	7.5%	373	20,342			\$5,621.95	\$5,879.39	\$257.43	4.6%
68	44.8%	355	115,887			\$17,928.94	\$17,954.81	\$25.87	0.1%
69	55.6%	520	211,000			\$31,560.35	\$31,496.63	(\$63.72)	-0.2%
70	32.0%	372	86,900			\$14,286.24	\$14,391.65	\$105.41	0.7%
71	51.4%	280	105,200			\$15,977.71	\$15,970.78	(\$6.92)	0.0%
72	48.5%	465	164,567			\$25,102.13	\$25,102.21	\$0.08	0.0%
73	54.1%	409	161,410			\$24,266.38	\$24,230.29	(\$36.10)	-0.1%
74	38.3%	166	46,470			\$7,468.46	\$7,507.44	\$38.98	0.5%
75	76.1%	476	264,430			\$38,192.85	\$37,974.12	(\$218.72)	-0.6%
76	55.2%	354	142,383			\$21,371.58	\$21,336.25	(\$35.33)	-0.2%
77	49.6%	252	91,333			\$13,960.91	\$13,964.04	\$3.13	0.0%
78	33.0%	212	51,093			\$8,414.99	\$8,478.61	\$63.62	0.8%
79	51.3%	328	122,880			\$18,640.07	\$18,629.62	(\$10.45)	-0.1%
80	58.8%	678	291,100			\$43,188.92	\$43,064.95	(\$123.97)	-0.3%
81	12.5%	681	62,090			\$13,381.86	\$13,781.41	\$399.54	3.0%
82	33.0%	192	46,390			\$7,655.28	\$7,714.58	\$59.31	0.8%
83	52.5%	249	95,583			\$14,490.30	\$14,481.29	(\$9.01)	-0.1%
84	12.6%	838	76,750			\$16,473.10	\$16,959.96	\$486.86	3.0%
85	61.7%	257	115,933			\$17,202.13	\$17,153.05	(\$49.08)	-0.3%
86	17.5%	633	80,900			\$15,472.80	\$15,792.85	\$320.06	2.1%
87	4.7%	180	6,192	2		\$2,171.51	\$2,300.28	\$128.78	5.9%
88	21.1%	241	37,150			\$6,818.05	\$6,935.80	\$117.75	1.7%
89	60.6%	489	216,067			\$31,986.18	\$31,887.02	(\$99.17)	-0.3%
90	56.2%	1,044	428,000			\$63,773.64	\$63,619.22	(\$154.42)	-0.2%

**Unitil Energy Systems, Inc.**  
**Typical Bill Impacts as a Result of Proposed Rates**  
**Impact on G1 Rate Customers**

<u>Customer</u>	<u>Load Factor</u>	<u>Average Monthly kVA</u>	<u>Average kWh</u>	<u>Voltage Discount Tier</u>	<u>Transformer Ownership Credit</u>	<u>Total Bill Using Rates Effective 12/1/2020</u>	<u>Total Bill Using Rates Proposed</u>	<u>Total Difference</u>	<u>% Total Difference</u>
91	26.8%	360	70,500			\$12,058.50	\$12,191.89	\$133.39	1.1%
92	17.5%	321	41,007			\$7,926.50	\$8,097.36	\$170.86	2.2%
93	39.4%	311	89,520			\$14,167.78	\$14,220.28	\$52.50	0.4%
94	67.4%	501	246,680			\$36,067.89	\$35,908.67	(\$159.22)	-0.4%
95	25.8%	222	41,900			\$7,294.81	\$7,387.25	\$92.44	1.3%
96	64.7%	354	167,040			\$24,583.36	\$24,491.93	(\$91.43)	-0.4%
97	42.0%	297	91,080			\$14,262.94	\$14,300.86	\$37.92	0.3%
98	20.0%	230	33,520			\$6,259.57	\$6,376.83	\$117.26	1.9%
99	11.0%	250	20,064			\$4,657.43	\$4,820.69	\$163.26	3.5%
100	21.8%	228	36,187			\$6,593.43	\$6,703.25	\$109.81	1.7%
101	47.6%	476	165,320			\$25,284.00	\$25,290.92	\$6.92	0.0%
102	55.4%	356	143,928			\$21,590.47	\$21,553.44	(\$37.03)	-0.2%
103	37.7%	381	104,773	2	Yes	\$15,839.98	\$16,268.69	\$428.71	2.7%
104	34.6%	376	94,929	1	Yes	\$14,794.04	\$15,242.59	\$448.55	3.0%
105	70.3%	321	164,820			\$24,049.87	\$23,938.54	(\$111.33)	-0.5%
106	33.7%	258	63,456			\$10,368.93	\$10,439.51	\$70.58	0.7%
107	19.7%	271	39,008			\$7,284.98	\$7,421.46	\$136.49	1.9%
108	54.3%	257	102,032			\$15,392.19	\$15,374.82	(\$17.37)	-0.1%
109	42.3%	239	73,700			\$11,561.11	\$11,593.85	\$32.75	0.3%
110	48.6%	770	273,155	2	Yes	\$39,647.60	\$40,371.26	\$723.67	1.8%
111	37.3%	295	80,320			\$12,846.98	\$12,907.92	\$60.94	0.5%
112	40.2%	368	107,900			\$16,988.79	\$17,043.06	\$54.27	0.3%
113	51.3%	264	99,073	2	Yes	\$14,333.79	\$14,576.44	\$242.65	1.7%
114	30.6%	339	75,583			\$12,559.26	\$12,664.60	\$105.34	0.8%
115	61.0%	677	301,440			\$44,526.49	\$44,378.04	(\$148.45)	-0.3%
116	74.4%	405	219,800			\$31,839.55	\$31,667.26	(\$172.30)	-0.5%
117	61.5%	217	97,536			\$14,503.27	\$14,465.16	(\$38.11)	-0.3%
118	28.4%	352	73,100			\$12,339.07	\$12,460.61	\$121.54	1.0%
119	48.2%	453	159,340			\$24,331.75	\$24,334.58	\$2.83	0.0%
120	43.9%	346	110,840			\$17,208.33	\$17,239.22	\$30.89	0.2%

**Unitil Energy Systems, Inc.**  
**Typical Bill Impacts as a Result of Proposed Rates**  
**Impact on G1 Rate Customers**

<u>Customer</u>	<u>Load Factor</u>	<u>Average Monthly kVA</u>	<u>Average kWh</u>	<u>Voltage Discount Tier</u>	<u>Transformer Ownership Credit</u>	<u>Total Bill Using Rates Effective 12/1/2020</u>	<u>Total Bill Using Rates Proposed</u>	<u>Total Difference</u>	<u>% Total Difference</u>
121	51.2%	684	255,424	2		\$37,165.57	\$37,121.41	(\$44.16)	-0.1%
122	40.9%	249	74,387			\$11,729.83	\$11,769.11	\$39.28	0.3%
123	20.1%	236	34,573			\$6,441.50	\$6,560.93	\$119.43	1.9%
124	9.8%	606	43,345	2	Yes	\$9,649.96	\$10,598.44	\$948.48	9.8%
125	18.9%	312	43,030			\$8,116.50	\$8,275.25	\$158.75	2.0%
126	60.0%	639	279,650			\$41,398.84	\$41,270.42	(\$128.42)	-0.3%
127	52.4%	2,025	774,292	2	Yes	\$111,156.34	\$112,922.01	\$1,765.67	1.6%
128	61.2%	2,222	991,779	2	Yes	\$139,828.23	\$141,452.28	\$1,624.05	1.2%
129	42.8%	137	42,708			\$6,755.29	\$6,780.04	\$24.75	0.4%
130	48.5%	206	72,800			\$11,194.13	\$11,203.42	\$9.29	0.1%
131	27.1%	308	60,960			\$10,422.86	\$10,537.83	\$114.97	1.1%
132	32.2%	174	41,024			\$6,820.18	\$6,877.80	\$57.61	0.8%
133	48.5%	1,145	405,120			\$61,561.01	\$61,537.05	(\$23.96)	0.0%
134	16.0%	249	29,000			\$5,814.34	\$5,956.54	\$142.20	2.4%
135	48.6%	431	152,940			\$23,333.28	\$23,333.83	\$0.56	0.0%
136	31.7%	483	111,872			\$18,376.41	\$18,510.51	\$134.10	0.7%
137	44.2%	242	78,120			\$12,163.16	\$12,188.53	\$25.38	0.2%
138	61.1%	543	242,600			\$35,856.21	\$35,738.92	(\$117.28)	-0.3%
139	48.8%	941	335,067			\$50,897.91	\$50,876.29	(\$21.62)	0.0%
140	80.1%	152	89,145			\$12,922.09	\$12,853.22	(\$68.87)	-0.5%
141	54.2%	427	168,907			\$25,379.03	\$25,339.78	(\$39.25)	-0.2%
142	36.7%	319	85,493			\$13,700.84	\$13,768.38	\$67.55	0.5%
143	26.8%	637	124,693			\$21,206.85	\$21,430.28	\$223.42	1.1%
144	55.0%	424	170,000			\$25,497.93	\$25,453.79	(\$44.14)	-0.2%
145	45.1%	355	116,783			\$18,048.68	\$18,072.80	\$24.13	0.1%
146	25.7%	401	75,167			\$12,977.44	\$13,131.97	\$154.54	1.2%
147	58.8%	477	204,500			\$30,389.89	\$30,307.89	(\$82.00)	-0.3%
148	27.0%	849	167,400			\$28,365.31	\$28,654.50	\$289.18	1.0%
149	70.7%	1,008	519,800			\$75,458.24	\$75,067.02	(\$391.21)	-0.5%
150	55.6%	457	185,400			\$27,753.07	\$27,699.33	(\$53.74)	-0.2%

**Unitil Energy Systems, Inc.**  
**Typical Bill Impacts as a Result of Proposed Rates**  
**Impact on G1 Rate Customers**

<u>Customer</u>	<u>Load Factor</u>	<u>Average Monthly kVA</u>	<u>Average kWh</u>	<u>Voltage Discount Tier</u>	<u>Transformer Ownership Credit</u>	<u>Total Bill Using Rates Effective 12/1/2020</u>	<u>Total Bill Using Rates Proposed</u>	<u>Total Difference</u>	<u>% Total Difference</u>
151	42.1%	144	44,240			\$7,009.32	\$7,036.15	\$26.83	0.4%
152	6.3%	310	14,317			\$4,367.32	\$4,590.49	\$223.17	5.1%
153	61.1%	885	394,833			\$58,261.88	\$58,061.25	(\$200.63)	-0.3%
154	51.7%	511	192,725			\$29,113.11	\$29,084.15	(\$28.96)	-0.1%
155	45.8%	562	187,767			\$28,852.76	\$28,874.45	\$21.69	0.1%
156	26.2%	318	60,750			\$10,468.78	\$10,591.70	\$122.93	1.2%
157	48.6%	610	216,075			\$32,899.54	\$32,893.52	(\$6.02)	0.0%
158	10.9%	492	39,030			\$8,956.01	\$9,262.80	\$306.79	3.4%
159	68.6%	1,016	508,947	2	Yes	\$70,957.43	\$71,584.05	\$626.62	0.9%
160	36.0%	78	20,350			\$3,396.98	\$3,427.06	\$30.09	0.9%
161	3.4%	3,066	75,994	2		\$31,945.61	\$34,065.68	\$2,120.07	6.6%
162	3.9%	255	7,292			\$3,034.55	\$3,231.04	\$196.49	6.5%
163	58.2%	225	95,529			\$14,299.67	\$14,272.05	(\$27.63)	-0.2%
164	58.8%	295	126,875			\$18,914.07	\$18,869.37	(\$44.70)	-0.2%
165	42.2%	181	55,800			\$8,793.81	\$8,822.80	\$28.99	0.3%
166	2.3%	745	12,588	1	Yes	\$6,830.34	\$8,102.76	\$1,272.42	18.6%
167	34.5%	381	95,900			\$15,523.62	\$15,615.19	\$91.58	0.6%

Unitil Energy Systems, Inc.									
Typical Bill Impacts as a Result of Proposed Rates									
Impact on G1 Rate Customers									
Customer	Load Factor	Average Monthly kVA	Average kWh	Voltage Discount Tier	Transformer Ownership Credit	Total Bill Using Rates Effective 12/1/2020	Total Bill Using Rates Proposed	Total Difference	% Total Difference
Unitil Energy Systems, Inc. Rates - Effective 12/1/2020:						Unitil Energy Systems, Inc. Rates - Proposed:			
			\$162.18					\$ 178.93	
			\$86.49					\$ 95.42	
			<u>All kVA</u>					<u>All kVA</u>	
			\$7.60					\$ 8.37	
			(\$0.06)					(\$0.06)	
			<b>\$7.54</b>					<b>\$8.31</b>	
			<u>All kWh</u>					<u>All kWh</u>	
			\$0.00000					\$0.00000	
			\$0.03613					\$0.03478	
			(\$0.00006)					(\$0.00006)	
			\$0.00752					\$0.00659	
			\$0.00084					\$0.00084	
			<u>\$0.08581</u>					\$0.08581	
			<b>\$0.13024</b>					<b>\$0.12796</b>	
			2.0%					2.0%	
			3.5%					3.5%	
			\$0.50					\$ (0.50)	

**Unitil Energy Systems, Inc.**  
**Typical Bill Impacts as a Result of Proposed Rates**  
**Impact on Tariffed OL Rate Customers**

	<u>Nominal Watts</u>	<u>Lumens</u>	<u>Type</u>	<u>Current Average Monthly kWh</u>	<u>Percentage of Lights</u>	<u>Total Bill Using Rates Effective 12/1/2020</u>	<u>Total Bill Using Rates Proposed</u>	<u>Total Difference</u>	<u>% Total Difference</u>
<u>Mercury Vapor:</u>									
1	100	3,500	ST	43	14.2%	\$18.92	\$19.27	\$0.35	1.8%
2	175	7,000	ST	71	0.8%	\$25.07	\$24.89	(\$0.18)	-0.7%
3	250	11,000	ST	100	0.8%	\$30.98	\$30.15	(\$0.82)	-2.7%
4	400	20,000	ST	157	1.3%	\$41.86	\$37.50	(\$4.35)	-10.4%
5	1,000	60,000	ST	372	0.0%	\$91.02	\$72.77	(\$18.25)	-20.1%
6	250	11,000	FL	100	0.7%	\$32.15	\$31.15	(\$0.99)	-3.1%
7	400	20,000	FL	157	0.9%	\$43.36	\$41.82	(\$1.53)	-3.5%
8	1,000	60,000	FL	380	0.1%	\$87.58	\$74.30	(\$13.28)	-15.2%
9	100	3,500	PB	48	4.0%	\$19.71	\$19.63	(\$0.08)	-0.4%
10	175	7000	PB	71	0.6%	\$24.19	\$23.81	(\$0.38)	-1.6%
<u>High Pressure Sodium:</u>									
11	50	4,000	ST	23	36.7%	\$16.54	\$16.69	\$0.16	0.9%
12	100	9,500	ST	48	1.3%	\$21.52	\$21.93	\$0.41	1.9%
13	150	16,000	ST	65	4.0%	\$23.81	\$25.64	\$1.83	7.7%
14	250	30,000	ST	102	13.2%	\$32.53	\$32.69	\$0.16	0.5%
15	400	50,000	ST	161	2.8%	\$45.26	\$45.55	\$0.29	0.6%
16	1,000	140,000	ST	380	1.6%	\$91.54	\$91.52	(\$0.02)	0.0%
17	150	16,000	FL	65	2.7%	\$26.14	\$26.64	\$0.50	1.9%
18	250	30,000	FL	102	3.9%	\$34.15	\$34.73	\$0.58	1.7%
19	400	50,000	FL	161	5.0%	\$44.71	\$46.05	\$1.34	3.0%
20	1,000	140,000	FL	380	2.5%	\$91.91	\$91.90	(\$0.01)	0.0%
21	50	4,000	PB	23	1.4%	\$15.53	\$16.41	\$0.88	5.7%
22	100	9,500	PB	48	0.9%	\$20.34	\$20.84	\$0.50	2.5%
<u>Metal Halide</u>									
23	175	8,800	ST	74	0.0%	\$29.62	\$26.80	(\$2.82)	-9.5%
24	250	13,500	ST	102	0.0%	\$35.04	Discontinued	NA	NA
25	400	23,500	ST	158	0.0%	\$43.19	Discontinued	NA	NA
26	175	8,800	FL	74	0.0%	\$32.71	Discontinued	NA	NA
27	250	13,500	FL	102	0.0%	\$38.22	Discontinued	NA	NA
28	400	23,500	FL	158	0.0%	\$45.62	Discontinued	NA	NA
29	1,000	86,000	FL	374	0.5%	\$81.31	\$73.53	(\$7.78)	-9.6%
30	175	8,800	PB	74	0.0%	\$28.34	Discontinued	NA	NA
31	250	13,500	PB	102	0.0%	\$33.20	Discontinued	NA	NA
32	400	23,500	PB	158	0.0%	\$41.91	Discontinued	NA	NA
<u>LED</u>									
33	42	3,600	AL	15	0.0%	\$15.13	Discontinued	NA	NA
34	57	5,200	AL	20	0.0%	\$15.84	Discontinued	NA	NA
35	25	3,000	ST	9	0.0%	\$14.29	Discontinued	NA	NA
36	88	8,300	ST	30	0.0%	\$17.24	Discontinued	NA	NA
37	108	11,500	ST	37	0.0%	\$18.22	Discontinued	NA	NA
38	193	21,000	ST	67	0.0%	\$22.41	Discontinued	NA	NA
39	123	12,180	FL	43	0.0%	\$19.05	Discontinued	NA	NA
40	194	25,700	FL	67	0.0%	\$22.41	Discontinued	NA	NA
41	297	38,100	FL	103	0.0%	\$27.45	Discontinued	NA	NA

**Unitil Energy Systems, Inc.**  
**Typical Bill Impacts as a Result of Proposed Rates**  
**Impact on Tariffed OL Rate Customers**

**Unitil Energy Systems, Inc.**  
**Rates - Effective 12/1/2020:**

Customer Charge	<b>\$0.00</b>
	<u>All kWh</u>
Distribution Charge	\$0.00000
External Delivery Charge	\$0.03613
Stranded Cost Charge	(\$0.00025)
System Benefits Charge	\$0.00752
Storm Recovery Adjustment Factor	\$0.00084
Fixed Default Service Charge	<u>\$0.08702</u>
<b>TOTAL</b>	<b>\$0.13126</b>

**Unitil Energy Systems, Inc.**  
**Rates - Proposed:**

Customer Charge	<b>\$0.00</b>
	<u>All kWh</u>
Distribution Charge	\$0.00000
External Delivery Charge [1]	\$0.03478
Stranded Cost Charge	(\$0.00025)
System Benefits Charge [1]	\$0.00659
Storm Recovery Adjustment Factor	\$0.00084
Fixed Default Service Charge	<u>\$0.08702</u>
<b>TOTAL</b>	<b>\$0.12898</b>

Note [1]: Present rates adjusted to reflect costs moving into base distribution charge rates

**Luminaire Charges:**

			Sodium		Metal		LED Rate/Mo.
Mercury Vapor Rate/Mo.			Vapor Rate/Mo.		Halide Rate/Mo.		
1	\$13.28	#	\$13.52	#	\$19.91	33	\$13.16
2	\$15.75	#	\$15.22	#	\$21.65	34	\$13.21
3	\$17.85	#	\$15.28	#	\$22.45	35	\$13.11
4	\$21.25	#	\$19.14	#	\$23.00	36	\$13.30
5	\$42.19	#	\$24.13	#	\$24.83	37	\$13.36
6	\$19.02	#	\$41.66	#	\$24.88	38	\$13.62
7	\$22.75	#	\$17.61	#	\$32.22	39	\$13.41
8	\$37.70	#	\$20.76	#	\$18.63	40	\$13.62
9	\$13.41	#	\$23.58	#	\$19.81	41	\$13.93
10	\$14.87	#	\$42.03	#	\$21.17		
		#	\$12.51				
		#	\$14.04				

**Luminaire Charges:**

			Sodium		Metal		LED Rate/Mo.
Mercury Vapor Rate/Mo.			Vapor Rate/Mo.		Halide Rate/Mo.		
1	\$13.73	11	\$13.73	23	\$17.25	33	Discontinued
2	\$15.73	12	\$15.73	24	Discontinued	34	Discontinued
3	\$17.25	13	\$17.25	25	Discontinued	35	Discontinued
4	\$17.25	14	\$19.53	26	Discontinued	36	Discontinued
5	\$24.78	15	\$24.78	27	Discontinued	37	Discontinued
6	\$18.25	16	\$42.51	28	Discontinued	38	Discontinued
7	\$21.57	17	\$18.25	29	\$25.29	39	Discontinued
8	\$25.29	18	\$21.57	30	Discontinued	40	Discontinued
9	\$13.44	19	\$25.29	31	Discontinued	41	Discontinued
#	\$14.65	20	\$42.89	32	Discontinued		
		21	\$13.44				
		22	\$14.65				