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October 15, 2018

Vermont Public Utility Commission
Attn: Judith Whitney, Clerk of the Commission
112 State Street
Montpelier, VT 05620-2701

Re: Case No. 18-2660-INV – Post-Workshop Comment

Dear Clerk Whitney,

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

Pursuant to the Vermont Public Utility Commission's (Commission) Post-Workshop Memorandum, issued on October 4, 2018 in the above-referenced docket, ChargePoint, Inc. respectfully submits these initial comments.

I. INTRODUCTION AND BACKGROUND

1. On October 1, 2018, the Commission convened a workshop in the above-referenced proceeding. The Commission subsequently requested that participants file comments addressing: "(1) how to proceed with this investigation given what was learned at the October 1 workshop; (2) specific next steps for this investigation, including proposals for future workshops; and (3) the appropriate scope of jurisdiction, if any, over EV charging stations and whether legislative changes are necessary to effectuate participants' recommendations".[1]

2. ChargePoint is the nation's largest electric vehicle (EV) charging network and is the only charging technology company on the market that designs, develops, and manufactures hardware and software solutions in every category EV drivers charge: at home, at work, around town, and on the road. ChargePoint sells its EV charging equipment and network services to a wide variety of independent customers, including residential EV owners, employers, commercial and industrial businesses, cities and public agencies, ports, schools, public transit, delivery truck fleet operators, utilities, and multi-unit dwelling owners. Entities that install charging equipment and network services on their property are commonly referred to as "site hosts."

3. ChargePoint submits these comments with a focus on responding to Question (3). We recommend that the Commission resolve jurisdictional questions in order to remove regulatory barriers to private market deployment of EV charging stations throughout Vermont.

[1] Case No. 18-2660-INV, Post Workshop Memorandum. October 4, 2018.

4. ChargePoint respectfully urges the Commission to issue an order determining that the sale of electricity for purposes of EV charging is not a prohibited resale of electricity and that third-party owners and operators of EV charging stations fall outside of the Commission's jurisdiction. We will argue that (1) neither EVs nor third-party EV charging station site hosts fall under "public highways" clause of 30 VSA § 203, (2) EV charging is materially different from the manufacture, transmission, distribution, or sale of electricity, and (3) it is in the public interest to remove restrictions on how pricing can be set for EV charging services by third-party site hosts.

5. The language in 30 VSA § 203 that was identified during the Oct. 1 workshop as demonstrating that EV charging is both the sale or resale of electricity and that third-party site hosts by definition fall under the Commission's jurisdiction:

> (1) A company engaged in the manufacture, transmission, distribution, or sale of gas or electricity directly to the public or to be used ultimately by the public for lighting, heating, or power and so far as relates to their use or occupancy of the public highways.
> (2) That part of the business of a company which consists of the manufacture, transmission, distribution, or sale of gas or electricity directly to the public or to be used ultimately by the public for lighting, heating, or power and so far as relates to their use or occupancy of the public highways.

II. NEITHER EVS NOR THIRD-PARTY EV CHARGING STATION SITE HOSTS FALL UNDER "PUBLIC HIGHWAYS" CLAUSE

6. 30 VSA § 203 (1) and (2) contain key language that was identified by Mr. Nolan on P. 188 of the transcript as explicitly including electric vehicles, which puts third-party EV charging site hosts under the jurisdiction of the Commission:

> I find it striking that the folks who quote the section of statute stop at the word "power." And they leave off the last part of that sentence which says: And so far as it relates to their use and occupancy of the public highways. To me that's very clear that deals with electric vehicles.[2]

[2] Case No. 18-2660-INV. Transcript. P. 188.

7. The Commission should dismiss Mr. Dolan's conclusion that the "public highways" clause relates to either EVs or EV charging site hosts.

8. First, ChargePoint asserts that "their use of public highways" refers to the purported utility in question, not the EV driver. The EV driver's occupancy of public highways has nothing to do with a utility's exclusive service territory.

9. The Supreme Court of Vermont provided clarity on this issue when it concurred with a jurisdictional determination by the Commission (then the Public Service Board).[3] The Board had found that it could regulate a utility with respect to the utility's use or occupation of a public highway, but that it did not have jurisdiction over a private company and a town with respect to the town's decision to declassify a road as a highway. This jurisdictional determination is consistent with interpreting "their use" from 30 VSA § 203 as referring to a purported utility's use of public highways, not that of a subsequent end-user.

10. The definition itself of "public highway" underscores that "their use" must refer to a purported utility and not a subsequent occupant. 19 V.S.A. § 1 (12) specifically excludes a number of different types of roads from the definition of public highway (e.g., state forest highways). A third- party EV charging site host could not fall under the Commission's jurisdiction when an EV-driving customer uses public highways and not fall under the Commission's jurisdiction when said EV-driving customer turns onto a state forest highway.

11. Even if the Commission holds that EV charging is the sale or resale of electricity, which we argue against below, the public highways clause would not apply when considering where EV charging stations are deployed. EV charging stations are not typically deployed on public highways, but rather on private property.

[3] *In re Petition of Doolittle Mt. Lots, Inc.* Supreme Court of Vermont No. 06-447. September 21, 2007.

III. THE BUSINESS OF EV CHARGING, PRACTICAL CONSIDERATIONS, AND GUIDANCE FROM OTHER STATES

12. As the Commission knows, the resale of electricity is generally prohibited because each utility has an exclusive service territory in which only it may provide electric service. Because electricity is an essential commodity, the Commission regulates both the rates and service of each monopoly utility to ensure that ratepayers are protected. By contrast, EV charging is a value-added service that involves much more than just selling electricity, as will be discussed in more detail below. Further, the EV charging market is highly competitive and offers EV drivers a multitude of options. Finally, there is no inherent difference between charging drivers for EV charging services by the kWh and other pricing schemes such that EV charging sold by the kWh should be considered prohibited resale of electricity, while other pricing schemes are permitted.

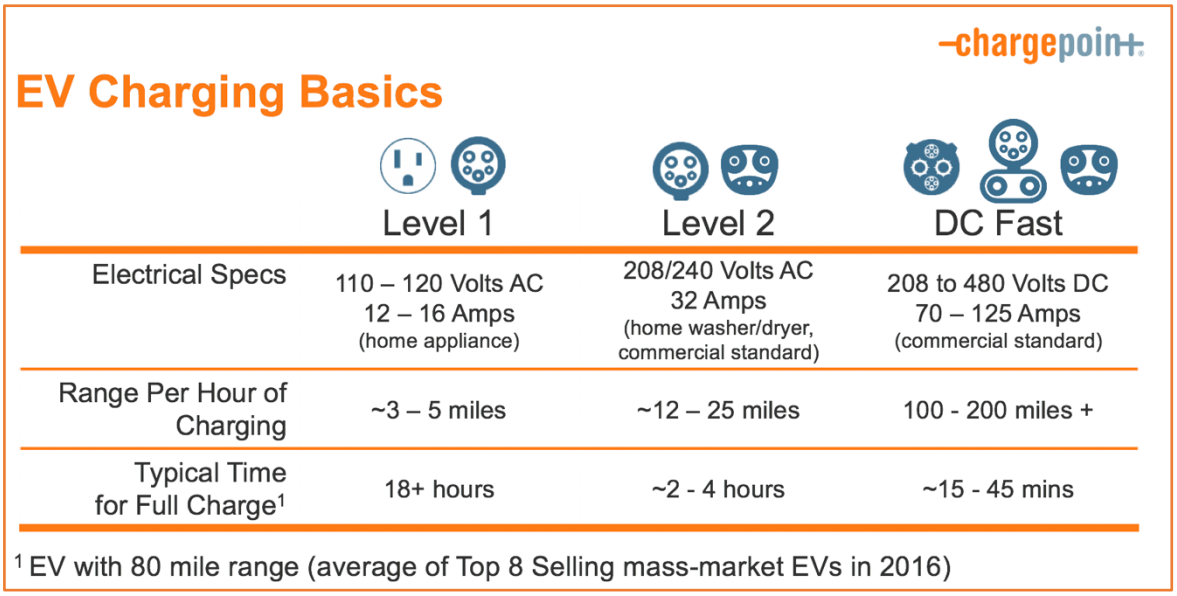
13. Just as a truckstop owner must be allowed to determine how to charge customers for the gasoline and candy bars that it sells, site hosts should be permitted to charge drivers for EV charging services however they see fit, including by the kWh. There is nothing special about kWh-based pricing that transforms EV charging services into a utility function that only a regulated monopoly can provide. In fact, as the utility's customer of record, the site host will pay the regulated utility rate for the energy consumed by the charging station just as it would for energy used by any end-use device located behind the customer meter.

14. ChargePoint provides further background on the business of EV charging below, as well as additional practical considerations, to demonstrate that pricing EV charging on a per-kWh basis should not be considered a prohibited resale of electricity. ChargePoint also discusses analysis on this issue from other states on which the Commission can rely to support ChargePoint's recommendations.

"Refueling" Behaviors at EV Charging Stations

15. Figure 1, below, depicts the three classifications of EV charging levels. The nature of "refueling" a 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 likewise 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.

Fig. 1: EV Charging Levels



16. Similarly, DC fast charging involves a driver plugging in for typically 15-30 minutes, where they may also park and leave their vehicle. The combination of pricing 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 charging station utilization that is optimal and equitable for both drivers and the grid.

Pricing for EV Charging Services.

17. Networked, or "smart," EV charging stations provide site hosts with the ability to set pricing for EV charging services in many ways. These dynamic pricing tools allow 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.

18. It is not necessary to install an additional utility meter to ensure accurate measurement of kWh fees included in EV charging services. ChargePoint, and other smart charging solution providers, integrates a meter as part of the charging station. These meters are capable of providing both cumulative and interval level data for the electricity dispensed to an EV. This data is easily accessible to utilities, secure, and reliable. For example, the Minnesota Public Utilities Commission 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 smart EV charging stations.

EV charging infrastructure is materially different from electrical infrastructure.

19. The provision of EV charging services is not, in practice, consistent with the manufacture, 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. Charging service provided by EV charging site hosts are not delivered by that site host over distribution system wires or circuits, but rather by a cord and a connector for the sole purpose of fueling an electric vehicle.

20. The transaction between an EV service provider and an EV driver is fundamentally different from 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 an internet café 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.

There is widespread precedent for utility regulators to determine that EV charging is neither the sale nor resale of electricity.

21. States have taken different approaches to removing regulatory uncertainty about the jurisdictional status of EV charging services. Several 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.[4] In some jurisdictions, state commissions have addressed this question under existing statute, and have likewise concluded that EV charging stations are not jurisdictional electric plant and that the service provided is not the resale of electricity.

22. For example, in California, one of the first states to take up this question, the Public Utilities Commission ("PUC") 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 Commission 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.[5]

23. After investigation, the California PUC held that:

> Pursuant to §§ 216 and 218 the Commission 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 Commission does not have the legal jurisdiction to regulate vehicle service stations.[6]

24. More recently, the New York Public Service Commission ("PSC") 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:

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[4] ARK. CODE § 23-1-101(9); 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.

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

[6] *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).

> 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 [Plug-in Electric Vehicle] 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.[7]

25. 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."[8]

26. In Massachusetts, the Department of Public Utilities ("DPU") 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 that "ownership or operation of EVSE does not transform an entity that otherwise is not a distribution company into a distribution company."[9] The Massachusetts DPU 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.[10]

27. 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.*

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[7] *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).
[8] *Id.*
[9] *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 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.
[10] *Id*. at 7.

EV charging service; and for the same reason, the Massachusetts DPU found that EVSE owners/operators are not competitive suppliers of electricity.[11]

28. Pennsylvania's Public Utility Commission ("PUC") recently concluded a comment period on its Proposed Policy Statement that addressed this issue, as well. The Pennsylvania PUC identified that "[t]here is a lack of clarity as to the resale/redistribution restrictions applicable to third party EV charging stations,"[12] and that it "should be the Commission's policy to remedy this lack of clarity across the Commonwealth for the betterment of the EV marketplace in the Commonwealth."[13] The Pennsylvania PUC has proposed the following policy statement:

> It shall be the policy of the Commission that a person, corporation or other entity, not a public utility, electric cooperative corporation, municipal authority or municipal corporation, owning and operating an electric vehicle charging facility that is open to the public for the sole purpose of recharging an electric vehicle battery should not be construed to be a sale to a residential consumer and should therefore not fall under the pricing requirements of 66 Pa. C.S. § 1313 (relating to price upon resale of public utility services).[14]

29. In total, 23 states and the District of Columbia have clarified that EV charging stations should not be regulated for providing a charging service. ChargePoint encourages the Commission to examine the reasoning of other regulatory commissions and make a similar determination. Pursuant to such a determination, the Commission should clarify that site hosts may, if they so choose, charge drivers for charging services on a per-kWh basis.

It is in the public interest to allow kWh pricing by non-utility entities.

30. Restrictions that limit the extent to which site hosts can incentivize the most efficient use of EV charging station and will prevent drivers from equitable access to EV charging.

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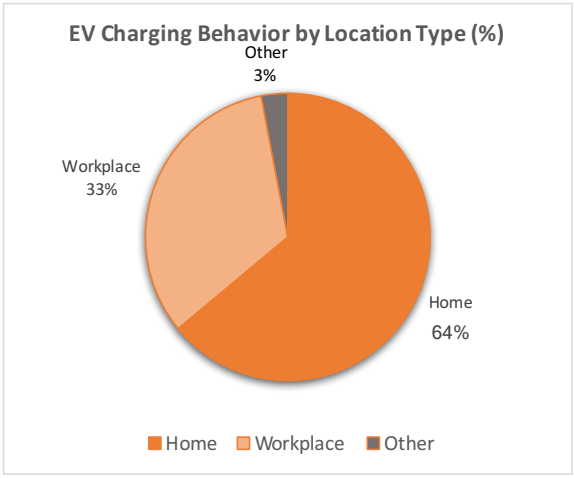
[11] *Id.* at 7–8.
[12] *Third Party Electric Vehicle Charging – Resale/Redistribution of Utility Service Tariff Provisions*, Proposed Policy Statement (PA PUC Docket No. M-2017-2604382, issued March 15, 2018) at 5.
[13] *Id.*
[14] *Id.* at 6.

31. When pricing options are limited to being either free or flat hourly rates, site hosts are prevented from considering the wide array of power needs across the EV market. 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 BMW i3 while receiving approximately half of the electric mile range provided during the same period.

32. This problem will be exacerbated with faster charging technology. Faster charging stations draw significantly more power than a residential charging station, such as ChargePoint's Express Plus platform, which is able to deliver 500 kW for a full charge in less than 10 minutes. Setting a per-minute or per-hour price for faster charging would be inequitable and would not accurately reflect the varying power needs for vehicles that can accept faster charging.

Fig. 2: EV Charging Behavior



33. Site hosts at all charging facilities, public or not, should be equally permitted to set pricing for EV charging on a per kWh basis. As illustrated by Fig. 2, over 90% of charging takes place at home and at work.[15] Residential and workplace charging is often provided in private or semi-private contexts. Pricing on a kWh, or combined, basis in these contexts be similarly be more equitable. In addition, allowing for a per-kWh component would also lead to more efficient use of EV chargers. A study

[15] Smart, John. "Lessons Learned about Workplace Charging in the EV Project." Idaho National Lab, 2015

by the Luskin Center at UCLA[16] evaluated 400,000 workplace charging transactions and found that charging stations are used more efficiently when the site host is able to set pricing through a combination of either hourly or kWh pricing, along with a time-based fee to incent turnover once charging is complete.

IV. CONCLUSION

34. For the reasons identified above, ChargePoint respectfully urges the Commission to issue an order determining that the sale of electricity for purposes of EV charging is not a prohibited resale of electricity and that third-party owners and operators of EV charging stations fall outside of the Commission's jurisdiction.

[16] Wynn, Ryan. "Electric Vehicle Charging at Work: Understanding Workplace PEV Charging Behavior to Inform Pricing Policy and Investment Decisions." University of California – Los Angeles Luskin Center for Innovation. Available at: http://innovation.luskin.ucla.edu/content/electric-vehicle-charging-work.