

NH Public Utilities Commission  
Docket No. DE 20-170  
Electric Vehicle Time of Use Rates  
NH Public Utilities Commission Record Requests to NH Department of Energy

Received: January 28, 2022

Date of Response: 2/4/2022

Exhibit Number 27

Witness: Sanem Sergici

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**Request:** Exhibit 24, Bates pages 20-22. For both Unitil Energy Systems, Inc. (Unitil) and Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty (Liberty), maintaining revenue neutrality, please provide similar analyses of the volumetric rates for Commercial EV TOU classes for both Summer and Winter assuming that 60 percent of the demand charges are recovered through volumetric rates, ceteris paribus. Provide the information in live EXCEL format, as well as summarize the TOU rates and demand charges in a tabular manner for the different classes, as appropriate.

**Response:** Please see the attachment marked as Exhibit 27-28 for the rates for Liberty and the accompanying live EXCEL spreadsheet. Unitil rates were provided separately by Unitil.

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**Request:** Exhibit 24, Bates pages 20-22. For both Unitil Energy Systems, Inc. (Unitil) and Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty (Liberty), maintaining revenue neutrality, please provide similar analyses of the volumetric rates for Commercial EV TOU classes for both Summer and Winter assuming that 75 percent of the demand charges are recovered through volumetric rates, ceteris paribus. Provide the information in live EXCEL format, as well as summarize the TOU rates and demand charges in a tabular manner for the different classes, as appropriate.

**Response:** Please see the attachment marked as Exhibit 27-28 for the rates for Liberty and the accompanying live EXCEL spreadsheet. Unitil rates were provided separately by Unitil.

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	
DOE Rate - Original TOU (100% reduction in demand charge)	\$/month	\$1,459	\$2,406	\$6,609	
DOE Rate - Original TOU and 1/2 Demand charge	\$/month	\$2,005	\$2,952	\$7,519	% of original demand charge
DOE Rate - 75% reduction in demand charge + rest of distribution revenue from TOU	\$/month	\$1,699	\$2,616	\$6,865	25%
DOE Rate - 60% reduction in demand charge + rest of distribution revenue from TOU	\$/month	\$1,843	\$2,742	\$7,019	40%
DOE Rate - 50% reduction in demand charge + rest of distribution revenue from TOU	\$/month	\$1,939	\$2,825	\$7,122	50%
<b>Customer Charge</b>					
G-1 original	\$/month	428.76			
<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>					
Liberty G-1 original					
Energy Charges (D, T, G, and other)	\$/kWh	\$0.116			
Distribution Demand Charges	\$/kW	\$9.100			
DOE TOU Rates for different levels of demand charges					
Summer		DOE Rate - Original TOU	75% reduction in demand charge	60% reduction in demand charge	50% reduction in demand charge
Peak	\$/kWh	\$0.43343	\$0.42514	\$0.42017	\$0.41685
Midpeak	\$/kWh	\$0.11840	\$0.11106	\$0.10665	\$0.10371
Offpeak	\$/kWh	\$0.08230	\$0.07598	\$0.07219	\$0.06967
Winter					
Peak	\$/kWh	\$0.28066	\$0.27296	\$0.26833	\$0.26525
Midpeak	\$/kWh	\$0.09934	\$0.09269	\$0.08870	\$0.08604
Offpeak	\$/kWh	\$0.09477	\$0.08852	\$0.08478	\$0.08228

## Liberty High Draw Rates (Combined G1 and G2)

Demand charge reduction: 100% (ORIGINAL TOU)

	Generation (\$/kWh)	Transmission (\$/kWh)	Distribution (\$/kWh)	Other charges (\$/kWh)	Total (\$/kWh)
<b>Summer</b>					
Peak	\$0.24677	\$0.14352	\$0.03716	\$0.00598	\$0.43343
Midpeak	\$0.06139	\$0.01811	\$0.03292	\$0.00598	\$0.11840
Offpeak	\$0.04800	\$0.00000	\$0.02832	\$0.00598	\$0.08230
<b>Winter</b>					
Peak	\$0.07436	\$0.16579	\$0.03453	\$0.00598	\$0.28066
Midpeak	\$0.05994	\$0.00362	\$0.02979	\$0.00598	\$0.09934
Offpeak	\$0.05782	\$0.00297	\$0.02800	\$0.00598	\$0.09477

	Peak :Offpeak
Summer ratio	5.3 :1
Winter ratio	3.0 :1

Original demand charge is 9.10 \$/kW for G1.

**Demand charge reduction: 75%**

	Generation (\$/kWh)	Transmission (\$/kWh)	Distribution (\$/kWh)	Other charges (\$/kWh)	Total (\$/kWh)
<b>Summer</b>					
Peak	\$0.24677	\$0.14352	\$0.02887	\$0.00598	\$0.42514
Midpeak	\$0.06139	\$0.01811	\$0.02558	\$0.00598	\$0.11106
Offpeak	\$0.04800	\$0.00000	\$0.02200	\$0.00598	\$0.07598
<b>Winter</b>					
Peak	\$0.07436	\$0.16579	\$0.02683	\$0.00598	\$0.27296
Midpeak	\$0.05994	\$0.00362	\$0.02315	\$0.00598	\$0.09269
Offpeak	\$0.05782	\$0.00297	\$0.02176	\$0.00598	\$0.08852

	<b>Peak :Offpeak</b>
Summer ratio	5.6 :1
Winter ratio	3.1 :1

**Demand charge reduction: 60%**

	Generation (\$/kWh)	Transmission (\$/kWh)	Distribution (\$/kWh)	Other charges (\$/kWh)	<b>Total (\$/kWh)</b>
<b>Summer</b>					
Peak	\$0.24677	\$0.14352	<b>\$0.02390</b>	\$0.00598	<b>\$0.42017</b>
Midpeak	\$0.06139	\$0.01811	<b>\$0.02117</b>	\$0.00598	<b>\$0.10665</b>
Offpeak	\$0.04800	\$0.00000	<b>\$0.01821</b>	\$0.00598	<b>\$0.07219</b>
<b>Winter</b>					
Peak	\$0.07436	\$0.16579	<b>\$0.02221</b>	\$0.00598	<b>\$0.26833</b>
Midpeak	\$0.05994	\$0.00362	<b>\$0.01916</b>	\$0.00598	<b>\$0.08870</b>
Offpeak	\$0.05782	\$0.00297	<b>\$0.01801</b>	\$0.00598	<b>\$0.08478</b>

	<b>Peak :Offpeak</b>
Summer ratio	5.8 :1
Winter ratio	3.2 :1

**Demand charge reduction: 50%**

	Generation (\$/kWh)	Transmission (\$/kWh)	Distribution (\$/kWh)	Other charges (\$/kWh)	<b>Total</b> <b>(\$/kWh)</b>
<b>Summer</b>					
Peak	\$0.24677	\$0.14352	\$0.02059	\$0.00598	<b>\$0.41685</b>
Midpeak	\$0.06139	\$0.01811	\$0.01824	\$0.00598	<b>\$0.10371</b>
Offpeak	\$0.04800	\$0.00000	\$0.01568	\$0.00598	<b>\$0.06967</b>
<b>Winter</b>					
Peak	\$0.07436	\$0.16579	\$0.01913	\$0.00598	<b>\$0.26525</b>
Midpeak	\$0.05994	\$0.00362	\$0.01650	\$0.00598	<b>\$0.08604</b>
Offpeak	\$0.05782	\$0.00297	\$0.01551	\$0.00598	<b>\$0.08228</b>

	<b>Peak :Offpeak</b>
Summer ratio	6.0 :1
Winter ratio	3.2 :1