







Unitil Energy Systems, Inc.  
Schedule TOU-EV-G2  
Comparison of Rates and Ratios from Exh. 24 Revised Attachment A  
and July 1, 2022 Rates and Ratios

	Summer Volumetric Rates				Winter Volumetric Rates				
	Exh.24 Revised Attachment A	Ratio to Mid-Peak	July 1, 2022 Volumetric Rates	Ratio to Mid-Peak	Exh.24 Revised Attachment A	Ratio to Mid-Peak	Current Winter Volumetric Rates	Ratio to Mid-Peak	
1									
2									
3									
4									
5	<b>Distribution Energy Charge:</b>								
6	Off Peak kWh (M-F 8 pm - 6 am, all day weekends and weekday holidays)	\$ 0.02033	104.6%	\$ 0.02232	104.6%	\$ 0.01900	102.0%	\$ 0.02086	102.0%
7	Mid Peak kWh (M-F 6 am -3 pm excluding weekday holidays)	\$ 0.01944	100.0%	\$ 0.02135	100.0%	\$ 0.01862	100.0%	\$ 0.02044	100.0%
8	On Peak kWh (M-F 3 pm - 8 pm excluding weekday holidays)	\$ 0.02802	144.1%	\$ 0.03077	144.1%	\$ 0.02355	126.5%	\$ 0.02586	126.5%
9									
10									
11	<b>External Delivery Charge- Transmission:</b>								
12	Off Peak kWh (M-F 8 pm - 6 am, all day weekends and weekday holidays)	\$ -	0.0%	\$ -	0.0%	\$ 0.00185	64.9%	\$ 0.00187	64.9%
13	Mid Peak kWh (M-F 6 am -3 pm excluding weekday holidays)	\$ 0.01579	100.0%	\$ 0.01599	100.0%	\$ 0.00285	100.0%	\$ 0.00289	100.0%
14	On Peak kWh (M-F 3 pm - 8 pm excluding weekday holidays)	\$ 0.16990	1076.0%	\$ 0.17206	1076.0%	\$ 0.18339	6434.7%	\$ 0.18572	6434.7%
15	All hours kWh - reconciliation and interest								
16	Excludes all hours reconciliation and interest component of \$0.00408 per kWh included in Exh.24 Revised								
17									
18	<b>Default Service Charge:</b>								
19	Off Peak kWh (M-F 8 pm - 6 am, all day weekends and weekday holidays)	\$ 0.04919	79.1%	\$ 0.07816	79.1%	\$ 0.05390	95.9%	\$ 0.09553	95.9%
20	Mid Peak kWh (M-F 6 am -3 pm excluding weekday holidays)	\$ 0.06216	100.0%	\$ 0.09877	100.0%	\$ 0.05620	100.0%	\$ 0.09961	100.0%
21	On Peak kWh (M-F 3 pm - 8 pm excluding weekday holidays)	\$ 0.25774	414.6%	\$ 0.40953	414.6%	\$ 0.06809	121.2%	\$ 0.12068	121.2%
22									
23	Note: Small variances in ratios due to rounding.								



Unitil Energy Systems, Inc.  
Schedule TOU-EV-G1  
Comparison of Rates and Ratios from Exh. 24 Revised Attachment A  
and July 1, 2022 Rates and Ratios

	Summer				Winter				
	Volumetric Rates		July 1, 2022		Volumetric Rates		Current Winter		
	Exh.24 Revised Attachment A	Ratio to Mid-Peak	Volumetric Rates	Ratio to Mid-Peak	Exh.24 Revised Attachment A	Ratio to Mid-Peak	Volumetric Rates	Ratio to Mid-Peak	
1									
2									
3									
4									
5	<b>Distribution Energy Charge:</b>								
	\$ 0.01189		\$ 0.01281		\$ 0.01189		\$ 0.01281		
6	Off Peak kWh (M-F 8 pm - 6 am, all day weekends and weekday holidays)	92.3%	\$ 0.01191	92.3%	\$ 0.01087	94.9%	\$ 0.01171	94.9%	
7	Mid Peak kWh (M-F 6 am -3 pm excluding weekday holidays)	100.0%	\$ 0.01290	100.0%	\$ 0.01145	100.0%	\$ 0.01234	100.0%	
8	On Peak kWh (M-F 3 pm - 8 pm excluding weekday holidays)	136.3%	\$ 0.01758	136.3%	\$ 0.01400	122.3%	\$ 0.01509	122.3%	
9									
10									
11	<b>External Delivery Charge- Transmission:</b>								
	\$ 0.03224		\$ 0.03265		\$ 0.03224		\$ 0.03265		
12	Off Peak kWh (M-F 8 pm - 6 am, all day weekends and weekday holidays)	0.0%	\$ -	0.0%	\$ 0.00183	60.6%	\$ 0.00185	60.6%	
13	Mid Peak kWh (M-F 6 am -3 pm excluding weekday holidays)	100.0%	\$ 0.01694	100.0%	\$ 0.00302	100.0%	\$ 0.00306	100.0%	
14	On Peak kWh (M-F 3 pm - 8 pm excluding weekday holidays)	1017.1%	\$ 0.17232	1017.1%	\$ 0.18768	6214.6%	\$ 0.19007	6214.6%	
15	Excludes all hours reconciliation and interest component of \$0.00408 per kWh included in Exh.24 Revised								
16									
17									
18									
19									
20									
21									
22									
23	Note: Small variances in ratios due to rounding.								

**ATTACHMENT A: ILLUSTRATIVE RATES**  
**Residential Rates**

**Unitil – TOU-EV-D**

- Customer Charge: \$5.26 per meter
- Volumetric Rates (not inclusive of non-bypassable rates):

<b>Summer Volumetric Rates (June 1 – Nov 30)</b>				
<b>Period</b>	<b>Transmission</b>	<b>Distribution</b>	<b>Generation</b>	<b>Total</b>
Off Peak (8pm-6am, & weekends/holidays)	\$0.00408	\$0.031382941	\$0.058856304	<b>\$0.09431653</b>
Mid Peak (6am-3pm, M-F)	\$0.024784683	\$0.04433941	\$0.07266003	<b>\$0.141776627</b>
Peak (3pm-8pm, M-F)	\$0.1436911567	\$0.040048797	\$0.0859426801	<b>\$0.4517428958</b>
<b>Winter Volumetric Rates (Dec 1 – May 31)</b>				
<b>Period</b>	<b>Transmission</b>	<b>Distribution</b>	<b>Generation</b>	<b>Total</b>
Off Peak (8pm-6am, & weekends/holidays)	\$0.00580	\$0.03060	\$0.05833	<b>\$0.09473</b>
	\$0.00778	\$0.04195	\$0.05943	<b>\$0.10916</b>
Mid Peak (6am-3pm, M-F)	\$0.16616	\$0.03619	\$0.07151	<b>\$0.27386</b>
Peak (3pm-8pm, M-F)				

**Liberty – D-12 EV Rate (Not at issue in this case, for comparison purposes only)**

- Customer Charge: \$11.35 per meter
- Volumetric Rates (not inclusive of non-bypassable rates):

<b>Summer Volumetric Rates (May 1 – Oct 31)</b>				
<b>Period</b>	<b>Transmission</b>	<b>Distribution</b>	<b>Generation</b>	<b>Total</b>
Off Peak (8pm-8am, & holidays)	\$0.0213	\$0.03625	\$0.03561	<b>\$0.07399</b>
Mid Peak (8am-3pm, M-F) (8am-8pm, wkends/holidays)	\$0.01958	\$0.05735	\$0.05671	<b>\$0.13364</b>
Peak (3pm-8pm, M-F)	\$0.12442	\$0.10268	\$0.08883	<b>\$0.31593</b>
<b>Winter Volumetric Rates (Nov 1 – April 30)</b>				
<b>Period</b>	<b>Transmission</b>	<b>Distribution</b>	<b>Generation</b>	<b>Total</b>
Off Peak (8pm-8am, & holidays)	\$0.00213	\$0.04505	\$0.10659	<b>\$0.15377</b>
Mid Peak (8am-3pm, M-F) (8am-8pm, wkends/holidays)	\$0.00590	\$0.06721	\$0.12161	<b>\$0.19472</b>
Peak (3pm-8pm, M-F)	\$0.23553	\$0.09542	\$0.12636	<b>\$0.45731</b>

**Commercial Rates – Low Demand Draw**

**Unitil – TOU-EV-G2 (less than 200kVa)**

1. Customer Charge - \$29.19
2. Distribution Demand Charge - \$5.26/kW
3. Volumetric Rates (not inclusive of non-bypassable rates):

<b>Summer Volumetric Rates (Jun 1 – Nov 30)</b>				
<b>Period</b>	<b>Transmission</b>	<b>Distribution</b>	<b>Generation</b>	<b>Total</b>
Off Peak (8pm-6am, & weekends)	\$ 0.00408	\$ 0.02033	\$ 0.04919	<b>\$ 0.07360</b>
Mid Peak (6am-3pm)	\$ 0.01987	\$ 0.01944	\$ 0.06216	<b>\$ 0.10147</b>
Peak (3-8pm)	\$ 0.17398	\$ 0.02802	\$ 0.25774	<b>\$ 0.45974</b>

<b>Winter Volumetric Rates (Dec 1 – May 31)</b>				
<b>Period</b>	<b>Transmission</b>	<b>Distribution</b>	<b>Generation</b>	<b>Total</b>
Off Peak (8pm-6am, & weekends)	\$ 0.00593	\$ 0.01900	\$ 0.05390	<b>\$ 0.07883</b>
Mid Peak (6am-3pm)	\$ 0.00693	\$ 0.01862	\$ 0.05620	<b>\$ 0.08175</b>
Peak (3-8pm)	\$ 0.18747	\$ 0.02355	\$ 0.06809	<b>\$ 0.27911</b>

**Liberty – Rate EV-M (Loads less than 72kW)**

1. Customer Charge – \$74.11
2. Distribution Demand Charge - \$4.74
3. Volumetric Rates (not inclusive of non-bypassable rates):

<b>Summer Volumetric Rates (May 1 – Oct 31)</b>				
<b>Period</b>	<b>Transmission</b>	<b>Distribution</b>	<b>Generation</b>	<b>Total</b>
Off Peak (8pm-8am )	<del>\$0.00000</del> <u>\$0.00000</u>	<del>\$0.03984</del> <u>\$0.03984</u>	<del>\$0.04769</del> <u>\$0.04769</u>	<del>\$0.08754</del> <u>\$0.08754</u>
Mid Peak (8am-3pm, M-F) (8am-8pm, wkends/holidays)	<del>\$0.01965</del> <u>\$0.01965</u>	<del>\$0.04171</del> <u>\$0.04171</u>	<del>\$0.06057</del> <u>\$0.06057</u>	<del>\$0.12193</del> <u>\$0.12193</u>
Peak (3pm-8pm, M-F)	<del>\$0.16119</del> <u>\$0.16119</u>	<del>\$0.04873</del> <u>\$0.04873</u>	<del>\$0.24599</del> <u>\$0.24599</u>	<del>\$0.45592</del> <u>\$0.45592</u>

<b>Winter Volumetric Rates (Nov 1 – April 30)</b>				
<b>Period</b>	<b>Transmission</b>	<b>Distribution</b>	<b>Generation</b>	<b>Total</b>
Off Peak (8pm-8am)	<del>\$0.00325</del> <u>\$0.00325</u>	<del>\$0.03578</del> <u>\$0.03578</u>	<del>\$0.05785</del> <u>\$0.05785</u>	<del>\$0.09687</del> <u>\$0.09687</u>
Mid Peak (8am-3pm, M-F) (8am-8pm, wkends/holidays)	<del>\$0.00384</del> <u>\$0.00384</u>	<del>\$0.03699</del> <u>\$0.03699</u>	<del>\$0.05985</del> <u>\$0.05985</u>	<del>\$0.10068</del> <u>\$0.10068</u>
Peak (3pm-8pm, M-F)	<del>\$0.17410</del> <u>\$0.17410</u>	<del>\$0.04234</del> <u>\$0.04234</u>	<del>\$0.07429</del> <u>\$0.07429</u>	<del>\$0.29073</del> <u>\$0.29073</u>

Note: In this version, Liberty Rate EV-M and EV-L tables have been updated to show separate illustrative rates. The previous version showed the same illustrative rate that was developed for a combined EV-L and EV-M class.



### Commercial Rates – High Demand Draw

#### Unitil – TOU-EV-G1 (greater than 200kVa)

1. Customer Charge - \$162.18 secondary voltage, \$86.49 primary voltage
2. Distribution Demand Charge - \$3.80/kVa
3. Volumetric Rates (not inclusive of non-bypassable rates):

Summer Volumetric Rates (June 1 – Nov 30)				
Period	Transmission	Distribution	Generation	Total
Off Peak (8pm-6am, & weekends)	\$ 0.00408	\$ 0.01105		<b>\$ 0.01513</b>
Mid Peak (6am-3pm)	\$ 0.02081	\$ 0.01197		<b>\$ 0.03278</b>
Peak (3-8pm)	\$ 0.17424	\$ 0.01631		<b>\$ 0.19055</b>

Winter Volumetric Rates (Dec 1 – May 31)				
Period	Transmission	Distribution	Generation	Total
Off Peak (8pm-6am, & weekends)	\$ 0.00591	\$ 0.01087		<b>\$0.01678</b>
Mid Peak (6am-3pm)	\$ 0.00710	\$ 0.01145		<b>\$ 0.01855</b>
Peak (3-8pm)	\$ 0.19176	\$ 0.01400		<b>\$ 0.20576</b>

#### Liberty – Rate EV-L (Loads greater than 72kW)

1. Customer Charge – \$444.70
2. Distribution Demand Charge - \$4.71
3. Volumetric Rates (not inclusive of non-bypassable rates):

Summer Volumetric Rates (May 1 – Oct 31)				
Period	Transmission	Distribution	Generation	Total
Off Peak (8pm-8am )	<del>\$0.00000</del> <u>\$0.00000</u>	<del>\$0.02475</del> <u>\$0.02475</u>	<del>\$0.04814</del> <u>\$0.04814</u>	<del>\$0.07288</del> <u>\$0.07288</u>
Mid Peak (8am-3pm, M-F) (8am-8pm, wkends/holidays)	<del>\$0.01756</del> <u>\$0.01756</u>	<del>\$0.02980</del> <u>\$0.02980</u>	<del>\$0.06167</del> <u>\$0.06167</u>	<del>\$0.10902</del> <u>\$0.10902</u>
Peak (3pm-8pm, M-F)	<del>\$0.13752</del> <u>\$0.13752</u>	<del>\$0.03323</del> <u>\$0.03323</u>	<del>\$0.24705</del> <u>\$0.24705</u>	<del>\$0.41780</del> <u>\$0.41780</u>

Winter Volumetric Rates (Nov 1 – April 30)				
Period	Transmission	Distribution	Generation	Total
Off Peak (8pm-8am)	<del>\$0.00287</del> <u>\$0.00287</u>	<del>\$0.02527</del> <u>\$0.02527</u>	<del>\$0.05779</del> <u>\$0.05779</u>	<del>\$0.08593</del> <u>\$0.08593</u>
Mid Peak (8am-3pm, M-F) (8am-8pm, wkends/holidays)	<del>\$0.00353</del> <u>\$0.00353</u>	<del>\$0.02716</del> <u>\$0.02716</u>	<del>\$0.05995</del> <u>\$0.05995</u>	<del>\$0.09064</del> <u>\$0.09064</u>
Peak (3pm-8pm, M-F)	<del>\$0.16270</del> <u>\$0.16270</u>	<del>\$0.03162</del> <u>\$0.03162</u>	<del>\$0.07433</del> <u>\$0.07433</u>	<del>\$0.26865</del> <u>\$0.26865</u>

Note: In this version, Liberty Rate EV-M and EV-L tables have been updated to show separate illustrative rates. The previous version showed the same illustrative rate that was developed for a combined EV-L and EV-M class.

**ATTACHMENT B: Bill Comparison**

Table: Comparison of Bills with Different Rate Options - For Representative Charging Facilities

Note: G1 customers receive energy supply from third party providers, therefore all G1 rates below exclude Generation component

Monthly Bill	Unit	Facility 1	Facility 2	Facility 3
Original G1	\$/month	\$1,223	\$1,396	\$2,767
Unitil Proposal 1 (100% of dist. revenue is recovered from demand charges)	\$/month	\$1,545	\$1,916	\$4,232
Unitil Proposal 2 (20% of dist. revenue is recovered from TOU rates; 80% from demand charges)	\$/month	\$1,309	\$1,730	\$4,074
1/2Demand Charge and recovering rest of dist. revenue from TOU rates	\$/month	\$1,125	\$1,572	\$3,887
DOE Rate - Original TOU	\$/month	\$722	\$1,260	\$3,644
DOE Rate - Original TOU and 1/2Demand Charge	\$/month	\$1,178	\$1,716	\$4,404
DOE Rate - Original TOU and 1/4Demand Charge up to 5% Utilization	\$/month	\$950		
<b>Customer Charge</b>				
G1 average - Original	\$/month	\$124.34		
G1 average - Proposed	\$/month	\$137.18		
<b>EV Charging Facility Assumptions</b>				
Total kWh	kWh/month	4,500	8,640	27,000
Max kW	kW	120	120	200
Utilization	%	5%	10%	19%
<b>TOU Load</b>				
Allocation of kWh TOU Periods				
Summer				
Peak	%	25%		
Midpeak		15%		
Offpeak	%	10%		
Winter				
Peak	%	25%		
Midpeak		15%		
Offpeak	%	10%		
<b>Rates</b>				
<b>Unitil G1 original</b>				
Volumetric	\$/kWh	\$0.0416		
Demand	\$/kVA	\$7.60		
<b>Unitil Proposal 1 (100% of dist. revenue is recovered from demand charges)</b>				
Demand	\$/kVA	\$8.370		
Volumetric				
Summer				
Peak	\$/kWh	\$0.141		
Midpeak	\$/kWh	\$0.039		
Offpeak	\$/kWh	\$0.004		
Winter				
Peak	\$/kWh	\$0.186		
Midpeak	\$/kWh	\$0.007		
Offpeak	\$/kWh	\$0.006		
<b>Unitil Proposal 2 (20% of dist. revenue is recovered from TOU rates; 80% from demand charges)</b>				
Demand	\$/kVA	\$5.950		
Volumetric				
Summer				
Peak	\$/kWh	\$0.184		
Midpeak	\$/kWh	\$0.026		
Offpeak	\$/kWh	\$0.008		
Winter				
Peak	\$/kWh	\$0.193		
Midpeak	\$/kWh	\$0.012		
Offpeak	\$/kWh	\$0.010		
<b>Unitil Calculation 1/2Demand Charge and recovering rest of dist. revenue from TOU rates</b>				
Demand	\$/kVA	\$4.185		
Volumetric				
Summer				
Peak	\$/kWh	\$0.192		
Midpeak	\$/kWh	\$0.031		
Offpeak	\$/kWh	\$0.014		
Winter				
Peak	\$/kWh	\$0.200		
Midpeak	\$/kWh	\$0.017		
Offpeak	\$/kWh	\$0.015		
<b>DOE TOU Rate</b>				
Summer				
Peak	\$/kWh	\$0.217	Ratios	
Midpeak	\$/kWh	\$0.052	6.58	
Offpeak	\$/kWh	\$0.033		
Winter				
Peak	\$/kWh	\$0.222	6.34	
Midpeak	\$/kWh	\$0.037		
Offpeak	\$/kWh	\$0.035		

Table: Comparison of Bills with Different Rate Options - For Representative Charging Facilities

Monthly Bill	Unit	Facility 1	Facility 2	Facility 3
Original G2	\$/month	\$1,956	\$2,567	\$6,122
Unitil Proposal 1 (100% of dist. revenue is recovered from demand charges)	\$/month	\$2,181	\$2,878	\$6,897
Unitil Proposal 2 (20% of dist. revenue is recovered from TOU rates; 80% from demand charges)	\$/month	\$2,016	\$2,904	\$7,520
1/2Demand Charge and recovering rest of dist. revenue from TOU rates	\$/month	\$1,745	\$2,680	\$7,294
DOE Rate - Original TOU		DOE did not develop illustrative rates for G2		
DOE Rate - Original TOU and 1/2Demand Charge		DOE did not develop illustrative rates for G2		
<b>Customer Charge</b>				
G2 - Original	\$/month	\$29.19		
G2 - Proposed	\$/month	\$32.20		
<b>EV Charging Facility Assumptions</b>				
Total kWh	kWh/month	4,500	8,640	27,000
Max kW	kW	120	120	200
Utilization	%	5%	10%	19%
<b>TOU Load</b>				
Allocation of kWh TOU Periods				
Summer				
Peak	%		25%	
Midpeak			15%	
Offpeak	%		10%	
Winter				
Peak	%		25%	
Midpeak			15%	
Offpeak	%		10%	
<b>Rates</b>				
Unitil G2 original				
Volumetric	\$/kWh	\$0.1478		
Demand	\$/kW	\$10.51		
Unitil Proposal 1 (100% of dist. revenue is recovered from demand charges)				
Demand	\$/kW	\$11.590		
Volumetric				
Summer				
Peak	\$/kWh	\$0.217		
Midpeak	\$/kWh	\$0.098		
Offpeak	\$/kWh	\$0.057		
Winter				
Peak	\$/kWh	\$0.282		
Midpeak	\$/kWh	\$0.098		
Offpeak	\$/kWh	\$0.086		
Unitil Proposal 2 (20% of dist. revenue is recovered from TOU rates; 80% from demand charges)				
Demand	\$/kW	\$8.490		
Volumetric				
Summer				
Peak	\$/kWh	\$0.453		
Midpeak	\$/kWh	\$0.090		
Offpeak	\$/kWh	\$0.061		
Winter				
Peak	\$/kWh	\$0.257		
Midpeak	\$/kWh	\$0.071		
Offpeak	\$/kWh	\$0.068		
Unitil Calculation 1/2Demand Charge and recovering rest of dist. revenue from TOU rates				
Demand	\$/kW	\$5.795		
Volumetric				
Summer				
Peak	\$/kWh	\$0.468		
Midpeak	\$/kWh	\$0.100		
Offpeak	\$/kWh	\$0.071		
Winter				
Peak	\$/kWh	\$0.268		
Midpeak	\$/kWh	\$0.080		
Offpeak	\$/kWh	\$0.078		
DOE TOU Rate				
Summer				
Peak	\$/kWh			
Midpeak	\$/kWh			
Offpeak	\$/kWh			
Winter				
Peak	\$/kWh			
Midpeak	\$/kWh			
Offpeak	\$/kWh			
		DOE did not develop illustrative rates for G2		

Table: Comparison of Bills with Different Rate Options - For Representative Charging Facilities

Monthly Bill	Unit	Facility 1	Facility 2	Facility 3
Original G-1	\$/month	\$2,043	\$2,523	\$5,381
Liberty Proposal 1	\$/month	\$1,060	\$1,628	\$4,237
Liberty Proposal 2 (DOE TOU + small demand charge)	\$/month	\$1,472	\$2,420	\$6,712
DOE Rate - Original TOU	\$/month	\$1,459	\$2,406	\$6,609
DOE Rate - Original TOU and 1/2 Demand Charge	\$/month	\$2,005	\$2,952	\$7,519
DOE Rate - Original TOU and 1/4 Demand Charge up to 5% Utilization	\$/month	\$1,732		
<b>Customer Charge</b>				
G-1 original	\$/month	428.76		
Liberty's proposal	\$/month	307.05		
<b>EV Charging Facility Assumptions</b>		Facility 1	Facility 2	Facility 3
Total kWh	kWh/month	4,500	8,640	27,000
Max kW	kW	120	120	200
Utilization	%	5%	10%	19%
<b>TOU Load</b>				
Allocation of kWh TOU Periods				
Summer				
Peak	%	25%		
Midpeak		15%		
Offpeak	%	10%		
Winter				
Peak	%	25%		
Midpeak		15%		
Offpeak	%	10%		
<b>Rates</b>				
Liberty G-1 original				
Energy Charges (D, T, G, and other)	\$/kWh	\$0.116		
Distribution Demand Charges	\$/kW	\$9.100		
Liberty Proposal 1				
Energy Charges (D, T, G, and other)	\$/kWh	\$0.137		
Distribution Demand Charges	\$/kW	\$1.124		
DOE TOU Rate				
Summer				
Peak	\$/kWh	\$0.433	<i>Ratios</i>	
Midpeak	\$/kWh	\$0.118	5.27	
Offpeak	\$/kWh	\$0.082		
Winter				
Peak	\$/kWh	\$0.281	2.96	
Midpeak	\$/kWh	\$0.099		
Offpeak	\$/kWh	\$0.095		