

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

**Docket No. DE 21-030**  
**Unitil Energy Systems, Inc.**  
**Request for Change in Rates**

**DIRECT TESTIMONY OF MATTHEW DEAL**  
**ON BEHALF OF CHARGEPOINT, INC.**

**November 23, 2021**

1 **I Introduction and Summary of Recommendations.**

2 **Q: Please state your name.**

3 A: My name is Matthew Deal.

4 **Q: By whom are you employed and in what position?**

5 A: I am Manager of Utility Policy at ChargePoint, Inc. (ChargePoint).

6 **Q: Please describe your qualifications, including your background, experience, and**  
7 **expertise.**

8 A: In my current role, I lead ChargePoint's regulatory activity before state public utility  
9 commissions regarding the development of policies and programs that expand electric  
10 vehicle (EV) infrastructure and advance best practices within the EV charging industry. I  
11 have drafted stakeholder comments and testimony regarding the design of EV programs in  
12 New Hampshire and other states. My relevant professional experience appears in my CV,  
13 which is attached as Exhibit MJD-1.

14 **Q: Have you previously provided testimony in any proceedings before regulatory**  
15 **commissions?**

16 A: Yes. I have testified before the New Hampshire Public Utilities Commission in Docket No.  
17 DE 20-170 which concerns EV time-of-use (TOU) rates and alternative metering  
18 assessments. I have also testified before the Pennsylvania Public Utility Commission in  
19 Docket Nos. R-2021-3023618 (UGI Electric), R-2021-3024601 (PECO Energy Company),  
20 and R-2021-3024750 (Duquesne Light) in which I evaluated and made recommendations  
21 to ensure that the EV charging programs proposed by each utility company complemented  
22 the competitive EV charging market. I have also appeared as a witness regarding EV issues

1 before the Connecticut Public Utilities Regulatory Authority (PURA) in Docket No. 17-  
2 12-03RE04: Public Utilities Regulatory Authority Investigation into Distribution System  
3 Planning of the Electric Distribution Companies – Zero Emission Vehicles.

4 **Q: Please describe ChargePoint.**

5 A: ChargePoint is a world leading electric vehicle (EV) charging network, providing scalable  
6 solutions for every charging scenario from home and multifamily to workplace, parking,  
7 hospitality, retail, and transport fleets of all types. ChargePoint's cloud subscription  
8 platform and software-defined charging hardware is designed to enable businesses to  
9 support drivers, add the latest software features and expand fleet needs with minimal  
10 disruption to overall business.

11 ChargePoint's hardware offerings include Level 2 (L2) and DC fast charging  
12 (DCFC) products, and ChargePoint provides a range of options across those charging levels  
13 for specific use cases including light duty, medium duty, and transit fleets, multi-unit  
14 dwellings, residential (multi-family and single family), destination, workplace, and more.  
15 ChargePoint's software and cloud services enable EV charging station site hosts to manage  
16 charging onsite with features like Waitlist, access control, charging analytics, and real-time  
17 availability. With modular design to help minimize downtime and make maintenance and  
18 repair more seamless, all products are UL-listed, and CE (EU) certified, and Level 2  
19 solutions are ENERGY STAR® certified.

20 ChargePoint's primary business model consists of selling smart charging solutions  
21 directly to businesses and organizations while offering tools that empower station owners  
22 to deploy EV charging designed for their individual application and use case. ChargePoint

1 provides charging network services and data-driven, cloud-enabled capabilities that enable  
2 site hosts to better manage their charging assets and optimize services. For example, with  
3 those network capabilities, site hosts can view data on charging station utilization,  
4 frequency and duration of charging sessions, set access controls to the stations, and set  
5 pricing for charging services. These features are designed to maximize utilization and align  
6 the EV driver experience with the specific use case associated with the specific site host.  
7 Additionally, ChargePoint has designed its network to allow other parties, such as electric  
8 utilities, the ability to access charging data and conduct load management to enable  
9 efficient EV load integration onto the electric grid.

10 **Q: What is the purpose of your direct testimony?**

11 A: The purpose of my direct testimony is to respond to the direct testimony of Unitil witnesses  
12 Carroll, Simpson and Valianti (Exhibit CSV-1) regarding the Company's EV infrastructure  
13 development program and TOU rate proposals.

14 **Q: How is the remainder of your testimony organized?**

15 A: Section II addresses Unitil's EV infrastructure program proposal which consists of a  
16 residential behind-the-meter (BTM) EV service equipment (EVSE) incentive program and  
17 a "make-ready" program to support increased deployment of public L2 and DCFC stations  
18 in its service territory. Section III addresses Unitil's TOU rate proposals.

19 **Q: Are you sponsoring any exhibits?**

20 A: Yes.

- 21 • Exhibit MJD-1 is a copy of my CV, which describes my relevant professional  
22 experience.

- 1           • Exhibit MJD-2 is Unitil’s response to DOE Data Request 6-25.

2   **Q: Please summarize your recommendations.**

3   A: I recommend that the Commission:

- 4           • Approve Unitil’s EV program infrastructure proposal with the modifications  
5           discussed in my testimony, namely:

6                 ○ Direct Unitil to require that all L2 charging equipment installed through its  
7                 make ready program be ENERGY STAR certified;

8                 ○ Direct Unitil to require that all L2 and DCFC charging equipment installed  
9                 through its make ready program be certified by a Nationally Recognized  
10                Testing Laboratory.

- 11          • Approve Unitil’s proposed three-year demand charge holiday only as an interim  
12          measure and direct the Company to file one or more long-term non-residential rate  
13          options that provide alternatives to demand-based rates no later than three years  
14          following the Commission’s final Order in this proceeding.

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16   **II. EV PROGRAM INFRASTRUCTURE PROPOSAL**

17   **Q: What will you address in this section of your testimony?**

18   A: In this section of my testimony, I will address Unitil’s EV program infrastructure proposal  
19   which consists of a residential BTM EVSE incentive program and a “make-ready” program  
20   to support increased deployment of public L2 and DCFC stations in its service territory.

1 **Q: Please describe Unitil’s proposed residential BTM EVSE incentive program.**

2 A: Unitil states that it “proposes to offer rebates of up to \$600 for the procurement and  
3 installation of smart, managed L2 EV chargers to 500 residential EV TOU customers.”<sup>1</sup>

4 Additionally, the Company will “utilize the residential EV program as a means of assessing  
5 alternative metering capability from behind the meter EVSE as required in Order 26,394.”<sup>2</sup>

6 **Q: Does ChargePoint support Unitil’s proposed residential EVSE rebate?**

7 A: Yes. ChargePoint supports the Company’s proposal to provide rebates for the procurement  
8 and installation of qualified smart, networked L2 EVSE for residential customers, which  
9 will effectively reduce barriers to EV adoption in the residential sector. By reducing the  
10 cost of L2 charging infrastructure for residential customers through a rebate, Unitil will  
11 facilitate increased adoption of EVs by ensuring residential customers have the ability to  
12 charge their EVs at home where they are parked for long periods of time. ChargePoint  
13 particularly supports Unitil’s proposal to allow its participating residential customers to  
14 choose from qualified “chargers and solutions” to meet their preference and needs, and to  
15 own their chosen EV chargers.<sup>3</sup>

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<sup>1</sup> Ex. CSV-1, Testimony of Carroll, Simpson, Valianti, at 28.

<sup>2</sup> *Id.* at 29 (referring to Docket IR 20-004, *Investigation into Rate Design Standards for Electric Vehicle Charging Stations and Electric Vehicle Time of Day Rates*, Order 26,394 (Aug. 18, 2020) (“Order 26,394”)).

<sup>3</sup> *Id.* at 31.

1 **Q: In Order 26,394 at 13, the Commission stated that “further investigation of issues**  
2 **related to advanced metering functionality associated with EVSE embedded meters**  
3 **is warranted.” Does ChargePoint support the use of EVSE embedded metering?**

4 A: Yes. ChargePoint commends the Commission for its decision in Order No. 26,394 in  
5 Proceeding No. IR 20-004 directing the state’s utilities to further consider advanced  
6 metering options using the embedded metering capability of smart, networked EVSE.

7 **Q: Please briefly describe the benefits of embedded metering capabilities in smart,**  
8 **networked EVSE.**

9 A: Metering embedded in networked EVSE can enable near-term EV charging opportunities  
10 while saving customers money and time. That is because embedded metering allows  
11 customers to avoid purchasing and installing a second EV-specific meter or replacing a  
12 whole-home non-smart meter with an AMI meter. Further, embedded metering allows  
13 customers to participate in utility TOU rate, dynamic rate, and managed charging programs.  
14 Moreover, embedded metering allows customers to seamlessly communicate directly with  
15 their utility, and, in some cases, realize additional fuel cost savings – all by using the built-  
16 in capabilities of their smart charging station investment.

17 From the utility’s standpoint, while AMI is not necessary to utilize embedded metering,  
18 embedded metering can complement grid modernization efforts. Embedded metering can  
19 provide the following important capabilities to satisfy utility (and customer) needs:<sup>4</sup>

- 20
- Precise accuracy across all supported current and temperature ranges;

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<sup>4</sup> See Joint Presentation on Embedded Metering of ChargePoint, Greenlots, and Enel North America in Mass. Dep’t Pub. Utils. Case No. 20-69, Grid Modernization Phase II, available at <https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/12903642>.

- 1 • Measurement of energy delivered to vehicle only, separate from any other loads;
- 2 • Granular clock-aligned interval data;
- 3 • Capability to receive remote firmware updates;
- 4 • Real-time power monitoring;
- 5 • Secure communication between the charging station and a utility or third-party
- 6 server;
- 7 • Local storage of charging data on the charging station; and
- 8 • Compliance with cybersecurity requirements.

9  
10 **Q: Did Until propose to examine EVSE embedded metering functionality?**

11 A: Yes. The Company states that it will “analyze and compare historical embedded EVSE data  
12 against the utility metering interval data to assess accuracy, availability, format, interface  
13 capabilities, data sharing, load metering, sub-metering, metering data disaggregation, remote  
14 control, volt/VAR capability, customer controls, testing, privacy, and cyber and physical  
15 security, along with other considerations that arise during the assessment.”<sup>5</sup> The Company  
16 further states that “at a time to be determined, but to likely coincide with efforts on going in  
17 DE 20-170, the Company will offer a recommendation for next steps in leveraging EVSE data  
18 for future service offerings specific to EV customers.”<sup>6</sup>

19 **Q: How do you respond to Until’s proposal to examine EVSE embedded metering**  
20 **functionality through its residential EV program?**

21 A: I commend the Company for proposing to explore and assess alternative metering  
22 capabilities. Until’s proposal is notable and can serve as a model for the Commission and  
23 other New Hampshire utilities to enable near-term EV charging opportunities at a lower  
24 cost to customers. However, I would note that utilities in several other jurisdictions –

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<sup>5</sup> Ex. CSV-1, Testimony of Carroll, Simpson, Valianti, at 30.

<sup>6</sup> *Id.* at 32.

1 including Maryland, Minnesota, and Wisconsin – are already using embedded metering in  
2 EVSE to offer successful and innovative EV rates and programs to their customers.<sup>7</sup> I  
3 encourage the Company to review the use and evaluation of embedded metering in other  
4 jurisdictions to avoid “reinventing the wheel” here, and urge the Company to complete its  
5 examination of embedded metering expeditiously in order to unlock the several benefits of  
6 embedded metering for its customers.

7 **Q: Please briefly describe Unitil’s “make ready” program proposal.**

8 A: The Company is proposing to offer a “make ready” program to support approximately 37  
9 L2 and 8 DCFC public sites for a total of 45 sites across Unitil’s service territory.<sup>8</sup>  
10 Additionally, the Company has proposed to future-proof “make ready” deployments by  
11 providing adequate charging capacity in anticipation of future growth in EV charging.<sup>9</sup>

12 **Q: What is make ready infrastructure?**

13 A: Generally speaking, make-ready infrastructure includes all the electrical and construction  
14 work necessary on both the utility’s side of the electric meter (front-of-meter) and the  
15 customer’s side of the electric meter (behind-the-meter) to make a site ready to connect EV  
16 charging equipment. I agree with Unitil that make-ready infrastructure includes the  
17 following:

- 18 • “The distribution primary lateral service feed;
- 19 • The necessary transformer and transformer pad;

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<sup>7</sup> See Docket No. DE 20-170, *Electric Vehicle Time of Use Rates*, Initial Comments of ChargePoint at 18-19 (Dec. 9, 2020).

<sup>8</sup> Ex. CSV-1, Testimony of Carroll, Simpson, Valianti, at 34.

<sup>9</sup> *Id.*

- 1           • The new service meter;
- 2           • The new service panel; and
- 3           • The associated conduit and conductor necessary to connect each piece of
- 4           equipment.”<sup>10</sup>

5 **Q: Will Until’s make-ready proposal encourage the deployment of EV charging**

6 **stations?**

7 A: Yes, I believe that it will. The cost of make-ready infrastructure is often one of the largest

8 cost categories of installing and hosting EV charging stations. Until’s proposal to install

9 and own make-ready infrastructure through its public EV infrastructure program will

10 reduce the cost of installing EV charging equipment for site hosts.<sup>11</sup> Under Until’s

11 proposal, site hosts will still be responsible for the cost of the EV charging equipment itself

12 and the cost of network services used to operate the chargers.

13 **Q: In addition to reducing the cost of installing EV charging stations for site hosts, are**

14 **there other benefits to Until’s make-ready proposal?**

15 A: Yes. Similar to the flexibility that Until’s residential program offers, the Company’s make-

16 ready proposal will allow charging station site hosts to choose the EV charging equipment

17 and network service provider that best meets their needs,<sup>12</sup> which will support the existing

18 competitive market for EV charging station hardware and network services. By leveraging

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<sup>10</sup> *Id.*

<sup>11</sup> The term “site host” refers to the owner or lessor of the property on which an EV charging station is located. Site hosts include residential customers; owners of multifamily housing units (MFH); commercial customers that offer charging to the public, their customers, and/or their employees; fleet owners; and government entities.

<sup>12</sup> See Ex. CSV-1, Testimony of Carroll, Simpson, Valianti, at 37. “UES intends to work with owners and operators of publicly available parking sites to deploy make-ready infrastructure with the eligible customer providing the EVSE charging stations utilizing non-proprietary, open standard connectors at their cost.”

1 the utility's access to capital and expertise managing construction projects to install panels,  
2 conduit, wiring, and other make-ready infrastructure, Unitil's make ready proposal will  
3 allow its customers to enjoy a lower total cost for installing charging equipment. Unitil's  
4 proposal will also benefit the Company by increasing charging station deployment and  
5 encouraging EV adoption, thereby generating additional kWh sales. In short, by promoting  
6 customer choice in charging equipment and services and reducing the cost of installing EV  
7 charging stations, I believe Unitil's proposal to own make-ready infrastructure will  
8 effectively support transportation electrification.

9 **Q: Do you recommend any modifications to Unitil's make-ready proposal?**

10 A: Yes. Unitil requires that any EV charger installed through the program be networked and  
11 utilize non-proprietary connectors.<sup>13</sup> I recommend two additional requirements.

12 First, I recommend that Unitil require all Level 2 charging equipment installed  
13 through its make-ready program be ENERGY STAR certified. The US Environmental  
14 Protection Agency awards ENERGY STAR certification to EV charging equipment that  
15 meets specific efficiency standards in standby mode, meaning that a charger conserves  
16 energy when not actively charging. ENERGY STAR certified chargers can use up to 40%  
17 less energy than standard chargers while not in active use.<sup>14</sup> Therefore, to fully achieve the  
18 benefits of electrifying the transportation sector, the Commission should require that all L2  
19 charging equipment that is installed under Unitil's make-ready program be ENERGY  
20 STAR certified.<sup>15</sup>

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<sup>13</sup> *Id.* at 37.

<sup>14</sup> [https://www.energystar.gov/products/other/ev\\_chargers](https://www.energystar.gov/products/other/ev_chargers).

<sup>15</sup> ENERGY STAR certification is not yet available for DCFCs.

1           Second, I recommend that Unitil require all charging equipment (L2 and DCFC)  
2 installed through its make ready program be certified by a third-party Nationally  
3 Recognized Testing Laboratory (as recognized by the United States Occupational Safety  
4 and Health Administration) for safety. Requiring products to be certified by a third-party  
5 Nationally Recognized Testing Laboratory, such as Underwriters Laboratories or UL,  
6 gives customers and regulators confidence that they are purchasing or incentivizing  
7 products that have been rigorously tested to ensure safety and reliability.

8 **Q: Please summarize your recommendations with respect to Unitil's EV Program**  
9 **Infrastructure Proposal.**

10 A: I recommend that the Commission approve Unitil's EV program infrastructure proposal  
11 with the modifications discussed in my testimony, namely:

- 12           • Direct Unitil to require that all L2 charging equipment installed through its make  
13           ready program be ENERGY STAR certified;
- 14           • Direct Unitil to require that all L2 and DCFC charging equipment installed through  
15           its make ready program be certified by a Nationally Recognized Testing  
16           Laboratory.

17 **III. TIME-OF-USE RATE PROPOSALS**

18 **Q: What will you address in this section of your testimony?**

19 A: In this section of my testimony, I will address Unitil's TOU rate proposals. The Company  
20 has proposed a suite of TOU rate offerings including a residential whole house TOU rate  
21 (TOU-D), a residential separately metered EV TOU rate (TOU-EV-D), a small general

1 service EV TOU rate (TOU-EV-G-2), and a large general service EV TOU rate (TOU-EV-  
2 G1).

3 **Q: Is ChargePoint participating in Docket DE 20-170, which concerns the utilities' EV**  
4 **TOU rate proposals and alternative metering feasibility assessments?**

5 A: Yes. ChargePoint has submitted comments and testimony in that proceeding.  
6 ChargePoint's comments and testimony discussed several specific considerations and  
7 principles for robust residential and commercial EV rate design, including demand charge  
8 alternatives, peak pricing and rate design consistency.

9 **Q: Did ChargePoint submit any testimony regarding Until's EV TOU rate proposals in**  
10 **Docket DE 20-170?**

11 A: No. ChargePoint indicated in its direct testimony filed in Docket DE 20-170 that it would  
12 address Unutil's EV TOU rate proposals in this proceeding.

13 **Q: What is your overall reaction to Unutil's TOU rate proposals?**

14 A: While moving to TOU rates may not be the ideal solution for public DCFC site hosts,  
15 which often have little control over when drivers want to charge, I generally support  
16 Unutil's proposed TOU rate designs. At a high level, I believe that those proposals represent  
17 an improvement over current rates and are generally consistent with the Commission's  
18 directives in Order No. 26,394. I support the proposed five-hour peak period in Unutil's  
19 TOU rate designs, because that period is an actionable window which should allow many  
20 drivers to shift charging and avoid higher peak prices. I also generally support Unutil's  
21 proposal to reduce demand charges for small and large general service customers (but  
22 propose a modification to that proposal, which I describe below), and its proposal to

1 exclude demand charges from the residential TOU rate proposals. I particularly support the  
2 Company's proposal to make the demand charge alternative rates available to both existing  
3 and new customers.<sup>16</sup>

4 **Q: Why are alternatives to traditional demand-based rates necessary?**

5 A: High demand charges represent one of the biggest financial challenges facing EV charging  
6 site hosts. Unsustainable demand charges can be triggered if multiple drivers plug into a  
7 bank of DC fast chargers, or clustered L2 stations, at the same time, or if just one driver  
8 plugs into a higher-powered DC fast charger. Studies show that demand charges can  
9 increase EV charging station utility bills by thousands of dollars per month.<sup>17</sup> In some  
10 markets, demand charges can account for as high as 90% of total electricity costs.<sup>18</sup> The  
11 structural problems with traditional, demand-based C&I rates are not necessarily mitigated  
12 by higher utilization, as the total cost share of demand charges at DCFC stations that  
13 experience five charging sessions per day can still range from 30-to-80 percent relative to  
14 total energy costs.<sup>19</sup>

15 **Q: How Does Unitol propose to mitigate demand charges for non-residential customers?**

16 A: As proposed, Unitol's non-residential EV TOU rates (TOU-EV-G-2 and TOU-EV-G1)  
17 include a temporary short-term demand charge "holiday" as follows: in years 1, 2, and 3,

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<sup>16</sup> See Exhibit MJD-2, Unitol response to DOE Request No. Energy 6-25.

<sup>17</sup> U.S. Department of Energy Vehicle Technologies Office, 2015. "Costs Associated with Non-Residential Electric Vehicle Supply Equipment." Available at: [https://afdc.energy.gov/files/u/publication/evse\\_cost\\_report\\_2015.pdf](https://afdc.energy.gov/files/u/publication/evse_cost_report_2015.pdf).

<sup>18</sup> Rocky Mountain Institute, "EVgo Fleet and Tariff Analysis" (2017), available at [https://rmi.org/wp-content/uploads/2017/04/eLab\\_EVgo\\_Fleet\\_and\\_Tariff\\_Analysis\\_2017.pdf](https://rmi.org/wp-content/uploads/2017/04/eLab_EVgo_Fleet_and_Tariff_Analysis_2017.pdf).

<sup>19</sup> Great Plains Institute, "Overcoming Barriers to Expanding Fast Charging Infrastructure in the Midcontinent Region" (2019), available at [https://scripts.betterenergy.org/reports/GPI\\_DCFC\\_Analysis\\_July\\_2019.pdf](https://scripts.betterenergy.org/reports/GPI_DCFC_Analysis_July_2019.pdf).

1 customers will be billed demand charges reduced by 75%, 50% and 25% with the full  
2 demand charge billing component returning in year 4 and beyond.<sup>20</sup>

3 **Q: Do you have any concerns with Unitil’s proposed non-residential EV TOU rate**  
4 **designs?**

5 A: Yes. I appreciate Unitil’s acknowledgement that traditional demand charges can present  
6 “challenges for economic operation of EV charging sites.”<sup>21</sup> Given those challenges, I am  
7 concerned that Unitil’s proposal to reduce demand charges over only three years, and  
8 incrementally scale back that reduction over the three-year term, is both arbitrary and may  
9 not sufficiently “support and incentivize broader customer adoption of EVs through the  
10 incentivized charging rate.”<sup>22</sup> I note that Clean Energy New Hampshire (CENH) raises  
11 similar concerns with respect to Unitil’s proposed non-residential TOU rate designs in  
12 Docket DE 20-170, where it states that the “three-year ratchet is entirely arbitrary and not  
13 aligned with any forecast or expectation of EV growth....”<sup>23</sup> Additionally, there is no  
14 evidence provided to demonstrate that, at the end of three years, all high demand draw  
15 stations will experience sufficient utilization such that fully reinstated demand charges are  
16 no longer a significant challenge to economic operation. To the contrary, DCFC stations  
17 deployed in a less-traveled corridor of Unitil’s service territory will consistently experience  
18 lower utilization than a high-volume corridor deployment, irrespective of statewide EV

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<sup>20</sup> Ex. CSV-1, Testimony of Carroll, Simpson, Valianti, at 19 and 21.

<sup>21</sup> *Id.* at 21.

<sup>22</sup> *Id.*

<sup>23</sup> Docket No. DE 20-170, *Electric Vehicle Time of Use Rates*, Direct Testimony of Christopher R. Villarreal for CENH and CLF at 20 (Oct. 13, 2021).

1 adoption. It would be short-sighted to assume that charging stations will be able to  
2 overcome the economic challenges associated with demand charges at the conclusion of  
3 the Company's short-term demand charge holiday.

4 **Q: Given your concerns with Unitil's proposed short term demand charge holiday, what**  
5 **do you recommend?**

6 A: I recommend that the Commission approve Unitil's proposed short term demand charge  
7 holiday only as an interim measure and direct the Company to file one or more long-term  
8 non-residential rate options that provide alternatives to demand-based rates no later than  
9 three years following the Commission's final Order in this proceeding. Further, I  
10 recommend that the Commission direct the Company to allow any customer taking service  
11 on the interim rates to switch to the new long-term rates, once those rates are approved by  
12 the Commission.

13 **IV. CONCLUSION.**

14 **Q: Please summarize your recommendations to the Commission.**

15 A: I recommend that the Commission:

- 16 • Approve Unitil's EV program infrastructure proposal with the modifications  
17 discussed in my testimony, namely:
  - 18 ○ Direct Unitil to require that all L2 charging equipment installed through its  
19 make ready program be ENERGY STAR certified;
  - 20 ○ Direct Unitil to require that all L2 and DCFC charging equipment installed  
21 through its make ready program be certified by a Nationally Recognized  
22 Testing Laboratory.

- 1           • Approve Unutil's proposed three-year demand charge holiday only as an interim  
2           measure and direct the Company to file one or more long-term non-residential rate  
3           options that provide alternatives to demand-based rates no later than three years  
4           following the Commission's final Order in this proceeding.

5   **Q: Does this conclude your direct testimony?**

6   **A: Yes.**