

**STATE OF NEW HAMPSHIRE  
BEFORE THE  
PUBLIC UTILITIES  
COMMISSION**

**ELECTRIC DISTRIBUTION UTILITIES**

**DE 20-170**

**ELECTRIC VEHICLE TIME OF USE RATES**

**SETTLEMENT AGREEMENT**

This Settlement Agreement concerning separately-metered electric vehicle time of use rates (“Settlement Agreement”) is entered into this day by and among Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty (“Liberty”); Unitil Energy Systems, Inc. (“Unitil”); the Office of the Consumer Advocate (“OCA”); the Department of Energy (“DOE”); and the Department of Environmental Services (“DES”)(collectively referred to as the “Settling Parties”) to resolve outstanding issues related to Unitil and Liberty’s time of use rate filings in the above-captioned proceeding.

**I. INTRODUCTION AND PROCEDURAL HISTORY**

On August 11, 2018, SB 575-FN, a bill establishing requirements for, and restrictions on, electric vehicle charging stations, went into effect. SB 575-FN required the Commission to determine whether certain rate designs should be implemented for electric vehicle charging stations, specifically requiring the Commission to determine whether to implement electric vehicle time of day rates for residential and commercial customers.<sup>1</sup> The Commission issued an

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<sup>1</sup> See, RSA 236:133, V. (Stating “The public utilities commission shall... [c]onsider and determine whether it is appropriate to implement electric vehicle time of day rates for residential and commercial customers. The standards for determination of such implementation shall include consideration whether such implementation would encourage energy conservation, optimal and efficient use of facilities and resources by an electric company, and equitable rates for electric consumers.”)

Order of Notice on January 16, 2020, opening Docket No. IR 20-004 to investigate issues related to the legislature’s directive. After several comment opportunities and a Commission Staff Recommendation (“Staff Recommendation”),<sup>2</sup> the Commission held a hearing on matters identified by SB 575-FN on July 14, 2020. On August 18, 2020, the Commission issued Order No. 26,394 in Docket No. IR 20-004. In that Order, the Commission determined that time of use rates would be appropriate for separately-metered electric vehicle charging and required that a new proceeding be opened to consider utility-specific rate proposals for separately metered electric vehicle time of use (EV TOU) rates.<sup>3</sup> The Commission also directed Staff and the parties to that new proceeding to further develop the alternative metering feasibility assessment concept discussed within the Staff Recommendation and determine a timeline for such an assessment with the input of the parties.<sup>4</sup>

On October 16, 2020, the Commission issued an Order of Notice opening Docket No. DE 20-170 to facilitate development and subsequent review of utility-specific EV TOU rate

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<sup>2</sup> Docket No. DE 20-004. April 3, 2020 Staff Recommendation. Available at: [https://www.puc.nh.gov/Regulatory/Docketbk/2020/20-004/LETTERS-MEMOS-TARIFFS/20-004\\_2020-04-03\\_STAFF\\_RECOMMENDATION.PDF](https://www.puc.nh.gov/Regulatory/Docketbk/2020/20-004/LETTERS-MEMOS-TARIFFS/20-004_2020-04-03_STAFF_RECOMMENDATION.PDF)

<sup>3</sup> Order No. 26,394 at 18. (August 18, 2020)(Stating “Staff recommended the Commission open a new proceeding and direct each electric utility to file within 120 days, consistent with the guidance above: (1) an EV TOU rate proposal for separately-metered residential and small commercial customer applications; (2) an EV TOU rate proposal for separately-metered high demand draw commercial customer applications that may incorporate direct current fast charging or clustered level two chargers... Based on our review of the record in this investigation, we find electric vehicle time of use rates are an appropriate rate design for residential and commercial customers, and we believe a separate proceeding to adjudicate the merits of various proposals from each utility is warranted... We also see value in the distinction Staff has drawn regarding residential and small commercial customers and high demand draw applications that may incorporate direct current fast charging or clustered level two chargers.)

<sup>4</sup> *Id.* at 13-14. (Stating “We are persuaded that further investigation of issues related to advanced metering functionality associated with EVSE embedded meters is warranted. We note that Eversource appears to have experience with third party metering approaches in other jurisdictions. Eversource Supplemental Comments at 4-5. We also find Unitil’s Supplemental Comments to be a helpful initial assessment of some of the barriers associated with third party metering technology. We are further encouraged by actions in neighboring jurisdictions that appear to target EVSE as an opportunity to build an initial framework for integration of advanced metering IR 20-004 functionality. While we decline at this time to require the utilities to file feasibility assessments related to alternative metering, we direct Staff to further develop this concept, with the input of the parties, in the initial stage of any adjudicative proceeding that may follow this investigation, and determine an appropriate timeline for such an assessment with the input of the parties.”)

proposals for consistency with the directives of Order No. 26,394, and scheduling a prehearing conference for November 9, 2020. On November 13, 2020, the Commission approved a preliminary procedural schedule for this proceeding allowing for comments, reply comments, and technical session discussions regarding to-be-filed EV TOU rates and alternative metering feasibility assessments. On February 3, 2021, the Commission approved an amended procedural schedule requiring that the EV TOU and alternative metering feasibility assessment filings on April 30, 2021. On April 29, 2021, the Commission approved an amended procedural schedule extending the EV TOU and alternative metering feasibility assessment filings deadline to June 15, 2021.

On June 15, 2021, Unitil, Liberty, and Public Service Company of New Hampshire d/b/a Eversource Energy (“Eversource”) filed testimony in this proceeding. Eversource filed supplemental testimony on June 23, 2021.

Also on June 15, 2021, the Commission directed the parties to this proceeding to develop and propose a procedural schedule designed to resolve the outstanding matters in this proceeding at least 30 days prior to February 16, 2022, the date hearings are scheduled to conclude in Docket No. DE 21-030.<sup>5</sup> On August 4, 2021, the Commission approved an amended procedural schedule and issued a Supplemental Order of Notice.

On August 11, 2021, Eversource Energy requested transfer of its make-ready and demand charge alternative proposals from DE 21-078 into the instant proceeding. On September 9, 2021, the Commission denied the Eversource request.

On October 13, 2021, the Department of Energy, City of Lebanon, and ChargePoint, Inc. (“ChargePoint”) filed testimony; Clean Energy New Hampshire (“CENH”) and Conservation

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<sup>5</sup> This Commission directive was issued pursuant to Order No. 26,486 (June 9, 2021) in Docket No. DE 21-030, which denied a motion to remove Unitil’s Electric Vehicle Time of Use rate proposals from Docket No. DE 21-030.

Law Foundation (“CLF”) filed Joint Testimony on that same day. On December 10, 2021, Unitil, Eversource, and Liberty filed rebuttal testimony.

During the period between November 16, 2021, and January 12, 2022, the parties engaged in Settlement Discussions. Based upon these discussions, the Settling Parties agreed to the terms of this Settlement Agreement, subject to Commission approval. The Settling Parties recommend and request that the Commission approve this Settlement Agreement without modification.

## **II. SETTLEMENT TERMS**

### **A. Unitil Residential EV TOU Rate**

The Settling parties agree that Unitil’s rate TOU-EV-D is consistent with Order No. 26,394, will result in just and reasonable rates and shall be implemented, subject to the following clarifications:<sup>6</sup>

#### **1. Customer Charge**

For Unitil, the customer charge shall be set at \$5.26.<sup>7</sup>

#### **2. Time Varying Periods**

At the time of initial offering, and for the purpose of future updates, separately metered residential electric vehicle charging rates shall have three time of use periods (off peak, mid-peak, and peak). The peak period shall be no more than five hours in duration, and the ratio between the total paid by a customer \$/kWh during peak periods to the \$/kWh paid by a customer during off periods (“peak to off-peak ratio” or “ratio”) shall be no less than 3:1 on average annually, consistent with Order No. 26,394.

#### **3. Transmission and Generation Rate Development Method**

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<sup>6</sup> Illustrative rates are provided in Attachment A, but will be updated via tariff filing upon implementation.

<sup>7</sup> This charge represents the levelized carrying charge associated with a single meter investment.

To develop the transmission and generation rate peak, mid peak, and off-peak time of use ratios for application to future rate changes, Unitil's proposed methodology, as discussed in the direct testimony of John Taylor, shall be adopted subject to the following clarifications: (1) to calculate the generation revenue requirement, the Company shall differentiate between those generation costs related to ISO-NE's Forward Capacity Market (FCM) and costs unrelated to the FCM, the former of which is allocated entirely to summer peak hours; (2) the transmission revenue requirement shall be based on the most recent ten-year (2010-2020) period of ISO-NE monthly peaks rather than the most recent twenty-year period (2000-2020).

#### **4. Distribution Rate Development Method**

To develop the distribution rate peak, mid peak, and off-peak time of use ratios for application to future rate changes, the Department of Energy's proposed method, as set forth in the testimony of Dr. Sanem Sergici, is adopted. That method is as follows: (1) the total current revenues for the class are first reduced by the costs recovered through the fixed monthly customer charge to derive the costs to be recovered through the time-varying kWh rate; (2) the distribution costs are calculated each hour within the year by taking the total system load from that hour squared and then calculating the percentage of the total system load squared that that hour represents for the whole year; (3) the resulting hourly percentage is then multiplied by the class's volumetric portion of distribution revenue to derive the monetary portion each hour represents of that total volumetric revenue; (4) those hourly monetary portions are then summed within each TOU period to represent the Distribution Revenue Requirement recovered by TOU rates; and (5) the resulting TOU period distribution revenue requirement is then divided by the class's energy usage in each TOU period to derive a time-period specific Distribution TOU rate (\$/kWh).

## **B. Commercial Customer EV TOU Rates**

The Settling parties agree that Unitil's rate TOU-EV-G1 and TOU-EV-G2, and Liberty's rate EV-M and EV-L, are consistent with Order No. 26,394, will result in just and reasonable rates, and shall be implemented, subject to the following clarifications:<sup>8</sup>

### **5. Eligibility Requirements**

At least 90 percent of a customer's individually metered load, as projected at the time the utility conducts its calculation relating to the customer contribution in aid of construction, must be utilized for electric vehicle charging. Customers whose electric vehicle charging load will represent less than 90 percent of the load served by the customer meter shall be ineligible for service under this rate.

### **6. Optionality**

Customers may opt-in to the appropriate commercial customer electric vehicle rate for their demand, and may opt-out at any time, but shall not be eligible to return to the rate for a period of 12 months once they have opted out.

### **7. Customer Charge**

The customer charge shall be set at the customer charge for the analogous commercial customer rate class.

### **8. Time Varying Periods**

At the time of initial offering, and for the purpose of future updates, separately metered commercial customer electric vehicle charging rates shall have three time of use periods (off peak, mid-peak, and peak). The peak period shall be no more than five hours in duration.

### **9. Time Varying Components**

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<sup>8</sup> Illustrative rates are provided in Attachment A, but will be updated via tariff filing upon implementation.

At the time of initial offering, and for the purpose of future updates, separately metered commercial customer electric vehicle charging rates shall offer time varying transmission, distribution, and generation components, except that Unitil is not offering a time-based generation component for its G-1 rate class. The time varying generation component shall be imputed to the customer by the utility from the default service load. In instances where a utility views the imputed time-varying generation rate associated with high demand draw separately metered electric vehicle customers as resulting in an unreasonable cost shift to other large default service customers, that utility may choose not to offer an imputed time varying generation rate.

#### **10. Rate Development Method, Demand Charge, and Revenue Neutrality**

The transmission, generation, and distribution rate peak, mid peak, and off-peak time of use ratios shall be developed in a manner similar to that described in Section II, A. above, except maintaining a demand charge which shall represent 50 percent of the demand charge for the analogous commercial customer rate class. The TOU rate is developed using the analogous commercial customer rate class revenue requirement (as a separate class for commercial electric vehicle charging customers does not exist at this time). As such, it does not recover sufficient revenues from low utilization commercial electric vehicle charging customers. Maintaining 50 percent of demand charge is intended to alleviate the distribution revenue shortfall created by the low utilization stations. A model demonstrating the approximate revenue neutrality on a total bill basis and related assumptions is attached to this agreement as Attachment B. The revenue neutrality model assumes a charging station utilization rate of five percent with an annual consumption allocation of 50 percent during the peak period, 30 percent during the mid-peak period, and 20 percent during the off-peak period. The parties stipulate and agree these

assumptions are reasonable until they can be updated based on actual observed data for electric vehicle chargers that receive time-varying price signals.

## **C. Other Matters**

### **1. Implementation Date**

The Settling Parties agree that the rates described herein shall take effect June 1, 2022, or within 90 days of a Commission Order in this proceeding, whichever is later, to allow for billing system programming and testing. If either Unitil or Liberty are unable to offer the rates described herein within 90 days, then that Company at issue shall file notification with the Commission providing explanation for the delay.

### **2. Marketing.**

The Settling Parties agree that the Companies agree to pursue targeted marketing opportunities, such as through charging station vendor relationships and electric vehicle manufacturer relationships, which may allow the Companies to target residential EV TOU rate offerings toward existing electric vehicle owners within their territory..

### **3. Reporting**

The Settling Parties agree that Unitil and Liberty shall separately file reports 12 months, and then again at 24 months, after a Commission Order approving the rates described herein describing marketing efforts to date, the number of customers enrolled per rate, the average load shape per rate, and the average utilization rate per rate class.

### **4. Annual Rate Update**

The Settling parties agree that Unitil and Liberty shall update the generation, distribution and transmission rates within their separately metered EV TOU Rates based upon default and transmission service cost filings, and any other applicable rate changes, consistent with the



ratios resulting from the rate development method set forth in Section II, A. and B. above. The rates initially developed using the method set forth in Section II, A. and B will be used to calculate peak, mid peak, and off-peak time of use ratios for the summer and winter seasons.

**5. Update Rate and Class Revenue Requirement to Reflect Actual Cost of Service**

The Settling Parties agree that at the time of each Company's next rate case, separately metered EV classes shall be treated as distinct classes for the purpose of distribution cost allocation and marginal cost determinations, to the extent feasible given the number of customers and load enrolled in each class at that time.

**6. Alternative Metering Feasibility Assessment**

If approved by the Commission in Docket No. DE 21-030, the Settling Parties agree that Unitil shall file a report with the results of its proposed alternative metering feasibility assessment pilot once at least 50 customers have enrolled and at least six months of usage data have been collected. The Settling Parties further agree to review data and analysis from Unitil pilot once completed, then hold a technical session to consider pilot expansion or full program offerings.

**7. Matters Neither Addressed nor Prejudiced by Settlement**

The Settling Parties agree and recommend that the following matters shall not be prejudiced by this settlement: (1) distribution cost of service methodology; (2) Unitil whole-home time of use rate proposal, electric vehicle make-ready proposal, and electric vehicle charger rebate program proposal; and (3) future opportunities relating to Electronic Data Interchange (EDI) system upgrades which may facilitate time varying rate offerings from competitive suppliers.

### **III. GENERAL PROVISIONS**

The Settling Parties agree that all testimony and supporting documentation may be admitted as full exhibits for purposes of consideration of this Agreement. Assent to admit all direct testimony without challenge does not constitute agreement by the Settling Parties that the content of the written testimony is accurate nor is it indicative of what weight, if any, should be given to the views of any witness. Reflecting the intent of this Agreement, the Settling Parties agree to forego cross-examining witnesses of the Settling Parties regarding their pre-filed testimony and, therefore, the admission into evidence of any witness's testimony or supporting documentation shall not be deemed in any respect to constitute an admission by any party to this Agreement that any allegation or contention in this proceeding is true or false, except that the sworn testimony of any witness shall constitute an admission by such witness.

This Agreement is expressly conditioned upon the Commission's acceptance of all of its provisions without change or condition. All terms are interdependent, and each Settling Party's agreement to each individual term is dependent upon all Settling Parties' agreement with all terms. If such complete acceptance is not granted by the Commission, or if acceptance is conditioned in any way, each of the Settling Parties shall have the opportunity to amend or terminate this Agreement or to seek reconsideration of the Commission's decision or condition. If this Agreement is terminated, it shall be deemed to be withdrawn and shall be null and void and without effect and shall not constitute any part of the record in this proceeding nor be used for any other purpose. The Settling Parties recommend approval of this Agreement before the Commission. The Settling Parties also agree that they shall not oppose this Agreement at hearing or through pleadings before any regulatory agencies or courts before which this matter is brought but shall take all such action as is necessary within those venues to secure approval and

implementation of the provisions consistent with Agreement.

The Commission's acceptance of this Agreement does not constitute continuing approval of or precedent regarding any particular issue under this docket, but such acceptance does constitute a determination that this Agreement and all provisions are just and reasonable. All discussions leading to and resulting in this Agreement have been conducted with the understanding that all offers of settlement and discussion relating to these terms are and shall be protected and treated as privileged, and shall be so without prejudice to the position of any party or participant representing any such offer or participating in any such discussion, and are not to be used in any manner in connection with this proceeding, any further proceeding or otherwise.

This Agreement may be executed by facsimile or electronically and in multiple counterparts, each of which shall be deemed to be an original, and all of which, taken together, shall constitute one agreement binding on all Settling Parties.

#### **IV. CONCLUSION**

The Settling Parties affirm that the proposed Agreement is consistent with Order No. 26,394, the proposed rates and commitments described herein are likely to result in just and reasonable rates, and recommend its approval by the Commission.

IN WITNESS WHEREOF, the Settling Parties have caused this Agreement to be duly executed in their respective names by their agents, each being fully authorized to do so on behalf of their principal.

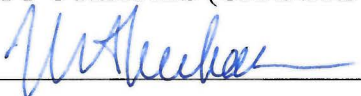
UNITIL ENERGY SYSTEMS, INC.

By: /s/ Patrick Taylor

January 14, 2021

Patrick H. Taylor, Esq., Senior Counsel

LIBERTY UTILITIES (GRANITE STATE ELECTRIC) CORP. D/B/A LIBERTY UTILITIES

By: 

January 14, 2021

Michael Sheehan, Esq. Senior Counsel

OFFICE OF THE CONSUMER ADVOCATE

By: \_\_\_\_\_

January 14, 2021

Julianne Desmet, Esq. Staff Attorney

DEPARTMENT OF ENERGY

By: \_\_\_\_\_

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Brian D. Buckley, Esq., Staff Attorney/Hearings Examiner

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Rebecca Ohler, Administrator

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DEPARTMENT OF ENVIRONMENTAL SERVICES

By: Rebecca E. Ohler

January 14, 2021

Rebecca E. Ohler, Administrator

**ATTACHMENT A: ILLUSTRATIVE RATES**

**Residential Rates**

**Unitil – TOU-EV-D**

1. Customer Charge: \$5.26 per meter
2. 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)	\$0.0408	\$0.02941	\$0.06304	<b>\$0.09653</b>
Mid Peak (6am-3pm, M-F)	\$0.04683	\$0.04941	\$0.07003	<b>\$0.16627</b>
Peak (3pm-8pm, M-F)	\$0.11567	\$0.08797	\$0.08594	<b>\$0.28958</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>
Mid Peak (6am-3pm, M-F)	\$0.00778	\$0.04195	\$0.05943	<b>\$0.10916</b>
Peak (3pm-8pm, M-F)	\$0.16616	\$0.03619	\$0.07151	<b>\$0.27386</b>

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

1. Customer Charge: \$11.35 per meter
2. 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>	Transmission	Distribution	Generation	<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>	Transmission	Distribution	Generation	<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>	Transmission	Distribution	Generation	<b>Total</b>
Off Peak (8pm-8am )	\$ 0.000	\$ 0.028	\$ 0.048	<b>\$ 0.076</b>
Mid Peak (8am-3pm, M-F) (8am-8pm, wkends/holidays)	\$ 0.018	\$ 0.033	\$ 0.061	<b>\$ 0.112</b>
Peak (3pm-8pm, M-F)	\$ 0.144	\$ 0.037	\$ 0.247	<b>\$ 0.428</b>

<b>Winter Volumetric Rates (Nov 1 – April 30)</b>				
<b>Period</b>	Transmission	Distribution	Generation	<b>Total</b>
Off Peak (8pm-8am)	\$ 0.003	\$ 0.028	\$ 0.058	<b>\$ 0.089</b>
Mid Peak (8am-3pm, M-F) (8am-8pm, wkends/holidays)	\$ 0.004	\$ 0.006	\$ 0.060	<b>\$ 0.070</b>
Peak (3pm-8pm, M-F)	\$ 0.166	\$ 0.035	\$ 0.074	<b>\$ 0.275</b>

### 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):

<b>Summer Volumetric Rates (June 1 – Nov 30)</b>				
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>

<b>Winter Volumetric Rates (Dec 1 – May 31)</b>				
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):

<b>Summer Volumetric Rates (May 1 – Oct 31)</b>				
Period	Transmission	Distribution	Generation	Total
Off Peak (8pm-8am )	\$ 0.000	\$ 0.028	\$ 0.048	<b>\$ 0.076</b>
Mid Peak (8am-3pm, M-F) (8am-8pm, wkends/holidays)	\$ 0.018	\$ 0.033	\$ 0.061	<b>\$ 0.112</b>
Peak (3pm-8pm, M-F)	\$ 0.144	\$ 0.037	\$ 0.247	<b>\$ 0.428</b>

<b>Winter Volumetric Rates (Nov 1 – April 30)</b>				
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Off Peak (8pm-8am)	\$ 0.003	\$ 0.028	\$ 0.058	<b>\$ 0.089</b>
Mid Peak (8am-3pm, M-F) (8am-8pm, wkends/holidays)	\$ 0.004	\$ 0.006	\$ 0.060	<b>\$ 0.070</b>
Peak (3pm-8pm, M-F)	\$ 0.166	\$ 0.035	\$ 0.074	<b>\$ 0.275</b>

**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	Notes	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	\$1,537	\$1,901	\$4,184
Unitil Proposal 2 (20% of dist. revenue is recovered from TOU rates; 80% from demand charges)		\$/month	\$1,305	\$1,722	\$4,049
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>			0.23	0.18	0.16
G1 average - Original		\$/month	\$124.34		
G1 average - Proposed		\$/month	\$137.18		
<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>					
<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	\$0.004		
Offpeak		\$/kWh	\$0.039		
Winter					
Peak		\$/kWh	\$0.186		
Midpeak		\$/kWh	\$0.006		
Offpeak		\$/kWh	\$0.007		
<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	\$0.008		
Offpeak		\$/kWh	\$0.026		
Winter					
Peak		\$/kWh	\$0.193		
Midpeak		\$/kWh	\$0.010		
Offpeak		\$/kWh	\$0.012		
<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	<i>Ratios</i>	
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	Notes	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	\$2,169	\$2,855	\$6,826
Unitil Proposal 2 (20% of dist. revenue is recovered from TOU rates; 80% from demand charges)		\$/month	\$2,009	\$2,890	\$7,477
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	\$0.057		
Offpeak		\$/kWh	\$0.098		
Winter					
Peak		\$/kWh	\$0.282		
Midpeak		\$/kWh	\$0.086		
Offpeak		\$/kWh	\$0.098		
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	\$0.061		
Offpeak		\$/kWh	\$0.090		
Winter					
Peak		\$/kWh	\$0.257		
Midpeak		\$/kWh	\$0.068		
Offpeak		\$/kWh	\$0.071		
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	DOE did not develop illustrative rates for G2		
Midpeak		\$/kWh	DOE did not develop illustrative rates for G2		
Offpeak		\$/kWh	DOE did not develop illustrative rates for G2		
Winter					
Peak		\$/kWh	DOE did not develop illustrative rates for G2		
Midpeak		\$/kWh	DOE did not develop illustrative rates for G2		
Offpeak		\$/kWh	DOE did not develop illustrative rates for G2		

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

Monthly Bill	Notes	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 1/2Demand Charge		\$/month	\$2,005	\$2,952	\$7,519
DOE Rate - Original TOU and 1/4Demand 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>					
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		