STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION

THE NARRAGANSETT ELECTRIC COMPANY	:	
D/B/A NATIONAL GRID ELECTRIC PROPOSED	:	DOCKET NO. 4780
POWER SECTOR TRANSFORMATION (PST)	:	
VISION AND IMPLEMENTATION PLAN	:	

DIRECT TESTIMONY OF
DAVID PACKARD

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I. INTRODUCTION AND BACKGROUND

Q: Please state your name and address

A: My name is David Packard. My business address is 254 E. Hacienda Avenue, Campbell, CA 95008.

Q: By whom are you employed and in what capacity?

A: I am the Vice President of Utility Solutions at ChargePoint, Inc. In this role, I advise a team of Directors who work with electric utilities and other key stakeholders in Europe and North America on electric vehicle market infrastructure engagement and investment, and support the development of policies and programs to accelerate the adoption of EVs and EV charging equipment and services.

Q: Please describe your background, experience, and expertise.

A: I have been working in the electric vehicle market since 1993 and have been highly involved in the evolution of standards and policy around EV infrastructure. Prior to joining ChargePoint, I was founder and President of ClipperCreek, a company that designed, developed and manufactured Electric Vehicle Supply Equipment ("EVSE"). Before ClipperCreek, I was Vice President of EVI, an infrastructure company that served the nascent EV infrastructure market through 2003.

I hold a Master of Science in Civil Engineering and a Bachelor of Science degree from the University of Massachusetts.

Q: Have you previously provided testimony in any formal hearings before regulatory commissions?

A: Yes. I recently submitted testimony in

- Oregon - Portland General Electric Company Application for Transportation Electrifications Programs (Docket UM 1811)
- Oregon - Pacificorp d/b/a Pacific Power Application for Transportation Electrification Programs (Docket UM 1811)
- California - SB 350 Transportation Electrification Applications (San Diego Gas & Electric A. 17-01-020, Southern California Edison A. 17-01-021, Pacific Gas & Electric A. 17-01-022).

Q: On whose behalf are you testifying?

A: I am testifying on behalf of ChargePoint, Inc.

Q: Are you sponsoring any exhibits?

A: Yes. In addition to my testimony, I am sponsoring the following exhibits which are attached to this testimony:

Exhibit	Document
Exhibit CP-DP-1	*Pre-Filed Direct Testimony of David Packard*
Exhibit CP-DP-2	*Lessons Learned about Workplace Charging in The EV Project* (2015)
Exhibit CP-DP-3	*Duke Energy: Charging Demos Inform PEV Readiness Planning* (2013)

Q: What is the purpose of your testimony in this proceeding?

A: The purpose of my testimony is to provide comment on and provide program design recommendations for the Power Sector Transformation proposal ("PST")

submitted to the Rhode Island Public Utilities Commission ("Commission" or "PUC") by the Narragansett Electric Company d/b/a National Grid ("National Grid" or the "Company"), and specifically, its Electric Transportation Initiative in Chapter 5 of the PST. In addition, I will provide comment in line with the PST to clarify that the provision of EV charging services is not the sale, resale, transmission, or distribution of electricity.

My evaluation of the Company's proposal informs my conclusion that the Commission should approve the program after incorporating my recommendations, which are detailed in Section VI of my testimony.

Q: Please describe ChargePoint's expertise in the EV charging market.

A: ChargePoint is a leading manufacturer of electric vehicle charging equipment and services. Using ChargePoint products and services, our customers operate more than 48,000 level 2 and DC fast charging spots, including more than 190 publicly-available, workplace, commercial, and private residential spots in Rhode Island. By delivering more than 36 million EV charging sessions, ChargePoint drivers have driven over 868 million electric miles and avoided over 36 million gallons of gas and 121 million kilograms of GHG emissions.

ChargePoint designs, develops, and deploys residential and commercial Level 2 ("L2") and DC fast charging ("DCFC") electric vehicle charging stations, software applications, data analytics, and related customer and driver services aimed at creating a robust, scalable, and grid-friendly EV charging ecosystem.

Q: What is ChargePoint's business model?

A: The ChargePoint business model is to engineer, manufacture, and sell the equipment and network services necessary for EV charging station owners to effectively provide charging services to drivers that visit their properties. In almost every case, ChargePoint does not own or operate the equipment. ChargePoint sells charging solutions to individuals and families via our Home product line, or to a "site host," such as an employer, business, city, fleet operator, or multi-unit dwelling via our broad array of commercial products. The commercial site host sets the price for EV drivers that use the charging station on their property, as well as the extent to which there may be different degrees of public accessibility to the charging station throughout the day. ChargePoint does not set the pricing to drivers at stations that are owned and operated by site hosts, and, other than a small service charge, we do not retain any revenue directly from EV drivers. We sell the site host network services to manage its charging infrastructure using cloud-based software tools. We provide merchant services to the station owners that enable them, if they choose, to generate revenue from charging sessions at their site.

Q: What are the products and services that ChargePoint offers to the market?

A: ChargePoint offers a complete line of Level 2 ("L2") and DC fast charging ("DCFC") products and services, including the CT4000 family of Level 2 charging stations for public and workplace charging, ChargePoint Home, ChargePoint Multi-Family, ChargePoint Fleet, and both 24 kW and 50 kW DC Fast Charging stations. ChargePoint's next generation DCFC platform solution, Express Plus, which is capable of charging from 62.5 kW to 500 kW, is currently in production.

For drivers, ChargePoint provides a unified mobile and web application for all aspects of their public, workplace, and home EV charging. ChargePoint drivers have access to real time information, payment, and support services through the information available on the screen of the charging station, in their mobile app, via email and text notifications, or on the ChargePoint website. ChargePoint also provides services to drivers, free of charge, which allow them to easily find and access the EV charging infrastructure provided by station owners through a mobile app, in-vehicle navigation, and our website.

For site hosts, ChargePoint provides subscriptions to our cloud-based platform. This provides the station host with everything needed to manage EV charging operations, including online management tools for data analysis, billing and payment processing, load management, and access control. We connect stations to ChargePoint over a secure, payment card industry ("PCI") compliant, cellular data network allowing station owners to manage all their charging operations from a single dashboard.

Maintenance and customer service are a priority for our company. ChargePoint offers a comprehensive set of support services for both EV drivers and station hosts, including: a 24/7/365 hotline for drivers, the industry's first parts and on-site labor warranty, site qualification, installation and validation services and help line for site host specific questions.

Q: Where does ChargePoint operate?

A: ChargePoint operates worldwide and currently has charging spots with stations in all 50 states in the US, including over 190 spots in Rhode Island alone.

Q: Who are ChargePoint's customers?

A: Our customers are workplaces, governments, hotels, colleges and universities, hospitals, electric utilities and other energy companies, parking garages, airports, multifamily housing, auto dealerships, and other businesses.

II. RHODE ISLAND'S TRANSPORTATION ELECTRIFICATION POLICIES

Q: What are Rhode Island's policies with respect to the electrification of the transportation sector?

A: In the November 2017 Phase One Report to Governor Gina M. Raimondo on the Rhode Island Power Sector Transformation initiative, the PUC, the Division of Public Utilities and Carriers, and the Office of Energy Resources recognized that "beneficial electrification" of the transportation sector is a significant change to the power sector that is underway and would help to ensure achievement of the state's "collective policy goals of controlling long-term system costs, enhancing customer choice, unleashing third-party innovation and integrating more clean energy into our electric grid."

Rhode Island's EV deployment goals include:

- The Rhode Island Zero Emission Vehicle Plan goal of 43,000 EVs by 2025.
- The Executive Climate Change Coordinating Council (EC4) greenhouse gas emissions reduction scenario targeting the electrification of 34% of on-road vehicle miles travelled by 2035 and 76% by 2050.

Q: What is the appropriate framework for determining whether to approve the Company's Electric Transportation Initiative?

A: In Docket 4600-A, the PUC issued a guidance document outlining the goals that a proponent or an opponent of a rate, rate design, or program proposal with associated cost recovery affecting National Grid's rates should address. Those goals are as follows:

- Provide reliable, safe, clean, and affordable energy to Rhode Island customers over the long term (this applies to all energy use, not just regulated fuels);
- Strengthen the Rhode Island economy, support economic competitiveness, retain and create jobs by optimizing the benefits of a modern grid and attaining appropriate rate design structures;
- Address the challenge of climate change and other forms of pollution;
- Prioritize and facilitate increasing customer investment in their facilities (efficiency, distributed generation, storage, responsive demand, and the electrification of vehicles and heating) where that investment provides recognizable net benefits;
- Appropriately compensate distributed energy resources for the value they provide to the electricity system, customers, and society;
- Appropriately charge customers for the cost they impose on the grid;
- Appropriately compensate the distribution utility for the services it provides;
- Align distribution utility, customer, and policy objectives and interests through the regulatory framework, including rate design, cost recovery, and incentives.

Similarly, the PUC has adopted the following requirements in assessing the reasonableness of a proposed rate design:

- Ensures safe, reliable, affordable, and environmentally responsible electricity service today and in the future;
- Promotes economic efficiency over the short and long term;
- Provides efficient price signals that reflect long-run marginal cost;
- Identifies future rates and rate structures that appropriately addresses "externalities" that are not adequately counted in current rate structures;
- Empowers consumers to manage their costs;
- Enables a fair opportunity for utility cost recovery of prudently incurred costs and revenue stability;
- Ensures that all parties should provide fair compensation for value and services received and should receive fair compensation for value and benefits delivered;
- Constitutes a design that is transparent and understandable to all customers;
- Ensures that any changes in rate structures are be implemented with due consideration to the principle of gradualism in order to allow ample time for customers (including DER customers) to understand new rates and to lessen

immediate bill impacts;

- Provides opportunities to reduce energy burden, and address low income and vulnerable customers' needs;
- Ensures consistency with policy goals (e.g. environmental, climate (Resilient Rhode Island Act), energy diversity, competition, innovation, power/data security, least cost procurement, etc.);
- Evaluates rate structures based on whether they encourage or discourage appropriate investments that enable the evolution of the future energy system.

The guidance document recognized the value of conducting a pilot that is a "small scale, targeted program that is limited in scope, time, and spending and is designed to test the feasibility of a future program or rate design." The PUC stated that even if a pilot might not yield net benefits under the approved Benefit-Cost Framework, it could nevertheless provide value if it is designed to demonstrate how to overcome specific barriers to meeting system goals or barriers to the fair application of rate design principles, or if the quantifiable benefit of the pilot plus the value of the information to be derived from the pilot is greater than the cost of the pilot.

Q: What is the role of the utility in achieving beneficial electrification of the transportation sector?

A: The Phase One Report stated that "[a]s the market transforms, utilities must provide nondiscriminatory service and ensure that incremental electrification load is incorporated in a safe, reliable, and efficient manner." The Phase One Report established requirements for an electrification proposal:

- "An electrification proposal should explain how the utility's role would support the program, achieve net benefits, and help ensure the achievement of state goals."
- "[A] proposal should articulate what the utility expects to own, operate, execute, measure, and enable, as well as explain how the utility's role relates to the

potential roles of other participants in the market."

- "Proposals should also outline how other entities (for example the Department of Transportation, auto dealers, or appliance manufacturers) might share in [the role of customer education and outreach]."
- "[A] proposal that includes the utility owning EV supply equipment should be supported by a demonstration of benefits this model achieves over other ownership models and the context in which the utility seeks this outcome. The utility may seek to develop and own EV supply equipment in areas where, absent utility intervention, market barriers might exist to deployment."
- "To the extent practical, Rhode Island will learn from and share with other states, and National Grid will do the same with other utilities, to ensure that each proposed pilot project is value added."
- "[G]iven likely limits on which customers can participate in, directly benefit from, and are affected by a proposal, among other limiting conditions, rates must be implemented in a way that is equitable for all classes of electricity users."

III. DESCRIPTION OF THE EV CHARGING MARKET

Q: Where does EV charging typically take place?

A: There have been a variety of studies into electric vehicle charging behavior to determine the extent to which drivers charge their vehicles at home, work, or in other public locations. While each driver has unique needs, it is possible to identify general trends and patterns in EV charging behavior.

One analysis conducted through the Idaho National Labs found that, on average, EV drivers charged their vehicles at home 64% of the time, with 33% of charging taking place at work, and the remaining 3% at charging stations in other locations. These values represent an average of overall charging frequency by location of the Nissan LEAFs and Chevrolet Volts included in the study. The Idaho National Labs analysis is summarized in *Lessons Learned about Workplace Charging in The EV Project* (2015) and is attached as Exhibit CP-DP-2.

Q: Why do charging station site hosts invest in EV charging?

A: EV charging station site hosts choose to invest in EV charging for a wide range of reasons. Each site host has its own business model for providing charging services. For many, but not all employers, it is a low-cost benefit provided to employees to encourage adoption of clean transportation technologies that support corporate sustainability. Apartment building owners may provide charging as an amenity to tenants. Cities and counties may charge cost-recovery fees in order to avoid giving away charging services at taxpayer expense. Some sites offer these services for free, some include them in rent, some are pay per use, while others are modified to elicit desired driver behavior and cause the highest utilization of the charging asset. Our customers find that the provision of EV charging services can align with and augment their existing operations, business models, and goals.

Q: Why is it valuable for EV charging station site hosts to be the utility customer of record and determine pricing to EV drivers for charging services?

A: Site hosts are best suited to create incentives to maximize utilization of the EV charging stations in a way that aligns with their own specific business models. It is critical for the long-term health of the market that site hosts to be at the center of all decisions around EV charging equipment and services. When site hosts are designated as the customer of record for utilities, utilities are assured of appropriate energy cost recovery while site hosts have a vested interest in how the station is used and can incorporate utility pricing signals while still having flexibility in the ultimate design of the rate structure provided to EV drivers.

One of the areas of innovation that is continuing to evolve in the industry are tools to allow the site host to design payment plans for their client drivers to solicit a certain charging behavior to ensure client satisfaction, maximize asset utilization as well as minimize electricity costs.

Q: What are the capabilities of smart, connected EVSE?

A: "Smart" EV charging stations is a broad term, but generally refers to the EVSE having at least the ability to meter electricity passing through the unit, provide load management and scheduled charging features, provide for point of use payment and access control, and incorporate two-way communication from the EVSE to the driver as well as the station operator. These capabilities can be of significant importance to a utility as it can provide a wealth of information related to charging behaviors and load profiles, and can also enable various demand side management programs. Those programs could include emergency curtailment via demand response, modulated vehicle charging rates, or even a TOU rate specific to just EV charging in the home through utilization of the embedded metrology. The associated communication, back office, and technology platform can also be leveraged to provide enhanced station management features for site hosts and well as an improved driver experience through greater visibility and interaction.

Q: How can smart, connected EVSE manage the energy used to charge EVs?

A: One example is ChargePoint's Power Management feature. Power Management allows site hosts to reduce the costs of installing EV charging stations by avoiding expensive upgrades to their electrical service. This type of feature also allows site hosts

to manage ongoing energy and power costs. Intelligently sharing existing electrical power at sites with power management allows station hosts to install enough charging ports to cover all their vehicles, and still ensure each one gets fully charged.

In each case, the overall power load never exceeds the rated capacity of a circuit, panel, or site. Instead, power is safely allocated among the vehicles needing a charge. In general, the longer the vehicles are parked, the higher the oversubscription that may be supported, allowing a greater number of vehicles to charge at a lower rate.

Energy costs can vary widely depending on demand, time of day, day of week, season, and other factors. Since EVs can be a noticeable component of facility energy use, charging station owners are often strongly motivated to manage their energy costs.

Q: How can a smart, connected EV charging station carry out demand response programs?

A: ChargePoint's stations and cloud services provide the ability for station operators to conduct load management/demand response of the allowable power level in real time. The allowable power levels can be completely shed, partially shed on a percentage basis of the actual load, or a lower power level ceiling can be set. This load management event can be scheduled to expire after a period of time, returning to the equipment normal maximum power output, or the event can be immediately rescinded at any time. These demand response events can be programmed to occur for individual charging ports or any desired groups of ports.

In order to support utilities, regardless of whether the utility owns or directly operates stations in their territory, ChargePoint also provides the ability for station

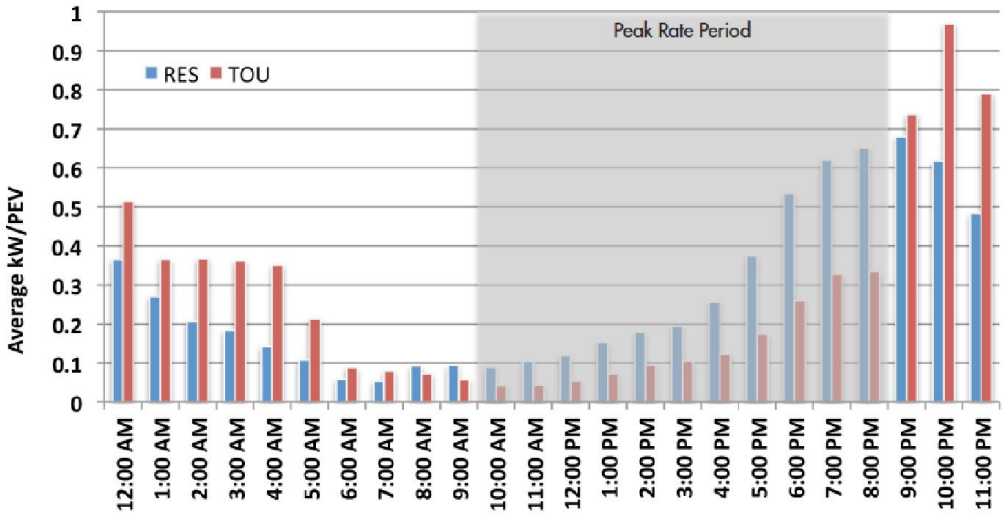
operators to grant access rights to utilities to conduct demand response on their stations. Like any other utility demand response program, the participants would likely receive some incentive in exchange for offering this capability. ChargePoint also offers the ability to utilize standards based application programming interfaces, or APIs, to automatically send demand response commands to the ChargePoint Cloud and control stations in the field. Furthermore, the ChargePoint server is certified as OpenADR2.0b compliant, providing a common and open standard based interface for utilities to conduct load management events.

Q: Are there any examples of price signals being used to influence EV charging behavior?

A: Yes, there are many examples of price signals being used to influence EV charging behavior. In a study commissioned by the Electric Power Research Institute on EV charging behavior in Duke Energy's service territory, customers that were already on a whole-house time of use ("TOU") rate charged their EVs 50% less during on-peak weekday hours compared to customers who were not on a whole-house TOU rate. Figure 4 below demonstrates how charging behavior is shifted to take place during off-peak hours. This study, Electric Power Research Institute, *Duke Energy: Charging Demos Inform PEV Readiness Planning* (2013) is submitted as Exhibit CP-DP-3. It is also possible to influence EV charging behavior through the implementation of EV-Only TOU rates and utilizing embedded metering within the charging station. EV-Only TOU rates can be a more precise means of incentivizing charging behaviors and may result in greater program participation by residential customers who may be otherwise be wary of

moving the entire house to a whole house rate.

Figure 4: EV load profile for standard residential vs. whole-house TOU rate



Q: Can you provide examples of how site hosts might set a price for charging services?

A: Some examples how a site host might set a price for charging services include:

- A free charging session;
- A fixed rate for the session, for which the driver pays a set fee for the entire session;
- An energy rate, for which the driver pays for the energy consumed on a per kilowatt-hour (kWh) basis;
- An hourly rate, for which the driver pays per hour, similar to how a parking meter operates;
- Length-of-Stay pricing, for which one price is charged during the first x hours and another price is charged for every hour afterwards;
- Time-of-Day pricing, for which one price is charged during peak hours and another during off-peak hours.
- A minimum and/or a maximum fee per session;

- A combination of the above, in which, for example, a flat session fee followed by an hourly rate, an hourly rate followed by per kWh pricing, a minimum session fee followed by an hourly rate, or a free period of time followed by per kWh pricing; and

- Driver groups, for which station owners may set unique policies for different classifications of drivers (e.g. employees vs. visitors) using the options above.

Q: In what way does the ability for site hosts to set pricing by a variety of methods, including per kWh, valuable?

A: The nature of "refueling" an electric vehicle at an AC Level 2 station is inherently different than refueling an internal combustion engine ("ICE") vehicle, and the business models for site hosts of both types of technologies are similarly different . Whereas refueling an ICE vehicle takes a matter of minutes and does not result in longer-term parking with the driver absent from the vehicle, charging an EV at an AC Level 2 station has a longer timeframe and often results in a parked, unattended vehicle. The combination of charging and parking services associated with EV charging infrastructure is unique.

Similarly, DC fast charging involves a driver plugging in for typically 10-30 minutes, where they may also park and leave their vehicle. The combination of pricing both the charging and parking services ensures that the driver returns to the vehicle when fully charged and allows other drivers to use that charging resource. Pricing policies may also encourage the driver to visit the site and spend time shopping or otherwise provide value to the site host, which in turn will encourage the site host to set pricing policies that lead to the greatest possible utilization of that charging station.

It is critical that a site host have the ability to incentivize turnover at the EV charging station. Limiting the ability for site hosts to incentivize drivers to leave once charging is complete would lead to an inefficient use of equipment and ultimately limits access to charging for all drivers.

The ability to price charging services per kWh is an invaluable tool for site hosts to incentivize the most efficient and equitable use of EV charging stations. Flexibility in setting pricing supports innovation in the EV charging market. Maintaining direct or indirect limitations on how a provider may charge customers constricts customer choice and discourages innovative and customer-friendly approaches to packaging and billing for EV charging services.

In addition, limiting pricing options to either free or flat hourly rates does not allow site hosts to take into account the wide array of power needs across the EV market. The battery capacity and rate of charge of EV models (from the on-board inverter) vary greatly, from the ~3.6 kW AC charge rate of a Chevy Volt to the almost 20 kW charge rate of a Tesla Model S. By failing to take battery capacity and rate of charge into account, a Chevy Volt would be charged the same flat hourly rate as a Tesla Model S, while getting approximately one fifth of the energy during the same period.

IV. SUMMARY OF NATIONAL GRID PROPOSAL

Q: Please describe the Company's proposal.

A: National Grid's proposal is composed of six key program components:

1. Off-peak Charging Rebate Pilot ("Rebate Pilot") to evaluate one proposed method

for incentivizing customers to charge their EVs during off-peak hours;

2. Charging Station Demonstration Program ("Demonstration Program"), which would target the deployment of approximately 319 AC L2 charging ports and 43 DC Fast Charging stations at workplaces, multi-family residential, fleet depots, and publically accessible locations, of which up to half could be owned and operated by the utility;
3. Discount pilot for direct current fast charging station accounts to reduce the operating costs for three years;
4. Transportation education and outreach to educate consumers about the benefits and decreasing costs of EVs and improvements in charging infrastructure;
5. Company fleet expansion to increase the number of electrified heavy-duty trucks as a proof-point for market development; and
6. Initiative evaluation to test multiple market development strategies.

V. EVALUATING NATIONAL GRID PROPOSAL

Off-Peak Charging Rebate Pilot

Q: Are the goals of the proposed Off-Peak Charging Rebate Pilot ("Rebate Pilot") consistent with the goals identified in Docket 4600-A and the Phase One requirements?

A: Yes.

Q: Is the proposed vehicle-based data-collection method the only possible method to incentivize off-peak EV charging?

A: No, it is not. The Company could also incentivize charging to take place off peak by taking advantage of load management and metrological functionality in certain networked EVSE, as I mentioned earlier in my testimony.

Q: Why would it be beneficial to allow for multiple vendors/technologies in the Rebate Pilot?

A: The current design of the Rebate Pilot, if limited to a vehicle monitoring device only, could inadvertently limit its value to participants, the grid, and ratepayers unless it is clarified to allow for multiple technologies and vendors, including smart charging stations. Ensuring that the Rebate Pilot is vendor neutral will support market innovation by avoiding the need for picking winners and losers in the competitive market.

Evaluating multiple vendors could expand the value proposition to ratepayers by allowing for additional functionality in the future. As I noted earlier in my testimony, networked EVSE are capable of carrying out demand response programs. Incentivizing the deployment of technologies capable of demand response would avoid duplicative future costs.

In addition, allowing for technology such as connected charging stations could create an opportunity for the PUC to update regulatory metering requirements for embedded meter devices. Utility metering requirements are often misaligned with how end-use metering actually functions. Revisiting metering requirements as they relate to embedded devices would be consistent with supporting Advanced Metering Functionality that is available in many networked Level 2 charging stations on the market today. Charging data is capable of being transmitted to a utility for billing purposes or simply

used by a resident to manage their own home energy use on a whole-home TOU rate or other EV tariff.

Q: Have networked EVSE been used by utilities to support programs such as the Company's proposed rebate pilot?

A: Yes. ChargePoint is currently providing the networked charging solution for Green Mountain Power's managed home charging program, including both demand response and using embedded meter data to facilitate an unlimited off-peak charging plan. Additionally, the Minnesota Public Utilities Commission ("MNPUC") recently approved a pilot proposal by Xcel Energy to reduce the upfront cost burden for customers looking to opt into EV tariffs by implementing the tariff directly with a "smart" EVSE. The MNPUC has ordered Minnesota Power to follow suit and develop its own program to pilot feasible alternatives to using traditional utility meters. *See* Minnesota Docket No. 17-817: Petition for Approval of a Residential EV Service Pilot Program and Minnesota Docket Nos. E002/M-15-111, 112, 120: Order Accepting 2017 Annual Reports *and* Establishing Requirements for Next Annual Reports.

Charging Station Demonstration Program

Q: Does the Company's Demonstration Program require participating site hosts to contribute to the costs associated with deploying EVSE?

A: Yes. The Company proposes different types of financial contributions. For "Make-Ready" sites, where the Company would construct and own distribution service and electrical infrastructure, site hosts are responsible for purchasing and operating

eligible EVSE. For "Company-operated" sites, where the Company owns and operates all infrastructure and equipment on a site host's premises, the site host would be responsible for an unspecified "Participation Payment."

Q: Is it in the public interest to require site hosts to participate financially in the deployment of EV charging stations deployed on their property?

A: Yes, with certain exceptions.

Q: Please explain.

A: From ChargePoint's experience in deploying over 48,000 charging spots, site hosts that make a financial contribution to the charging station are also far more likely to actively support the successful installation and ongoing preventive maintenance of the charging station because they have "skin in the game." Including site host participation in equipment costs stretches the value of ratepayer funds by increasing the net funds available for equipment and services and ensures that equipment and services are responsive to customer needs as these new products are developed by the private market. Historic and projected growth in the EV charging market show that private dollars are increasingly flowing into the market, which can, and should, be used to the greatest extent possible before passing on costs to ratepayers.

However, it should be noted that underserved markets may present higher barriers for site hosts to enter into the EV charging market. In these instances, there is a case to be made for further incentivizing the total cost, including the EVSE equipment that might not otherwise be deployed due to higher market barriers.

Q: How does the Company's proposed utility ownership option with

participation payment compare to the make-ready with rebate offering?

A: Participation Payments could serve a similar role as site host "skin in the game" in EV charging equipment and services with regard to the efficient siting of infrastructure, assuming that costs for both were equal. However, the absence of specific detail about Participation Payments for Company-Owned sites makes it difficult to evaluate whether Participation Payments would result in an equivalent and fair cost comparison from the site host's perspective when choosing between options. If there is not a fair comparison, then the site host may be tempted to choose the cheaper/easier option of the utility owned solution, despite the fact it may actually provide less site host value in the long run due to the dissociation of the site host from having a role in selecting the network provider or providing input into the driver experience, including through setting pricing.

Furthermore, the total cost of ownership for a site host owning and operating a station also includes the ongoing energy costs, network service fees, and any potential maintenance costs. The utility ownership model as outlined by National Grid covers all of these costs. As such, any Participation Payment would need to be adjusted to include those costs that would otherwise be paid over the period of the program to truly attempt to maintain a level comparison from the site-host perspective. Otherwise, the utility owned option will increase the burden to ratepayers and unduly influence participation in a model that increases reliance on the utility.

Participation Payments and direct investment by site hosts are not equally consistent with the PUC's stated goals in Docket 4600-A. For example, and for reasons similar to those listed above, deploying EVSE in a model that tilts participation away

from non-utility investment and dissociates the participants from playing a direct role in the selection of the charging network or operation of the stations would not "[p]rioritize and facilitate increasing customer investment in their facilities (. . . the electrification of vehicles . . .) where that investment provides recognizable net benefits."

Q: Are there market segments in which greater investment of ratepayer funds is more justifiable than in others?

A: Yes. In many cases, barriers to deploying EVSE can be overcome by ensuring that site hosts can incentivize EVSE utilization to create ancillary value (*e.g.*, attracting new customers). However, when barriers to enter the market persist, greater ratepayer investment may be justified. This notion is central to a key requirement for electrification proposals from the Phase One Report:

> [A] proposal that includes the utility owning EV supply equipment should be supported by a demonstration of benefits this model achieves over other ownership models and the context in which the utility seeks this outcome. The utility may seek to develop and own EV supply equipment in areas where, absent utility intervention, market barriers might exist to deployment.

Q: Is the proposal to authorize Company-ownership of up to 50% of EVSE consistent with the Phase One requirement with respect to utility ownership?

A: It is not clear that the Company's current program design meets this Phase One requirement in terms of (i) demonstrating the benefit of utility-ownership over other models or (ii) targeting ownership to market segments in which, absent utility ownership, barriers to deployment would persist.

The Company does not provide an analysis detailing the benefits of utility

ownership in comparison to other model examples from real-world utility programs already underway in other jurisdictions. In addition, the Company is not able to base its justification of the utility ownership option in this docket on experience from its operating companies in other jurisdictions, as those companies have either not yet received approval or implemented a program in Massachusetts and New York, respectively.

Without a demonstration of the unique benefit of utility ownership, ChargePoint would recommend more specifically targeting such an option to market segments in which absent utility ownership, those barriers to deployment would be highest. For example, there are higher barriers for local government agencies to deploy public facing charging stations due to lack of available funding. As such, the option of utility owned, with its likely higher costs and risks, may be more justified. Workplace use cases on the other hand are the most active and willing to invest in charging stations today, so a less risky or costly make-ready and/or rebate would be more appropriate to motivate the market.

Q: Do you agree with the following assertion on page 5 of the PST by Mr. Noel with regard to utility ownership of Direct Current (DC) Fast Charging stations

> **The Company's ownership and operation of DC Fast Charging stations will ensure that these stations are constructed and operated for the benefit of Rhode Island drivers, while allowing for a public assessment of their economics and utilization.**

A: I do not agree that utility ownership is a necessary condition for ensuring that DC Fast Charging stations are constructed and operated for the benefit of

Rhode Island drivers or that such ownership is necessary for a public assessment of fast charging economics and utilization. Charging data, as well as load management functionality, can be provided to a utility for any charging station regardless of who owns/operates the station. Furthermore, local site hosts that are directly engaged and have the flexibility to manage the EV driver experience may result in a better driver experience and higher station utilization given the influence of market forces.

Q: Do you agree with the Panel's following assertion on pages 53-54 with respect to whether the Program supports innovation:

> **The Company's proposal supports innovation in the rapidly-evolving technology sectors of EVs and EV charging. By providing enabling investment and incentives for site hosts and third-parties to establish charging in the Charging Demonstration, alongside Company-operated EV supply equipment, the Company's program allows site hosts and third-parties to select equipment that meets the program's qualifications, rather than specifying particular technologies in all sectors. As a time-limited program, the Initiative will allow for the installation of many types of charging equipment by many different market participants, without prematurely committing to a technology configuration, deployment approach, or market design**

A: I agree that providing customers with choice in EV charging equipment is a necessary condition for market innovation, and I appreciate this aspect of the Company's program design. However, choice in EV charging equipment alone is insufficient to support innovation in Rhode Island's EV charging market. Site hosts must have choice in both equipment and network services to fully support innovation in Rhode Island's competitive EV charging market.

Q: In what ways does the Company's program not sufficiently support innovation?

A: The Company's program does not sufficiently support innovation because it:

- Unnecessarily picks technological winners and losers by preventing site hosts from exercising choice in EV charging network services;
- Prevents site hosts from having the option to determine pricing and access controls for Company-Owned EVSE deployed on their premises;

Q: In what way does the Company's program artificially pick winners and losers in EV charging?

A: The Company's program unnecessarily picks winners and losers in the EV charging market by restricting consumer options in EV charging network services. While the eventual list of qualified EV charging equipment may provide a variety of features and design differences to potential site hosts, the more significant differentiation in terms of value, quality, and innovation stems from the associated EV charging network services. However, page 6 of Chapter 5 of Schedule PST-1 suggests that participating site hosts will not have choice in EV charging network services:

> The Company will conduct a Request for Proposal (RFP) for an EV charging network service provider offering payment capability and 24x7 customer support. This network service provider will be able to support multiple EV supply equipment manufacturers.

Site hosts today are able to choose between competing charging network providers based on a growing list of features including various options for structuring EV driver usage fees, driver authentication, accessibility, payment collection and other

transaction capabilities, advertisement, driver queuing and notifications, and how to configure and manage an array of data and reports such as energy, station usage, and environmental benefits. Moreover, as innovation drives new features, these can be pushed out "over-the-air" to the stations on an ongoing basis. True participant choice and support of competitive market should include both hardware and network services.

The Company's proposal to conduct a competitive RFP to identify one sole vendor for providing network services across its program would not support broader market competition. Rather, mandating a one-size-fits-all approach for network services so would restrict market-wide competition and interfere with bringing new, innovative ideas to market.

Q: Are there examples of utility programs that allow customer choice in both EV charging equipment and network services?

A: Yes. Examples of utilities that have allowed for site host choice in EV charging equipment and network services include Rocky Mountain Power (UT), Puget Sound Energy (WA), Eversource Energy (MA), and others.

The Company itself has proposed programs elsewhere that would allow for site host choice in both EV charging equipment and network services. The Panel Testimony identifies on page 52 that the Company's " Electric Vehicle Market Development Program [...] is pending with the Massachusetts Department of Public Utilities in Docket D.P.U. 17-13," one component of which is "an EV charging program intended to increase the number of available EV chargers" in the Company's Massachusetts service territory. As noted in on page 4 of Exhibit KAB/BJC-3 in D.P.U. 17-13, participation in the

Massachusetts proposal is open to "Site Hosts and their selected EV charging network providers."

Allowing for a range of eligible network service providers to participate in a program also ensures that site hosts are empowered to select the right level of functionality for their specific needs, including but not limited to determining pricing and access controls for EV charging services.

Q: Why should site hosts have the ability to control pricing for the EV charging stations installed on their premises, whether owned by the Company or themselves?

A: ChargePoint strongly believes that EV charging station site hosts must be allowed to control pricing for, and access to, charging services to ensure that charging stations meet the needs of drivers, site hosts. Empowering businesses with the flexibility to provide access to charging at variable pricing helps the site host best utilize its property and incentivize drivers to use what they need and then move on to allow other EV drivers to plug-in. With the ability to make decisions about EV charging stations and services, site hosts will be able to incorporate more efficient energy use on their property and thus produce a beneficial load to the grid.

Site hosts have preferences regarding EV charging equipment and networking services. The array of choices in EV charging goods and services that are currently available is a signal that the quickly evolving market is meeting the varied needs of its wide range of consumers. Site hosts are also the best suited to make choices about the number of charging stations needed on their site. This is especially true when site hosts participate in the purchase and selection of the charging station, which will help ensure

that charging stations are deployed efficiently and in places where they will get the most use.

Ensuring that site hosts are able to influence pricing for charging and parking services ensures that a driver can be incentivized to return to the vehicle when it is fully charged, which allows other drivers to use that charging resource. Pricing policies may also encourage drivers to visit the site and spend time shopping or otherwise provide value to the site host, which in turn will encourage the site host to set pricing policies that lead to the greatest possible utilization of that charging station.

It is critical that a site host have the ability to incentivize turnover at the EV charging station. Providing the ability to increase EV charging station utilization through price signals is central to achieving widespread grid benefits. And, perhaps most importantly, ensuring that site hosts have the option to incentivize station utilization will ensure that the utilization of the charging station, which can only be done if EVs are incentivized to leave the station once charging is complete. Underutilization of EV charging stations due to EVs remaining plugged in once charging is complete would limit access to charging for drivers, and could frustrate the generation of grid benefits.

Finally, ensuring that site hosts are able to set pricing and access controls for Company-owned equipment on their premises would be consistent with the following two reasonableness requirements identified in Docket 4600-A:

- Empowers consumers to manage their costs;
- Ensures that all parties should provide fair compensation for value and services received and should receive fair compensation for value and benefits delivered;

Q: Are there any examples of utilities that ensure site hosts are, at a minimum,

offered the choice to set pricing and access controls even in cases where the utility is the customer of record?

A: Yes. One prominent example is Pacific Gas & Electric ("PG&E") in California. In PG&E's program, program participants hosting utility-owned EVSE on their premises effectively maintain a "right of first refusal" to set pricing and access controls. The program participant maintains the right to influence the charging, and parking, behavior of drivers on their premises, and can also decide to pass on that responsibility to the utility.

Discount Pilot for Direct Current Fast Charging Station Accounts

Q: How are Demand Charges relevant to the operation of DC fast chargers and what are alternative ways to address such charges?

A: Utilities use peak demand to properly size electrical facilities for their individual customers and to ensure they have adequate capacity available for all customers. Demand charges to customers are typically based on the highest average 15 minutes in a monthly billing cycle. Unfortunately, DC fast charging stations are currently characterized as having a low load factor with sporadic instances of very high energy use due to a limited number of vehicles in the market that will use these stations in the near term. This means that site hosts can potentially face very high demand charges despite low utilization in the early years, which may hold back site host interest in providing DC charging services.

Several options can be considered in any future evaluation of rate design specific to providing service to DC fast charging stations and to encourage more site hosts to deploy such stations by providing a more predictive and manageable operating cost

structure. Examples include:

- The demand charge could be replaced with or paired with higher volumetric pricing to provide greater certainty for charging station operators with low utilization. This rate could be scaled based on utilization or load factor as charging behavior changes over time with increased EV adoption, or phased out over several years under the assumption that utilization will eventually increase.
- The bank of charging stations could be put on a separate meter in order to use a unique "EV charging" rate that is designed to reflect charging needs. Note: it is not necessary to separately meter every single charging station, since many charging stations have embedded metrology.
- A pilot rate could be developed specifically for fleet operators, particularly those that operate electric bus fleets that may charge overnight and provide time of use benefits to the grid.
- The utility could consider pricing signals to the station operator, such as time-of-use or critical peak pricing.
- Utilities could factor in the overall EV load from all vehicles in its service territory and its benefit to the grid, and not just that metered at the DCFC. With increased EV adoption, there will be increased load, which could lead to greater grid benefits in the future.

Q: Would the Company's proposed Discount Pilot for Direct Current Fast Charging Station Accounts ("Discount Pilot") support addressing barriers to deployment related to demand charges?

A: Yes, this is a critically important issue for all sizes of fast charger deployment.

Q: Please explain.

A: The impact of demand charges can pose a barrier to potential site hosts for fast chargers, regardless of the size of service. This Discount Pilot could be as significant in reducing barriers to deploying one single ChargePoint CPE250 fast charger at 62.5kW as for the deployment of a bank of ChargePoint Express Plus fast chargers at over 1 MW. ChargePoint welcomes this Discount Pilot, which should be made available to all potential DC fast charging site hosts until the annual value of the discount is reached.

VI. CHARGEPOINT PROGRAM RECOMMENDATIONS

Q: Does ChargePoint have a position on the National Grid EV Program?

A: Yes. We are largely supportive of the Company's proposed Electric Transportation Initiative and offer a number of targeted recommendations to strengthen the program and better align it with the Company's stated intent to support statewide energy, environmental, economic development, and transportation goals.

Q: In what ways could the Company's EV Program be expanded and strengthened?

A: Consistent with my evaluation of the Company's Electric Transportation Initiative, I recommend the following critical programmatic changes:

1. Ensure site hosts also have choice in network services for Make-Ready and Company-Owned sites;
2. Limit utility ownership to Income Eligible and publicly-accessible, local

government operated sites in order to more appropriately direct ratepayer funds to market segments the experience greater barriers to deploying infrastructure

3. Allow site hosts of Utility-Owned stations the option to determine pricing and access to EVSE operated on their premises;
4. Ensure smart charging incentive is technology- and vendor-neutral and allows for multiple participants;
5. Modify the DCFC deployment proposal to default to a Make-Ready structure, with similar exceptions for the market segments identified in Recommendation 2; and
6. Redesign the DCFC pilot rate to be eligible for deployment of less than 200 kW

Q: What are the expected benefits of your recommended changes to the Company's proposed Electric Transportation Initiative?

A: Table 1, below, identifies how my recommendations will create more value for Rhode Island's drivers, riders, ratepayers, environment, economy, and the grid than the Company's original proposal:

Table 1: Qualitative Benefits of ChargePoint's Recommendations

Goals For "New" Electric System	Advances? / Detracts from? / Neutral to?
Provide reliable, safe, clean, and affordable energy to Rhode Island customers over the long term (this applies to all energy use, not just regulated fuels)	Advances - Supports more future-proofed investment in equipment and services that can support a wide array of current and pending EV-related services.
Strengthen the Rhode Island economy, support economic competitiveness, retain and create jobs by optimizing the benefits of a modern grid and attaining appropriate rate design structures	Advances - Supports more robust economic development opportunities that allow site hosts to leverage a wide range of value from hosting stations and future-proofs investment to allow for ongoing innovation in network services.

Address the challenge of climate change and other forms of pollution	Advances - Supports deployment of a greater number of EVSE whose utilization will be more equitably accessible
Prioritize and facilitate increasing customer investment in their facilities (efficiency, distributed generation, storage, responsive demand, and the electrification of vehicles and heating) where that investment provides recognizable net benefits	Advances - Supports greater investment by site hosts in their own facilities by more efficiently leveraging ratepayer funds to generate matching payments.
Appropriately compensate distributed energy resources for the value they provide to the electricity system, customers, and society	Advances - Supports more future-proofed investment in equipment and services that can support a wide array of current and pending EV-related services.
Appropriately charge customers for the cost they impose on the grid	Advances - Supports more fine-tuned delivery of price signals to EV charging site hosts, who can then incentivize highest and most equitable utilization of EVSE.
Appropriately compensate the distribution utility for the services it provides	Advances - No change to National Grid proposal
Align distribution utility, customer, and policy objectives and interests through the regulatory framework, including rate design, cost recovery, and incentive	Advances - Supports better alignment of incentives as a means to catalyze deployment of EVSE before relying on ratepayer-funded investments

Q: Are your recommendations consistent with the goals articulated in the PUC's Docket 4600-A and Phase One requirements?

A: Yes. As outlined in Table 2, below, ChargePoint's recommendations are better aligned with the goals articulated in Docket 4600-A and the Phase One requirements:

Table 2: High-Level Summary of ChargePoint's Recommendations Compared to the Company's with Respect to Docket 4600 Goals

Category	Description/Examples
Societal	Leveraging private dollars to deploy a greater total number of EVSE, the utilization of which will be made more efficient and equitable through site host control of pricing and access, will further reduce reliance on conventional fuel sources. Better equips Rhode Island's communities, drivers, businesses, and overall EV and EV charging markets to respond to rapid shifts throughout the transportation sector and support true technological innovation by allowing multiple EV charging network service providers.
Economic	Leveraging more private sector dollars with the same amount of utility ratepayer dollars will increase the total possible number of stations deployed through the Company's program, which will increase the number of related local jobs for construction, installation, maintenance, and other associated industries. Ensuring that all site hosts have the ability to influence utilization of EVSE will create greater opportunity for site hosts to create ancillary value by hosting EVSE (e.g., new customers with greater dwell time in a commercial establishment). Allowing customer choice in network services will ensure that local Rhode Island drivers, businesses, ratepayers, and other site hosts will be positioned to reap economic value from innovative advances in software and related service offerings.
Educational	Expanding the range of eligible network service providers will ensure that a more robust dataset with related analytics and service offerings equips public, private, and other stakeholders with insights into driver and charging behavior.
Environmental Externalities	Providing site hosts with the ability to set pricing and access controls, and thereby influence driver behavior, will support more equitable access to charging stations by incentivizing drivers to leave once charging is complete, thereby opening access to stations to more drivers.

Q: Do you have any other recommendations related to the Company's proposal?

A: Yes. I recommend that the PUC clarify whether EV charging is the provision of a service or the sale of electricity, which will be critical to the success of the Company's proposal. Without such a clarification, site hosts could be subject to regulation as though they were public utilities if a per kWh charge is included in the price for charging

services.

Q: Please explain.

A: Owners and operators of EVSE that provide electric vehicle charging service should not be regulated as electric utilities. Furthermore, ChargePoint respectfully urges the Board to reach a statewide determination that the provision of EV charging services is not the generation, transmission, distribution, or sale of electricity.

In jurisdictions around the country, ChargePoint has observed that clarifying the regulatory status of third party providers of EV charging equipment and services is an important step in order to provide the regulatory certainty necessary to support a competitive charging market and private investment. Third-party providers should not be regulated as a public utility for providing this service, nor should they be restricted to setting pricing at the residential or commercial rate as defined by utility tariffs to their premise.

There are many non-utility entities that own and operate public EV charging stations in Rhode Island. The owners of these charging stations purchase electricity from the local utility to provide EV charging as a service to drivers. Typical site hosts include landlords, employers, universities, municipalities, state and local government agencies, operators of shopping malls and other commercial businesses, hospitals, transit operators, national parks, non-profit organizations, fleets, and more.

The provision of EV charging services is not, in practice, consistent with the generation, transmission, distribution, or sale of electricity to end users. Rather, EV charging station site hosts purchase electricity to provide a discrete EV charging service

to their customers. The use of electricity is just one component of the provision of EV charging service through a privately-owned charging station. The charging service provided by the charging station owner or operator is not delivered by that owner or operator over distribution system wires or circuits, but rather by a cord and a connector in the sole purpose of fueling an electric vehicle.

The transaction between an EV service provider and an EV driver has nothing in common with a traditional sale of electricity by a utility to a consumer. Indeed, non-utility companies selling charging services are themselves retail customers that purchase electricity from a regulated utility in order to provide charging services, which will in most cases include providing the user access to the charging station, use of related metering and communications software, participation in a network, billing, and various other options. In this respect, a provider of EV charging services has more in common with a coffee shop that allows users to plug in to charge their computer batteries or a cell phone battery-charging kiosk at the airport than with a regulated public utility operating a grid and selling electricity to local businesses and households.

In order to remove regulatory uncertainty about the jurisdictional status of EV charging services, and to foster innovation, competition and private investment, numerous states have passed statutes explicitly exempting non-utility EV charging services from regulation under the statutes defining and prescribing rules applicable to public utilities and competitive suppliers of electricity.[1] In some jurisdictions, state

[1] CAL. PUB. UTIL. CODE, § 216(i); COLO. REV. STAT. § 40-1-103.3(2); D.C. CODE §§ 34-207, 34-214; FLA. STAT. § 366.94; HAW. REV. STAT. § 261-1(2); IDAHO CODE § 61-119; 220 ILL. COMP.

Boards have addressed this question, and have likewise concluded that EV charging stations are not jurisdictional electric plant and that the service provided is not the resale of electricity.

For example, in California, one of the first states to take up this question, the Public Utilities Commission determined

> Facilities that are solely used to provide electricity as a transportation fuel do not constitute "electric plant" pursuant to Pub. Util. Code § 218. Thus, an entity owning, controlling, operating, or managing electric vehicle charging facilities is not an "electric corporation" pursuant to Pub. Util. Code § 218 and not a "public utility" pursuant to Pub. Util. Code § 216, unless an entity falls under § 216 and § 218 for other reasons. As such, the Board would not have regulatory authority regarding the price that an electric vehicle charging facility operator charges for charging services or other aspects of the operation of such facilities unless the charging facility operator is a public utility by reason of its operations other than providing electric charging.[2]

After investigation, the California PUC held:

> Pursuant to §§ 216 and 218 the Board regulates as public utilities corporations and persons owning, controlling, operating, or managing facilities used for the transmission, delivery, or furnishing of electricity to the public. However, the Board does not have the legal jurisdiction to regulate vehicle service stations.[3]

STAT. §§ 5/3-105(c), 5/16-102; ME. REV. STAT. ANN. tit. 35, §§ 313-A, 3201(5), 3201(8-B); MD. CODE PUB. UTILS. §§ 1-101(j)(3), 1-101(x)(2); MINN. STAT.§ 216B.02 (subd. 4); OR. REV. STAT. § 757.005(1)(b)(G); UTAH CODE §§ 54-2-1(7)(c), 54-2-1(19)(j); VA. CODE ANN. § 56-1.2:1; WASH. REV. CODE § 80.28.310; W. VA. CODE § 24-2D-3.

[2] *Order Instituting Rulemaking to Consider Alternative-Fueled Vehicle Tariffs, Infrastructure and Policies to Support California's Greenhouse Gas Emissions Reductions Goals,* Assigned Boarder's Scoping Memo at 4-5 (P.U.C. Rulemaking No. 09-08-009, filed Aug. 20, 2009).

[3] *Order Instituting Rulemaking to Consider Alternative-Fueled Vehicle Tariffs, Infrastructure and Policies to Support California's Greenhouse Gas Emissions Reductions Goals*, Decision in Phase 1 on Whether a Corporation or Person That Sells Electric Vehicle Charging Services to the Public Is a Public Utility, Cal. P.U.C. Decision.10-07-044 (Aug. 2, 2010) at 19. (P.U.C. Rulemaking No. 09-08-009, filed Aug. 20, 2009). This determination was subsequently codified at California Public Utilities Code, § 216(i).

The New York Public Service Commission held that EV charging stations are not utility plant, and charging services are not subject to its jurisdiction, by distinguishing between the sale of electricity and the sale of charging services:

> Charging Stations do not fall within the definition of "electric plant" because Charging Stations are not used for or in connection with or to facilitate the generation, transmission, distribution, sale or furnishing of electricity for light heat or power. Instead, and as urged by several commenters, Charging Stations are used to provide a service, specifically, charging services. This service requires the use of specialized equipment and allows the customer to do only one thing, charge a PEV's battery. The primary purpose of the transaction between Charging Station owners/operators and members of the public is the purchase of this service and the use of this specialized equipment. While the customer is using electricity, this is incidental to the transaction.[4]

The New York PSC further held that "the method of calculating the transaction fee, specifically, the use of a per kWh price, will not confer jurisdiction where none otherwise exists."[5]

The Massachusetts Department of Public Utilities followed the same rationale and found that EV charging equipment does not constitute a distribution facility, because the "equipment component of EVSE used to supply the electricity is in the nature of a connector or cord, not a line" and "ownership or operation of EVSE does not transform an entity that otherwise is not a distribution company into a distribution company."[6] The Massachusetts DPU also found that

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[4] *In the Matter of Electric Vehicle Policies*, Declaratory Ruling on Jurisdiction over Publicly Available Electric Vehicle Charging Stations at 4 (NYPSC Case No. 13-E-0199, issued Nov. 22, 2013).
[5] *Id.*
[6] *Investigation by the Department of Public Utilities upon Its Own Motion into Electric Vehicles*

EVSE owners or operators are not "selling electricity" within the meaning of the Massachusetts public utility statute, because:

> an EVSE owner or operator is selling EV charging services, i.e., the use of specialized equipment – EVSE – for the purpose of charging an EV battery. EVSE allows the customer do to only one thing, charge an EV battery. This result is true regardless of the business model the EVSE owner/operator uses to charge customers for charging services, even if the charge is by a per-kilowatt hour basis or other volumetric energy basis.[7]

The Massachusetts DPU also found that providing EV charging does not constitute submetering, because submetering involves a re-sale of electricity, not the sale of a service, *i.e.* EV charging service; and for the same reason, the Massachusetts DPU found that EVSE owners/operators are not competitive suppliers of electricity. *Id.* at 7–8.

In total, 21 jurisdictions across North America have clarified that EV charging stations should not be regulated for providing a charging service.[8] ChargePoint encourages the PUC to examine the reasoning of other regulatory Commissions and make a similar determination.

VII. CONCLUSION

Q: Does this conclude your testimony?

A: Yes.

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and Electric Vehicle Charging, Order on Department Jurisdiction over Electric Vehicles, the Role of Distribution Companies in Electric Vehicle Charging and Other Matters (Mass. D.P.U. 13-182-A, issued Aug. 4, 2014). In common industry usage, the term Electric Vehicle Supply Equipment ("EVSE") is used to refer to EV charging equipment.

[7] *Id* at 7

[8] Jurisdictions with exemptions for EV charging site hosts from being regulated like a public utility include Arkansas, California, Colorado, Connecticut, D.C., Florida, Hawaii, Idaho, Illinois, Maine, Maryland, Massachusetts, Minnesota, Nevada, New York, Ontario, Oregon, Utah, Virginia, Washington, and West Virginia, with more currently under consideration.