Attachment SIS-2

Public Service of New Hampshire d/b/a Eversource Energy
Docket No. DE 20-170

Date Request Received: 07/21/2021 **Date of Response: 08/04/2021**
Request No. DOE 2-019 **Page 1 of 1**
Request from: Department of Energy

Witness: Dennis E. Moore

Request:
Reference Company Response Staff 1-010, stating "The initial activity to identify these costs and a timeline was to capture high level scope and business requirements for a proposed dynamic EV TOU rate which included up to 3 daily periods differentiated for weekdays, weekends and holidays. Through a series of requirement gathering sessions, high-level requirements for metering, billing and reporting system modifications were identified. These high-level requirements were subsequently used to estimate incremental IT costs for solution development & testing as well as project support costs. The lead time of 30 months includes activities for project mobilization, requirements refinement (6 months), plus a development and delivery timeline of roughly up to 24 months based off of past projects with equivalent scope and complexity." Please provide any documents prepared in order to identify costs and a timeline, including meeting minutes, agendas, memos, presentations, or other materials.

Response:
Please refer to Attachment 1 for a summary of the Company's cost estimate and Attachment 2 for the final project scope and business requirements for implementation of the propose rate.

Docket No. DE 20-170
Data Request DOE 2-019
Dated 07/21/2021
Attachment 1, Page 1 of 1

Project Details	Estimate	Timeline
Incremental Development and Testing IT Costs	$7,200,000	18 – 24 Months
Incremental Project Support Costs	$1,920,000	
Total	$9,120,000	

Key Assumptions:

1. This is a high-level order of magnitude estimate and timeline using only incremental Vendor, Supplier, and Contractor costs.
2. Assumes that 3-part usage data will be sent to competitive suppliers for purposes of pass-through billing and that changes will be made to C2 billing system for Eversource to bill 3-part prices on behalf of competitive suppliers for complete billing.
3. Metering, billing, and reporting changes are required to build a new Electric Vehicle rate.
4. Estimate does not include meter purchase, installation, nor overhead related to meter management.
5. Estimate includes resource cost associated with gathering requirements, responding to design questions, testing, training, implementation, and post implementation support.
6. Assumes interval read meters are used.
7. Bill changes will be required.

Project Name: NH Electric Vehicle 3 Part TOU Rate
Date: Updated 03/11/2021 v13

IT Business Solutions Analyst: Business Solution Analysts

Business & IT contributors to this document (title):

1. Director
2. Manager
3. Domain Architect
4. Supervisor
5. Analyst
6. Analyst
7. Analyst
8. Analyst
9. Strategist
10. Project Manager
11. Consultant
12. Developer
13. Developer
14. Developer
15. Manager

Background

As part of the 2020 NH Rate Case Settlement agreement, Eversource has been asked to propose a 3-part electric vehicle charging station Time of Use rate.

Under the proposal, all 3 parts of TOU rate must have different rates for distribution, supply, and transmission. This document outlines the high-level scope for the metering, billing and reporting changes to be made to support the proposal. Using the attached Liberty Utilities proposed rate as a guide, the following are the requirements.

High-Level Business Requirements:

In Scope:

All 3 parts of TOU rate must have different rates for distribution, supply, and transmission.

Metering Requirements

1. Business to set up interval meter configuration for 3-part TOU in NH MV90xi to generate BDET (Billing Determinate) file automatically.

Summary of changes to utilize Meter Bill Tracker in the process for 3-part TOU Rate (NEW)

2. Create separate instance of the Meter Bill Tracker (MTB) for NH.
    - This includes creating separate instance of Meter Bill File Watcher to import data from C2.
    - Alternatively, modify the existing instance to accommodate NH data.
        - This may be a better long term solution, but take longer to implement.
3. PowerTrack Export of meters, modified to get NH interval meters for use by the mainframe C2 COBOL program for extracting customer data.
4. C2 COBOL program (KILMRXIN) that extracts customer / meter from C2 to send to the MBT system each morning as the C2 download file.

- A separate download file should be created for NH
  - or
- The Meter Bill File Watcher service that imports the file to the MBT will need modified to filter on company code for both the CTMA data and the NH data.

5. MBT FileWatcher service to import the customer data for NH from the C2 download file.
6. MBT UI changes to present the mid-peak values to the user.
7. File Scanner BDF Generator process to calculate the index values for mid-peak, based off of the consumption data and prior index values contained within MBT. (Refer to diagram)
8. Changes to MBT to accommodate NH Billing cycles in MBT
9. Changes to MBT to be able to filter & search NH data.
10. Changes to MBT to export the mid-peak index values with the on & off peak values.
11. May need a separate export/extract file from MBT to C2 for NH reads. Ideally, you would send NH reads and CTMA (Connecticut / Massachusetts) reads together.
12. If NH resources need to be restricted from accessing CTMA data MBT, this would require a change to roles for MBT users to isolate access to NH vs. CTMA data.
13. MBT changes to accommodate and/or separate NH data errors.

Billing Requirements

1. Create new billing meter type configurations for 3-part TOU.
2. Create new usage detail types for 3-part TOU.
3. Create new C2 service plan options (residential, commercial) for 3-Part TOU. EV rates will bill On-peak, Mid-Peak, and Critical and Total. Rates for energy (kWh) based changes are based on two seasonal periods.
4. Change C2 bill file to send data (including new On-peak, Mid-Peak, and Critical and Total rates) to KUBRA for purposes of bill print. Pending design discussion, this may be a change to the Meter Box on left-hand side of bill and the Billing Determinates on right-hand side of bill calculation. KUBRA will need to make changes to accept the new data in the modified C2 file and render the bill.
5. Modify EDI file sent to competitive suppliers to include the 3-part usage (On-peak, Mid-Peak, and Critical and Total). This would be needed for customers who elect pass-through billing but most likely will be required for complete billing customers as well.

Reporting Requirements

1. If needed, modify files sent to Load Research to include hourly or native intervals off the interval meter.
2. Change existing Revenue Reports for Accounting to track the new EV rate in C2.

Out of Scope:

1. Changes to Eversource.com

Assumptions:

1. The MBT solution would be in-place at least until C2 is replaced with SAP.
2. No changes required for NH LPB. Assumption is that EV customers can be billed in C2.

3. Requirements will be based on the proposed Liberty Utilities Tariff on last page.
4. Eversource will own the meter which will be a basic kWh Survey Type One-Channel Interval Meter. That meter is a recording meter that can record in 5 to 30-minute intervals.
5. File scanner changes will be required for moving meter data.
6. Estimates will include incremental IT effort only.
7. Estimate does not include the purchase or installation of the meter nor any of the business overhead related to managing the meters for NH.
8. Load Settlement regression testing required.

NHPUC NO. 21 - ELECTRICITY DELIVERY
LIBERTY UTILITIES

Third Revised Page 123
Superseding Second Revised Page 123
Rate EV

Rate EV Plug In Electric Vehicle

Availability
Retail Delivery Service under this rate is available for uses of a customer taking service under Rate D as a separately metered service. By choosing to participate in this Plug In Electric Vehicle rate, the Customer agrees to pay the following charges for a minimum of two years. The charging station shall be connected by means of an approved circuit to a separate electric vehicle charging meter. The rates for energy (kWh) based charges are seasonal with a winter period from November 1 to April 30 and a summer period from May 1 to October 31.

Character of Service
Service supplied under this rate will be single phase, 60 cycle, alternating current, normally three-wire service at a nominal voltage of 120/240 volts or three-wire 120/208 volts, whichever is available at the location.

Rates per Month

The rate per month will be the sum of the applicable Customer and Energy Charges subject to the adjustments in this tariff:

Rates for Retail Delivery Service Effective November 1, 2020 through April 30, 2021

Customer Charge	$11.35 per month
Energy Charges Per Kilowatt-Hour (cents per kilowatt-hour)	
Distribution Charge Off Peak	4.196
Distribution Charge Mid Peak	6.289
Distribution Charge Critical Peak	8.955
Reliability Enhancement/Vegetation Management	0.008
Total Distribution Charge Off Peak	4.204
Total Distribution Charge Mid Peak	6.297
Total Distribution Charge Critical Peak	8.963
Transmission Charge Off Peak	0.212
Transmission Charge Mid Peak	0.337
Transmission Charge Critical Peak	13.615
Energy Service Charge Off Peak	7.411
Energy Service Charge Mid Peak	8.871
Energy Service Charge Critical Peak	9.208
Stranded Cost Adjustment Factor	(0.072)
Storm Recovery Adjustment Factor	0.000

Off peak hours will be from 12AM to 8AM and 8PM to 12AM daily.
Mid peak hours will be from 8AM to 3PM daily Monday through Friday, except holidays.
Mid peak hours will be from 8AM to 8PM Saturday, Sunday and holidays.
Critical peak hours will be from 3PM to 8PM daily Monday through Friday, except holidays.

Issued: January 13, 2021
Issued by: /s/ Susan L. Fleck
Susan L. Fleck
Effective: February 1, 2021
Title: President

Attachment SIS-3

Public Service of New Hampshire d/b/a Eversource Energy
Docket No. DE 20-170

Date Request Received: 08/13/2021 **Date of Response: 08/27/2021**
Request No. DOE 3-008 **Page 1 of 1**
Request from: Department of Energy

Witness: Dennis E. Moore

Request:
Reference Eversource Response 2-19, attachment 1.

a. Please provide the more detailed breakdown of the costs discussed at the August 9, 2021 technical session.
b. Please also indicate which of these costs would change if Eversource were to revise its EV TOU proposal to reflect a two period, three part TOU rate (G/T/D).
c. Please also indicate which of these costs would change if Eversource were to revise its EV TOU proposal to reflect a two period, two part TOU rate (T/D).

Response:
a. Refer to Attachment 1 for more detailed breakdown of the costs discussed at the August 9, 2021 technical session.
b. Please refer back to response to **DOE 3-001: c.**
c. Please refer back to response to **DOE 3-001: d.**

Public Service of New Hampshire dba Eversource Energy
Docket No DE 20-170
Data Request DOE 3
Dated 08/27/2021
DOE-3-008
Attachment 1
Page 1 of 1

Below is a line item breakdown of the cost and time estimate discussed in the response to DOE 3-008 - EV 3 Part TOU Rate

Cost Category	Category Description	Q1-Year1	Q2-Year1	Q3-Year1	Q4-Year1	Q1-Year2	Total
Project Management	Incremental labor costs associated with providing project oversight, governance and cost and schedule management	$327,000.00	$327,000.00	$327,000.00	$327,000.00	$327,000.00	$1,635,000.00
Requirements, Design and System Development	Incremental labor costs associated with elicitation and preparation of system requirements, designs and code development of the system being modified	$1,386,600.00	$1,386,600.00	$1,386,600.00	$1,386,600.00	$1,386,600.00	$6,933,000.00
Testing	Incremental labor costs associated with preparation of test cases, execution of testing to validate the solution is functioning as expected.	$110,400.00	$110,400.00	$110,400.00	$110,400.00	$110,400.00	$552,000.00
Totals		$1,824,000.00	$1,824,000.00	$1,824,000.00	$1,824,000.00	$1,824,000.00	$9,120,000.00

Attachment SIS-4

Public Service of New Hampshire d/b/a Eversource Energy
Docket No. DE 20-170

Date Request Received: 08/13/2021 **Date of Response: 08/27/2021**
Request No. DOE 3-001 **Page 1 of 1**
Request from: Department of Energy

Witness: Dennis E. Moore

Request:
Reference DOE 2-003 regarding meters and billing system.

a. If Eversource waits until the planned enterprise MDMS and CIS system upgrades are complete to offer a 3 period EV TOU rate, please provide details how the incremental costs of the 3 period EV TOU rate offering would vary from the $9.1M cited in testimony.
b. Please explain when Eversource expects to begin and complete the enterprise MDMS and CIS system, consistent with its Grid Mod Phase II proposal in Massachusetts.
c. Please provide details on any additional costs that would be required for the existing Eversource billing system to incorporate a 2-period EV TOU rate, with time varying generation, distribution, and transmission components. Please explain why these costs would be required since Eversource currently offers a 2-period TOU rate.
d. Please provide details on any additional costs that would be required for the existing Eversource billing system to incorporate a 2-period EV TOU rate, with time varying distribution and transmission components only. Please explain why these costs would be required since Eversource currently offers a 2-period TOU rate.

Response:
a. We anticipate the incremental cost reduction to achieve a 3 period EV TOU rate to be between 40-45%, due to the improved capabilities of the new enterprise MDM and CIS systems.
b.The Eversource Grid Mod Phase II proposal in Massachusetts for AMI shows that the Company expects to begin the MDMS in 2023 and complete it at the end of 2025 and expects to begin the CIS system in 2024 and complete it at the end of 2027.
c. The cost to implement a 2-period TOU EV versus a 3-period TOU EV with time varying generation, distribution, and transmission components is the same as this requires a billing system structural change to offer TOU generation and same level of rigor in testing the solution. Eversource utilizes one legacy customer billing system across three states and that would require the same amount of regression testing to ensure no impact to other state jurisdictions with this change.
d. Eversource currently offers 2-period TOU distribution and transmission components in existing Residential Optional-Time-Of-Day (R-OTOD) rate. If R-OTOD off-peak period is identical to 2-period off-peak period TOU EV than R-OTOD rate could be used at no additional billing system cost. Pls. Refer to Attachment 1.

Attachment SIS-5

Public Service of New Hampshire d/b/a Eversource Energy
Docket No. DE 20-170

Date Request Received: 07/21/2021 **Date of Response: 08/04/2021**
Request No. DOE 2-007 **Page 1 of 1**
Request from: Department of Energy

Witness: Edward A. Davis

Request:
Reference Exhibit ES-RDC-1 in DPU 21-90, page 18-19, describing how rate EV-1 and EV-2 were constructed.

a. Please provide the workpapers used to develop these rates, in native format (live excel, where applicable) with all equations intact.
b. Please clarify whether the Company's rate proposal in DE 21-078 was constructed in the same manner.
c. Please provide the underlying workpapers represented by Exhibit ES-RDC-2 in DPU 21-90, in native format (live excel, where applicable) with all equations intact.
d. Please indicate whether the Company expects any shifting of costs attributable to electric vehicle ownership onto non-electric vehicle owners will occur as a result of the proposed demand charge alternatives. If the company has conducted any analyses to determine the level of cost shifting at various participation levels and charging load shapes, please provide those analyses. If the company has conducted no such analyses, please explain why this is the case.

Response:
a.and c. The working spreadsheets and information requested in parts a. and c., along with Exhibit ES-RDC-1, are available through the Massachusetts Energy and Environmental Affairs link, https://eeaonline.eea.state.ma.us/DPU/Fileroom/dockets/bydivision, by selecting the Electric Division and Docket # 21-90 links and the corresponding files listed for the July 14, 2021 NSTAR Electric filing.
b. While the Company's rate proposal in Docket No. DE 21-078 is not presently being considered in this docket, the Company's rate proposal in Docket No. DE 21-078 was not constructed in the same manner as that referenced in NSTAR Electric Company's proposal in DPU 21-90.
d. The Company's demand charge alternative rate design is currently the subject of Docket No. DE 21-078, and not this docket. However, while there may be cost shifting between customer who receive electric service under a separate EV rate, it is premature to quantify such shifting without sufficient data for evaluation. Indicatively, under the Company's proposal, lower utilization than the level applied in rate design (i.e., 10%) would produce less revenue which could represent a reduction in cost recovery compared with application of a demand charge.

Attachment SIS-6

Comparison of Current vs Proposed
Permanent Rates

Rate GV

	(A) Billing Determinants	(B) Current Rate	(C) = (A) x (B) Current Revenues	(D) Proposed Rate	(E) = (A) x (D) Proposed Revenues	(F) = (E) - (C) Proposed vs. Current Difference	(G) = (F) / (C) Proposed vs. Current % Chg
Customer Charge							
Customer Charge	16,601	$ 194.03	$ 3,221,053	$ 211.21	$ 3,506,255	$ 285,202	8.85%
Demand 1-100 kW	1,568,428						
Distribution		$ 5.58	$ 8,751,828	$ 6.90	$ 10,822,153	$ 2,070,325	23.66%
Transmission		10.40	16,311,651	$ 10.40	16,311,651	-	0.00%
Stranded Cost Recovery Charge		0.65	1,019,478	$ 0.65	1,019,478	-	0.00%
Demand > 100 kW	2,667,694						
Distribution		$ 5.34	$ 14,245,486	$ 6.64	$ 17,713,488	$ 3,468,002	24.34%
Transmission		10.40	27,744,018	10.40	27,744,018	-	0.00%
Stranded Cost Recovery Charge		0.65	1,734,001	0.65	1,734,001	-	0.00%
Minimum Charge	123	$ 893.00	$ 110,064	$ 1,062.00	$ 130,894	$ 20,830	18.92%
Energy Charge 1 - 200,000 kWh	1,448,276,753						
Distribution		$ 0.00606	$ 8,776,557	$ 0.00656	$ 9,500,695	$ 724,138	8.25%
Transmission		-	-	-	-	-	
Stranded Cost Recovery Charge		0.00643	9,312,420	0.00643	9,312,420	-	0.00%
System Benefits Charge		0.00743	10,760,696	0.00743	10,760,696	-	0.00%
Energy Service Charge		0.06025	87,258,674	0.06025	87,258,674	-	0.00%
Energy Charge >200,000 kWh	217,399,074						
Distribution		$ 0.00509	$ 1,106,561	$ 0.00583	$ 1,267,437	$ 160,876	14.54%
Transmission		-	-	-	-	-	
Stranded Cost Recovery Charge		0.00643	1,397,876	0.00643	1,397,876	-	0.00%
System Benefits Charge		0.00743	1,615,275	0.00743	1,615,275	-	0.00%
Energy Service Charge		0.06025	13,098,294	0.06025	13,098,294	-	0.00%
Distribution Impact Only		$ 0.02174	$ 36,211,549	$ 0.02578	$ 42,940,922	$ 6,729,373	18.58%
Total Change		$ 0.12395	$ 206,463,932	$ 0.12799	$ 213,193,305	$ 6,729,373	3.26%

Rate GV - Backup Service < 115 KV

Administrative Charge	108	$ 341.84	$ 36,919	$ 372.10	$ 40,187	$ 3,268	8.85%
Translation Charge	39	$ 57.34	$ 2,236	62.42	$ 2,434	$ 198	8.86%
Demand Charge	35,399						
Distribution		$ 4.48	$ 158,588	$ 5.37	$ 190,093	$ 31,505	19.87%
Transmission		1.59	56,284	1.59	56,284	-	0.00%
Stranded Cost Recovery Charge		0.32	11,328	0.32	11,328	-	0.00%
Energy Charge 1 - 200,000 kWh	2,778,333						
Distribution		$ 0.00606	$ 16,837	$ 0.00656	$ 18,226	$ 1,389	8.25%
Transmission		-	-	$ -	-	-	
Stranded Cost Recovery Charge		0.00643	17,865	$ 0.00643	17,865	-	0.00%
System Benefits Charge		0.00743	20,643	$ 0.00743	20,643	-	0.00%
Energy Service Charge		0.06025	167,395	$ 0.06025	167,395	-	0.00%
Energy Charge >200,000 kWh	0						
Distribution		$ 0.00509	$ -	$ 0.00583	$ -	$ -	14.54%
Transmission		-	-	$ -	-	-	
Stranded Cost Recovery Charge		0.00643	-	$ 0.00643	-	-	0.00%
System Benefits Charge		0.00743	-	$ 0.00743	-	-	0.00%
Energy Service Charge		0.06025	-	$ 0.06025	-	-	0.00%
Distribution Impact Only		$ 0.07723	$ 214,580	$ 0.09032	$ 250,940	$ 36,360	16.94%
Total Change		$ 0.17568	$ 488,095	$ 0.18877	$ 524,455	$ 36,360	7.45%

Rate GV - Backup Service > 115 KV

Administrative Charge	-	$ 341.84	$ -	$ 372.10	$ -	$ -	8.85%
Translation Charge	-	$ 57.34	$ -	62.42	$ -	$ -	8.86%
Demand Charge	-						
Transmission		1.59	-	1.59	-	-	0.00%
Stranded Cost Recovery Charge		0.32	-	0.32	-	-	0.00%
Energy Charge On Peak	-						
Transmission		-	-	-	-	-	0.00%
Stranded Cost Recovery Charge		0.00256	-	0.00256	-	-	0.00%

89	System Benefits Charge		0.00586		-		0.00586		-		-	0.00%
90	Energy Service Charge		0.12222		-		0.12222		-		-	0.00%
91												
92	**Energy Charge Off Peak**	-										
93	Transmission		-		-		-		-		-	0.00%
94	Stranded Cost Recovery Charge		0.00171		-		0.00171		-		-	0.00%
95	System Benefits Charge		0.00586		-		0.00586		-		-	0.00%
96	Energy Service Charge		0.12222		-		0.12222		-		-	0.00%
97												
98	Distribution Impact Only	$	-	$	-	$	-	$	-	$	-	
99	Total Charge	$	-	$	-	$	-	$	-	$	-	

Demand Charge Alternative Rate Design Calculation

Rate GV: Rates Effective January 1, 2021

Class Loa 55%

Customer Charge **$211.21** /month

	(A) Revenue Requirement	(B) Class Consumption	(C) = (A) / (B) Average Class Rate		
Distributic	$ 39,303,773	1,665,675,827	**$ 0.02360**	/kWh	(1)
Transmiss	$ 44,055,669	1,665,675,827	**0.02645**		(2)
SCRC (de	2,753,479	1,665,675,827	**0.00165**		(3)
Total Demand			**$ 0.05170**	/kWh	(4)=(1)+(2)+(3)
Total Other **			**$ 0.07411**		(5)
Total			**$ 0.17751**	/kWh	(6)=(4)+(5)

* Demand and volumetric revenue requirement combined
** Volumetric Energy Supply, SBC and SCRC Rates, as follows:

	Other		
SCRC	$ 0.00643	/kWh	
SBC	$ 0.00743		
ES	$ 0.06025		
Total Other	**$ 0.07411**	/kWh	

Revenue Neutral Rate Design including Class-to-Station Utilization Adjustment

Monthly C **$211.21**

		Volumetric Rate At		
Station Utilizatio n		10%		(7)
Rate Parity Adjustment **		5.5		(8)=(14) / (7)
Demand A	**Distribution**	**$ 0.12978**	/kWh	(9)=(1)*(8)
Demand A	**Transmission**	**$ 0.14547**	/kWh	(10)=(2)*(8)
Demand A	**SBC**	$ 0.00909	/kWh	(11)=(3)*(8)
Volumetric	**Other***	**$ 0.07411**	/kWh	(12)=5)
Total Alterr	**Total**	**$ 0.35845**	/kWh	(13)=(9)+(10)+(11)+(12)

* See "Total Other"
** Ratio of class load factor to station utilization (i.e., target utilization level)
Class Load Factor: 55% (14)

Demand Charge Alternative Rate Summary

Monthly Customer Charge	**$211.21**	
Volumetric Charge	**35.845**	**cents/kWh**

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Test Year
	3%	5%	7%		15%	20%	25%	27%	30%	30%	55%
	18.3	11.0	7.9		3.7	2.8	2.2	2.0	1.8	1.8	1.0
Volumetric Rate at Designated Utilization Levels ($/kWh)											
	$ 0.43260	$ 0.25956	$ 0.18540		$ 0.08652	$ 0.06489	$ 0.05191	$ 0.04807	$ 0.04326	$ 0.04326	$ 0.02360
	0.48490	0.29094	0.20781		0.09698	0.07274	0.05819	0.05388	0.04849	0.04849	0.02645
	0.03031	0.01818	0.01299		0.00606	0.00455	0.00364	0.00337	0.00303	0.00303	0.00165
	0.07411	**0.07411**	**0.07411**		**0.07411**	**0.07411**	**0.07411**	**0.07411**	**0.07411**	**0.07411**	**0.07411**
	$ 1.02192	**$ 0.64279**	**$ 0.48031**		**$ 0.26367**	**$ 0.21628**	**$ 0.18785**	**$ 0.17942**	**$ 0.16889**	**$ 0.16889**	**$ 0.12581**

Station Utilization	3%	5%	7%	10%	15%	20%	25%	27%	30%	30%
Customer	$ 211.21	$ 211.21	$ 211.21	$ 211.21	$ 211.21	$ 211.21	$ 211.21	$ 211.21	$ 211.21	$ 211.21
Volumetric (applied to all kWh)	$ 1.02192	$ 0.64279	$ 0.48031	$ 0.35845	$ 0.26367	$ 0.21628	$ 0.18785	$ 0.17942	$ 0.16889	$ 0.16889

Attachment SIS-7

Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty

DE 20-170
Electric Vehicle Time of Use Rates

Staff Data Requests - Set 2

Date Request Received: 7/21/21
Request No. DOE 2-5

Date of Response: 8/4/21
Respondent: Heather Tebbetts
Melissa Samenfeld

REQUEST:

Reference Response Staff 1-3, stating "The Company did not propose an EV TOU rate for its commercial rates," and Order No. 26, 394 (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."

a. Please explain why the Company did not develop an EV TOU rate proposal for separately-metered high demand draw commercial customer applications.

b. Please explain why the Company could not utilize the same method it used to develop EV TOU rates for residential and small commercial customers, and develop a EV TOU rate for high demand draw commercial customer applications.

RESPONSE:

a. The Company does not agree that offering EV TOU rates for separately-metered high demand draw commercial applications is the appropriate rate design for such electric vehicle charging installations.

b. The premise of the residential rate is completely different than separately metered commercial customer applications. Residential customers will charge when they are home, most likely on the weekends and evenings, thus charging during off peak hours. Commercial applications provide charging for any time during the day when drivers are out in the community and need to charge; thus, completely different use cases are being compared in the question.

Attachment SIS-8

Liberty Utilities (Granite State Electric) d/b/a Liberty
Rate EV-L

		Rate G-1 Billing Determinants	Rate G-1 Current Revenues	Rate G-1 Current Rates	Percent Split By Charge	Proposed % Split by Charge	Proposed Revenues	Proposed Rates
		(a)	(b)	(c.)	(d)	(e)	(f)	(g)
1	Customer Charge	1,742	$747,091	$428.76	6.98%	5.00%	$534,883	$307.05
2	kWh	367,232,595	$1,293,482	$0.00352	12.09%	85.00%	$9,093,009	$0.02476
3	kW	951,328	$8,657,085	$9.10	80.93%	10.00%	$1,069,766	$1.12
4		Total	$10,697,658			Total	$10,697,658	

a Billing determinants from DE 19-064 test year

b Current rates multiplied by billing determinants in (a)

c Current rates

d Line 1 / Line 4

e Percent split

f (e.) x (b)

g (f) / (a)

Liberty Utilities (Granite State Electric) d/b/a Liberty
Rate EV-M

		Rate G-2 Billing Determinants	Rate G-2 Current Revenues	Rate G-2 Current Rates	Percent Split By Charge	Proposed % Split by Charge	Proposed Revenues	Proposed Rates
		(a)	(b)	(c.)	(d)	(e)	(f)	(g)
1	Customer Charge	10,558	$754,606	$71.47	13.21%	5%	$285,561	$27.05
2	kWh	125,159,740	$289,119	$0.00231	5.06%	85%	$4,854,539	$0.03879
3	kW	510,109	$4,667,497	$9.15	81.73%	10%	$571,122	$1.12
4		Total	$5,711,222			Total	$5,711,222	

a Billing determinants from DE 19-064 test year

b Current rates multiplied by billing determinants in (a)

c Current rates

d Line 1 / Line 4

e Percent split

f (e.) x (b)

g (f) / (a)

Attachment SIS-9

Large Customer Group
Rates G-1 and G-2
Illustrative Weighted Average Energy Service Rates For Comparison Purposes Only
February 2021 - July 2021

Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
DE 20-053 Energy Service Reconciliation
Schedule AMH/DBS-1 Rates
Page 1 of 1

REDACTED

Section 1: Percentage of Medium and Large C&I kWhs Attributable to Energy Service

1	September 2020 Medium and Large C&I Energy Service kWhs	8,495,105
2	September 2020 Total Medium and Large C&I kWhs	43,935,731
3	Percentage of Medium and Large C&I Energy Service kWhs to Total Medium and Large C&I kWhs	19.34%

Section 2: Projected Medium and Large C&I Default Service kWhs, February 2021 - July 2021

		February	March	April	May	June	July	Total
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
4	Projected Total Company Medium and Large kWhs	37,608,421	41,625,419	39,959,273	42,893,135	45,631,756	50,397,959	258,115,964
5	Percentage of Medium and Large C&I Energy Service kWhs to Total Medium and Large C&I kWhs	19.34%	19.34%	19.34%	19.34%	19.34%	19.34%	
6	Projected Medium and Large C&I Energy Service kWhs	7,271,701	8,048,399	7,726,245	8,293,516	8,823,036	9,744,596	49,907,494

Section 3: Medium and Large C&I Default Service Load Weighting for February 2021 - July 2021

7	Projected Medium and Large C&I Energy Service kWhs	7,271,701	8,048,399	7,726,245	8,293,516	8,823,036	9,744,596	49,907,494
8	Loss Factor	[redacted]						
9	Wholesale Contract Price ($/MWh)							
10	Base Energy Service Rate ($/kWh)	$0.07799	$0.06803	$0.06003	$0.05533	$0.05109	$0.05460	
11	Energy Service Reconciliation Adjustment Factor ($/kWh)	($0.00378)	($0.00378)	($0.00378)	($0.00378)	($0.00378)	($0.00378)	
12	Energy Service Cost Reclassification Adjustment Factor ($/kWh)	$0.00081	$0.00081	$0.00081	$0.00081	$0.00081	$0.00081	
13	Renewable Portfolio Standard Adder ($/kWh)	$0.00859	$0.00859	$0.00859	$0.00859	$0.00859	$0.00859	
14	Total Estimated Medium and Large C&I Energy Service Price per kWh	$0.08361	$0.07365	$0.06565	$0.06095	$0.05671	$0.06022	

1 Per Monthly Energy Service Revenue Reports (Rates G-1 and G-2)
2 Per Monthly Total Revenue Reports (Rates G-1 and G-2)
3 Line (1) ÷ Line (2)
4 Per Company forecast for medium and large C&I rates (Rates G-1 and G-2)
5 Line (3)
6 Line (4) x Line (5)
7 Line (6)
8 Projected Wholesale Load divided by Projected Retail Load, rounded to five decimal places
9 Schedule JDW-2 Exhibit 5
10 Line (8) x Line (9) / 1000, truncated to five decimal places
11 Schedule AMH/DBS-5 Page 1, Line 6, filed in April 2020
12 Schedule AMH/DBS-6 Page 1, Line 5, filed in April 2020
13 Schedule JDW-2 Exhibit 11
14 Line (10) + Line (11) + Line (12) + Line (13)

Attachment SIS-10

Large Customer Group
Rates G-1 and G-2
Illustrative Weighted Average Energy Service Rates For Comparison Purposes Only
August 2021 - January 2022

Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty
DE 21-087 Energy Service Reconciliation
Revised Schedule AMH/DBS-1 Rates
Page 1 of 1

REDACTED

Section 1: Percentage of Medium and Large C&I kWhs Attributable to Energy Service

1	March 2021 Medium and Large C&I Energy Service kWhs	8,069,427
2	March 2021 Total Medium and Large C&I kWhs	39,528,385
3	Percentage of Medium and Large C&I Energy Service kWhs to Total Medium and Large C&I kWhs	20.41%

Section 2: Projected Medium and Large C&I Default Service kWhs, August 2021 - January 2022

		August	September	October	November	December	January	Total
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
4	Projected Total Company Medium and Large kWhs	50,201,834	44,230,582	43,381,984	40,972,721	41,336,151	42,197,264	262,320,536
5	Percentage of Medium and Large C&I Energy Service kWhs to Total Medium and Large C&I kWhs	20.41%	20.41%	20.41%	20.41%	20.41%	20.41%	
6	Projected Medium and Large C&I Energy Service kWhs	10,248,333	9,029,346	8,856,111	8,364,278	8,438,469	8,614,259	53,550,794

Section 3: Medium and Large C&I Default Service Load Weighting for August 2021 - January 2022

7	Projected Medium and Large C&I Energy Service kWhs	10,248,333	9,029,346	8,856,111	8,364,278	8,438,469	8,614,259	53,550,794
8	Loss Factor	[redacted]						
9	Wholesale Contract Price ($/MWh)							
10	Base Energy Service Rate ($/kWh)	$0.05768	$0.05411	$0.05582	$0.06842	$0.08840	$0.11180	
11	Energy Service Reconciliation Adjustment Factor ($/kWh)	$0.00146	$0.00146	$0.00146	$0.00146	$0.00146	$0.00146	
12	Energy Service Cost Reclassification Adjustment Factor ($/kWh)	($0.00115)	($0.00115)	($0.00115)	($0.00115)	($0.00115)	($0.00115)	
13	Renewable Portfolio Standard Adder ($/kWh)	$0.00684	$0.00684	$0.00684	$0.00684	$0.00684	$0.00684	
14	Total Estimated Medium and Large C&I Energy Service Price per kWh	$0.06483	$0.06126	$0.06297	$0.07557	$0.09555	$0.11895	

1 Per Monthly Energy Service Revenue Reports (Rates G-1 and G-2)
2 Per Monthly Total Revenue Reports (Rates G-1 and G-2)
3 Line (1) ÷ Line (2)
4 Per Company forecast for medium and large C&I rates (Rates G-1 and G-2)
5 Line (3)
6 Line (4) x Line (5)
7 Line (6)
8 Projected Wholesale Load divided by Projected Retail Load, rounded to five decimal places
9 Schedule JDW-2 Exhibit 5
10 Line (8) x Line (9) / 1000, truncated to five decimal places
11 Schedule AMH/DBS-5 Page 1, Line 6
12 Schedule AMH/DBS-6 Page 1, Line 5
13 Schedule JDW-2 Exhibit 11
14 Line (10) + Line (11) + Line (12) + Line (13)

Attachment SIS-11

Liberty Utilities (Granite State Electric) d/b/a Liberty Utilities
Transmission Charge Calculation

		Total	D	D-10	G-1	G-2	G-3	Streetlights	T	V
[1]	**Estimate of Transmission Expense**	**$26,891,183**								
[2]	**Coincident Peak (KW)**	1,749,718	646,190	9,330	655,684	261,052	149,209	4,909	22,884	460
[3]	**Coincident Peak Allocator**	100.00%	36.93%	0.53%	37.47%	14.92%	8.53%	0.28%	1.31%	0.03%
[4]	**Allocated Transmission Expense**	$26,891,183	$9,931,208	$143,392	$10,077,120	$4,012,073	$2,293,173	$75,446	$351,701	$7,070
[5]	**Forecasted kWh Sales**	879,426,489	284,513,526	5,441,648	367,232,595	125,159,740	79,307,937	3,836,676	13,619,228	315,138
[6]	**Proposed Transmission Charge per kWh**	**$0.03057**	**$0.03490**	**$0.02635**	**$0.02744**	**$0.03205**	**$0.02891**	**$0.01966**	**$0.02582**	**$0.02243**
[7]	**Current Transmission Charge per kWh**	$0.02545	$0.02834	$0.02443	$0.02239	$0.02727	$0.02724	$0.01694	$0.02794	$0.02675
[8]	**Increase (Decrease) in Transmission Charge per kWh**	**$0.00512**	**$0.00656**	**$0.00192**	**$0.00505**	**$0.00478**	**$0.00167**	**$0.00272**	**($0.00212)**	**($0.00432)**

[1] Schedule JDW-1, Line (10)
[2] Schedule DBS/AMH-3, Page 2 of 7
[3] Line (2) as a percent of total Line (2)
[4] Line (1) x Line (3)
[5] Per Company Forecast
[6] Line (4) ÷ Line (5), truncated after 5 decimal places
[7] Per Currently Effective Tariffs
[8] Line (6) - Line (7)

Attachment SIS-12

Liberty Utilities (Granite State Electric) d/b/a Liberty
Revenues by Month July 2020 through June 2021[a]

	July-20	August-20	September-20	October-20	November-20	December-20	January-21	February-21	March-21	April-21	May-21	June-21
Distribution	$3,023,654.17	$3,023,076.48	$2,416,749.90	$3,486,550.93	$3,506,457.78	$3,897,635.80	$4,094,153.35	$3,980,761.83	$3,957,252.82	$3,627,157.77	$3,373,800.88	$3,990,607.68
Transmission	$2,125,004.50	$2,087,434.98	$1,793,853.32	$1,580,209.10	$1,555,264.57	$1,802,766.60	$1,919,525.50	$1,824,123.24	$1,825,117.67	$1,674,738.93	$1,769,633.78	$2,536,014.78
Energy Service	$4,090,433.63	$4,431,866.60	$3,853,545.38	$2,003,541.83	$2,116,486.23	$2,669,518.28	$3,096,351.70	$2,944,230.11	$2,707,082.00	$2,264,243.28	$1,883,613.19	$2,360,656.42
Total	$9,239,092.30	$9,542,378.06	$8,064,148.60	$7,070,301.86	$7,178,208.58	$8,369,920.68	$9,110,030.55	$8,749,115.18	$8,489,452.49	$7,566,139.98	$7,027,047.85	$8,887,278.88

[a] Quarterly NHPUC F-1 filing

Attachment SIS-13

Unitil Energy Systems, Inc.
Docket No. DE 20-170
Electric Vehicle Time of Use Rates
Staff Data Requests – Set 1

Received: June 29, 2021 Date of Response: July 14, 2021

Request No. Staff 1-8 Witness: C. Carroll, C. Simpson, C. Valianti

Request:

Reference the Commission's October 16, 2020 Order of Notice in this proceeding, describing the issues noticed in this proceeding as including "whether the EV TOU rate proposals to be developed and filed are consistent with the rate design standards delineated in Order No. 26,394; whether those EV TOU rate design proposals are likely to result in just and reasonable electric rates, as required by RSA 374:2 and RSA 378:5 and :7; and whether the EV TOU rate design proposals are consistent with the New Hampshire Energy Policy defined in RSA 378:37."

a. Please explain whether the Company believes the EV Program Infrastructure Proposal discussed at Carroll, Simpson, Valianti testimony pages 28-44 is consistent with Commission's October 16, 2020 Order of Notice.
b. Please explain whether the Company's EV Program Infrastructure Proposal discussed at Carroll, Simpson, Valianti testimony pages 28-44 is expected to have an impact on current rates and revenues. If so, please explain why percentage revenue impact is not detailed in the cover letter of this proceeding consistent with Puc 1605.02(a)(l).

Response:

a. The Company believes that the EV Program Infrastructure Proposal is consistent with the Commission's October 16, 2020 Order of Notice. In Order 26,394, the Commission found that "further investigation of issues related to advanced metering functionality associated with EVSE embedded meters is warranted" and directed Staff to further this concept. Order 26,394 at 13-14. The Company believes that in order to understand measurement functionalities offered by EVSE embedded meters, experience with associated data is essential. In an effort to support a crucial segment of the EV charging population (i.e. at home charging), the Company has proposed to offer rebates for the installation and procurement of EVSE providing embedded metering functionality. This will provide an opportunity for the Company to engage with customers, EVSE manufacturers, and installers to understand how to deploy EVSE and how to manage embedded EVSE metering capabilities. The Company further believes that the EV Program Infrastructure Proposal is also consistent with the Order of Notice because the Company has requested approval of the program subject to the Commissions' determination that the rates are just and reasonable, subject to investigation, subject to modification, and commensurate with the least cost

Unitil Energy Systems, Inc.
Docket No. DE 20-170
Electric Vehicle Time of Use Rates
Staff Data Requests – Set 1

Received: June 29, 2021 Date of Response: July 14, 2021

Request No. Staff 1-8 Witness: C. Carroll, C. Simpson, C. Valianti

energy planning process, as required by RSA 374:2, 378:5, 7 and 37, respectively.

b. Yes, the Program is expected to have an impact on revenues. The Commission recognized in Order 26,486 that "Unitil's EV TOU proposals will also be considered in Docket DE 20-170… and that resolution may inform our decision in the instant rate case." Therefore, the Company's expectation is that the EV Program Infrastructure Proposal will be ruled on in the Company's base rate case Docketed in DE 21-030, not DE 20-170. The Company provided cost estimates in the rate case, however the impact on rates is dependent upon actual program spending in the future.