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October 16, 2017

New Jersey Board of Public Utilities
Attn: Michael Hornsby, Chief Project Development Officer
44 S. Clinton Avenue
Trenton, NJ 08625

Re: Responses to Task 1 Questions

Dear Mr. Hornsby,

Attached for electronic filing in the above-referenced matter, please find comments on behalf of ChargePoint, Inc. Please let me know if you have any questions.

Respectfully,

Kevin George Miller
Director, Public Policy
ChargePoint

New Jersey Board of Public Utilities: Task 1 Questions
Comments by ChargePoint, Inc.

A. Introduction

ChargePoint is pleased to offer comments to the New Jersey Board of Public Utilities ("BPU", or "the Board") in response to its request for comments on Task 1 Questions. Regulatory policies have the potential to accelerate sustainable growth in the electric vehicle ("EV") and EV supply equipment ("EVSE") markets, and this docket is a timely opportunity for the Board to support transportation electrification in New Jersey.

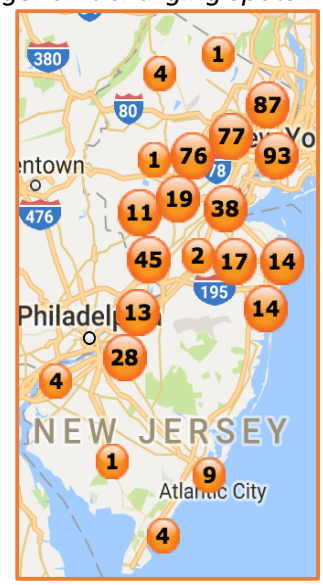
In these comments, we will provide background on ChargePoint and EV charging; encourage the Board to consider the unique aspects of electrified transportation rather than apply existing statutory definitions of energy efficiency and demand side management; and recommend that the Board determine that the provision of EV charging services is not the same as the generation or distribution of electricity.

B. Background

1. ChargePoint's Interest in this Proceeding

ChargePoint is the largest electric vehicle (EV) charging network in the world, with charging solutions for every charging need and all the places EV drivers go: at home, work, around town and on the road. With more than 41,000 independently owned charging spots and more than 7,000 customers, ChargePoint drivers have completed more than 29 million charging sessions, saving upwards of 28 million gallons of gasoline and driving more than 687 million gas-free miles. More than 550 of these charging spots are deployed in New Jersey.

Fig. 1: ChargePoint charging spots in New Jersey



New Jersey Board of Public Utilities: Task 1 Questions
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ChargePoint designs, develops, and deploys residential and commercial AC 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.

ChargePoint sells EV charging equipment and network services that enable EV charging station owners to provide charging services to their own or other EVs. In almost every case, ChargePoint does not own or operate the equipment. ChargePoint sells charging solutions to a wide variety of customers, including residential EV owners, employers, commercial and industrial businesses, cities and public agencies, ports, schools, public transit, delivery truck fleet operators, and multi-unit dwelling owners. ChargePoint offers a broad array of products and services that can serve light, medium or heavy duty electric vehicles.

The site host network services offered by ChargePoint enable customers to manage their charging infrastructure using cloud-based software tools. These tools provide the station owner or operator with everything needed to manage and optimize utilization of their charging stations, including online management tools for data analysis, billing and payment processing, load management and access control. Stations connect to ChargePoint over a secure, cellular data network (or Wi-Fi in the case of residential) 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, including: a 24/7/365 hotline for station users, parts and labor warranty, site qualification, installation and validation services, and a help line for site host specific questions.

ChargePoint stations include embedded metrology that enables separate metering of charging events and facilitation of other data collection. ChargePoint stations meet or exceed the requirements set forth in the electricity-as-motor-fuel sections of NIST Handbooks 44 (device code). In utility terms, our charging stations meet the accuracy requirements of ANSI C12.1-2008 (1% class) as applied to embedded EVSE metering.

As of December 2016, ENERGY STAR has established power consumption requirements for Level 1, Level 2 and dual Level 1/Level 2 EVSE. The specification provides allowances for network connectivity and displays and establishes basic criteria for certified EVSE capable of supporting Demand Response (DR). Under these ENERGY STAR efficiency requirements, savings from ENERGY STAR certified EVSE will grow to more than $17 million each year and more than 280 million pounds of annual greenhouse gas emissions would be prevented, equivalent to the emissions from more than 26,000 vehicles. ChargePoint is proud to be the first, and at this time, the only EVSE manufacturer to achieve ENERGY STAR compliance on its Level 2 products.

All products include ChargePoint Assure, the industry's first and only parts and onsite labor warranty as well as our sophisticated yet easy to use cloud services, built on the

experience of having the world's largest network of charging stations.

2. Pricing for EV charging services

Networked EV charging stations provide site hosts with the ability to the opportunity to set a pricing for EV charging services in many ways. These dynamic pricing tools allow EV charging site hosts to incentivize driver behavior, which is essential given that EV charging is a combination of vehicle refueling and parking. Flexibility in pricing allows site hosts to tailor pricing to the unique needs of the site, including, but not limited to:

- 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.

3. Unique use case for EV charging

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[1]. 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

[1] C2ES, "Business Models for Financially Sustainable EV Charging Networks" 2015.

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.

When pricing options are limited to being either free or flat hourly rates, site hosts are prevented from taking the wide array of power needs across the EV market into account. The battery capacity and rate of charge of EV models vary greatly, from the 3.3 kW charging rate of the 2017 Toyota Prius Prime Plug-in Hybrid to the ~7.4 kW charge rate of the BMW i3. By failing to incorporate a variable cost component associated with each vehicle's power draw, a Prius Prime would be assessed the same flat hourly or session fee as a Chevy Bolt while receiving approximately half of the electric mile range provided during the same period.

C. Responses to Track 1 Questions

1. Do EVs fall under the definition of demand side management and energy efficiency as set forth at N.J.S.A. 48:3-51 and/or N.J.S.A. 48:3-98.1.d.?

Electric vehicles, in part or fully powered by electricity from the grid, along with the associated charging infrastructure, do not by themselves necessarily fall under the definition of demand side management and energy efficiency as set forth at N.J.S.A. 48:3-51 and/or N.J.S.A. 48:3-98.1.d. Some electric vehicles and charging equipment have the capability to undertake load management functions and ensure the efficient use of energy (for more detail, see Appendix). Furthermore, electrification of vehicles is generally considered to be a more efficient form of transportation, and there are certain charging technologies that are more efficient in the provision of fuel than others. However, the primary purpose of EVs and EVSE is to support the conveyance of drivers, riders, and goods between destinations. These critical transportation functions are outside of the scope of the above referenced statutory definitions.

Notwithstanding the transportation-based differences, applying the above referenced definitions to EVs or EV charging as an entire category would allow those technologies to be included in existing utility filings and programs without due consideration for how best to create potential benefits to the grid, reduce costs for ratepayers, or avoid negative impacts to the competitive marketplace. The Board has already identified the need to determine the appropriate role for utilities and other public and private stakeholders in EV adoption, charging infrastructure deployment, and managed charging in its Track 2 Questions. It would be

premature to apply the existing statutory definitions without broader consideration for the needs of drivers, riders, charging site hosts, the respective markets, ratepayers, and the grid.

We respectfully urge the Board to establish a consistent, statewide regulatory framework for market participants rather than broadly apply existing regulatory processes to transportation electrification technologies. By so doing, New Jersey would be in a position to accelerate the sustainable and scalable growth of its EV and EV charging markets while also creating a beneficial load for the grid.

2. **Should owners and operators of EVSE that provide electric vehicle charging service be regulated as electric utilities? Are operators of EVSE reselling electricity or providing a charging service?**

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. ChargePoint applauds the Board for raising this important question. ChargePoint supports clarification that these 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 New Jersey. The owners of these charging stations purchase electricity from the local utility to provide EV charging as a service to drivers. These 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 commercial electric vehicle service providers.

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.[2] In some jurisdictions, state 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 Board determined that:

> *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.*[3]

After investigation, the California PUC held that:

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[2] 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. 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.

[3] *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).

> *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*.[4]

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*.[5]

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."[6]

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."[7] The Massachusetts DPU

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[4] *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).

[5] *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).

[6] *Id.*

[7] *Investigation by the Department of Public Utilities upon Its Own Motion into Electric Vehicles and Electric Vehicle Charging*, Order on Department Jurisdiction over Electric Vehicles, the Role of

also found that 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*.[8]

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.[9] ChargePoint encourages the Board to examine the reasoning of other regulatory Boards and make a similar determination.

D. Conclusion

Thank you for the opportunity to provide these comments. We look forward to continue working with the Board to achieve New Jersey's energy, environmental, transportation, and economic development goals by reducing barriers to sustainable and scalable growth in the competitive EV charging market.

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.

[8] *Id*. at 7.

[9] 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

Appendix: Background on Smart Charging

"Smart" charging 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.

Different EVSE and charging networks offer varying degrees of load management capabilities. 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.

An example of how smart EVSE can manage the energy used to charge EVs 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 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.