



ChargePoint, Inc.
254 East Hacienda Avenue | Campbell, CA 95008 USA
+1.408.841.4500 or US toll-free +1.877.370.3802

August 28, 2017

Pennsylvania Public Utility Commission,
Attn: Rosemary Chiavetta, Secretary
Commonwealth Keystone Building, 2nd Floor
400 North Street, Harrisburg, PA 17120

Re: Doc. No. M-2017-2604382, Third Party Electric Vehicle Charging—Resale/Redistribution

Dear Secretary Chiavetta

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,

A handwritten signature in black ink, appearing to read "Kevin Miller", written over a light grey, textured rectangular background.

Kevin George Miller
Director, Public Policy
ChargePoint

A. Introduction

ChargePoint is pleased to offer comments to the Pennsylvania Public Utility Commission (“the Commission”) in response to its letter seeking comments in the above referenced docket.¹ 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 Commission to support transportation electrification in Pennsylvania.

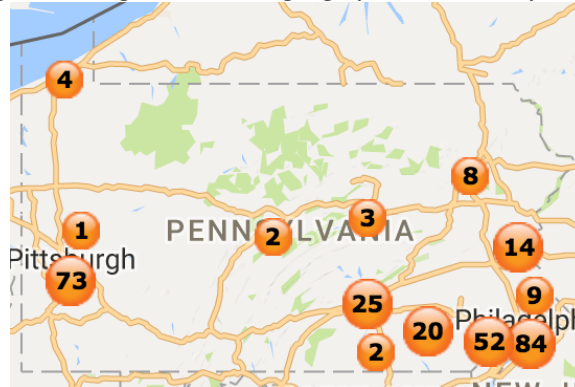
In these comments, we will provide background on ChargePoint, EV charging and the impact of pricing policy; make an overarching recommendation that the Commission determine that the provision of EV charging services is not the same as the generation or distribution of electricity; provide comments on the Commission’s specific questions; and make recommendations for how the Commission can continue to engage on critical EV charging regulatory questions.

B. Background

1. ChargePoint’s Interest in this Proceeding

ChargePoint is a leading manufacturer of EV charging equipment and services. Using ChargePoint products and services, customers operate more than 39,000 independently owned and operated charging spots, including 588 DC fast charge locations. More than 300 of these charging spots are deployed in Pennsylvania.

Fig. 1: ChargePoint charging spots in Pennsylvania



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

¹ <http://www.pabulletin.com/secure/data/vol47/47-27/1145.html>

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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.

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.

C. Recommended Commission Action

1. The Commission should determine that EV charging is not the sale of electricity

ChargePoint respectfully urges the Commission to reach a statewide determination that the provision of EV charging services is not the generation, transmission, distribution, or sale of electricity to EV drivers.

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 Commission 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 Pennsylvania. 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.

As noted in the Motion of Gladys M. Brown on May 18, 2017, Pennsylvania's tariff-based limitations on resale/redistribution are statutorily based. 66 PA C.S. § 1313 states that:

Whenever any person, corporation or other entity, not a public utility, electric cooperative corporation, municipality authority or municipal corporation, purchases service from a public utility and resells it to consumers, the bill rendered by the reseller to any residential consumer shall not exceed the amount which the public utility would bill its own residential consumers for the same quantity of service under the residential rate of its tariff then currently in effect.

This statute would only apply in the case of EV charging stations if doing so was tantamount to the resale or redistribution of electricity. However, 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. As other commissions have found, 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 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.

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 commissions 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 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

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.

other than providing electric charging.³

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.⁴

More recently, 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

³ *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).

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.*

“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 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, 20 states, the District of Columbia, and the Province of Ontario 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.

D. ChargePoint’s Comments on Commission’s Identified Issues

1. What restrictions, if any, each EDC’s existing tariff establishes on the resale/redistribution of utility service for third-party electric vehicle charging.

Tariff-based restrictions on how third-party EV charging site hosts can offer EV charging services to EV drivers limit innovation, competition, and customer choice in Pennsylvania. ChargePoint encourages the Commission to move away from tariff-based exceptions to resale/redistribution restrictions, and to instead determine that the provision of EV charging services is not the generation, transmission, distribution, or resale of electricity.

The existing tariff-based restrictions in place will limit the extent to which site hosts can

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 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.

incentivize the most efficient use of EV charging stations. A study by the Luskin Center at UCLA⁹ 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 incentive turnover once charging is complete.

In addition, 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.

Another barrier to the efficient and effective operation of EV charging equipment is rooted in the governing statute (66 PA C.S. § 1313), which limits site hosts to billing EV drivers at an *"amount which the public utility would bill its own residential consumers for the same quantity of service under the residential rate of its tariff then currently in effect."* Faster charging stations draw significantly more power than a residential charging station, such as ChargePoint's Express Plus platform, which is able to deliver 400kW for a full charge in less than 10 minutes. Limiting faster charging site hosts to recovering costs at residential rates is a significant barrier to deploying such equipment. Residential rate structures are generally misaligned with the commercial rates impacting faster charging site hosts, which would limit the viability of kWh pricing. At the same time, setting a per-minute or per-hour price for faster charge would be an inequitable do not accurately reflect the varying power needs for vehicles that can accept faster charging.

2. The benefits and detriments of specific tariff provisions permitting unrestricted resale/redistribution of utility service when done for the purpose of third-party electric vehicle charging.

ChargePoint strongly believes that EV charging station site hosts must be allowed to control pricing for charging services, as well as access, to ensure that charging stations meet both the EV site host and driver needs. 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 more predictable, beneficial load to the grid.

In ChargePoint's experience, site hosts do not set pricing for EV charging services with the intention of fully recovering the upfront costs of their capital investments. In fact, 70% of

⁹ Citation

the charging that takes place on our network is free. Pricing for charging services is most often set for the purpose of incentivizing driver behavior (e.g., moving the vehicle once charging is complete).

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 infrastructure asset. 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. Site hosts must have the ability to maximize 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 low turnover would frustrate the generation of grid benefits. Furthermore, maintaining direct or indirect limitations on how a provider may charge customers (e.g., precluding kWh pricing) constricts customer choice and discourages innovative and customer-friendly approaches to packaging and billing for EV charging services.

3. The appropriateness, or lack thereof, of encouraging EDCs across the state to move toward a tariff design, such as Duquesne's, which includes provisions for third-party electric vehicle charging resale/redistribution.

The most appropriate, and consistent, way for the Commission to provide EV charging site hosts with the flexibility to set pricing for EV charging services would be to determine that the provision of EV charging services is not the same as the sale, transmission, distribution, or generation of electricity.

Should the Commission maintain that the provision of EV charging services constitutes the sale, transmission, distribution, or generation of electricity, ChargePoint recommends that a uniform approach across Pennsylvania to permit the pricing of EV charging services by the kWh. As EV adoption increases, it will be essential to ensure consistency in regulatory policy across utility service territories and tariff sheets.

4. What other resale/redistribution tariff provision designs may aid in establishing clear rules for third-party electric vehicle charging stations.

In order for site hosts to be able to incentivize the highest utilization of their charging stations, it is essential that site hosts maintain the flexibility for setting a price for EV charging services, if any. The ability for site hosts to send price signals to drivers is of critical importance

to encourage smart charging and optimize asset utilization. The Commission should not impose restrictions on site hosts to determine pricing for EV charging services, which send a critical price signal to drivers.

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 similarly different¹⁰. 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 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 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.

5. What other regulatory options may aid in establishing clear resale/redistribution rules for third-party electric vehicle charging stations.

ChargePoint respectfully urges the Commission to expand the scope of the Secretarial Letter into a formal rulemaking proceeding to consider the full suite of regulatory options and the role of the regulated utility as it related to supporting EV charging and infrastructure. Transportation electrification presents policymakers and regulators with the opportunity to simultaneously advance key priorities in mobility, economic development, public health/environmental, and energy issues. If the Commission were to establish a consistent, statewide regulatory framework for market participants and planned for potential distribution system impacts through tariff and program design, Pennsylvania would be in a position to ensure that the increasing adoption of EVs creates a beneficial load for the grid.

The increased adoption of EVs can lead to widespread benefits for ratepayers and the environment with appropriate incentives, price signals, and infrastructure in place to effectively manage the growing EV load. These benefits include downward pressure on rates from

¹⁰ C2ES, “Business Models for Financially Sustainable EV Charging Networks” 2015.

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increased throughput associated with EV charging, balancing load with intermittent renewable energy on the grid, and cleaner air from fuel switching, especially in high traffic areas. Additional ratepayer benefits could be realized with charging solutions that allow for load management and dynamic or time of use pricing mechanisms to drivers, given that EVs can be very flexible on when they need to charge.

Key issues that the Commission could consider include, but are not limited to:

- The role of electric distribution and generation companies in supporting the deployment of EV refueling infrastructure;
- Residential time of use rates, commercial tariffs associated with supplying charging stations - especially DC fast charging, and load management programs specifically to support customer deployment of smart EV charging infrastructure and to encourage charging behavior that is least impactful to the grid while supporting customer adoption of EVs; and

Role for Utilities

Utilities have very important roles to play in supporting the electrification of Pennsylvania's transportation sector. First and foremost, utilities are well positioned to ensure that the associated new EV load is incorporated in a safe, reliable, and efficient manner. This can be achieved in a variety of ways including EV education and outreach, load and grid impact studies, technology evaluation, and demand side management programs to encourage off-peak charging behaviors.

Jurisdictions throughout North America are also considering whether to allow utilities to utilize ratepayer funds to invest in EV charging equipment and services in what is currently a growing, competitive market. As the Commission considers whether to expand the traditional grid infrastructure role for utilities into solutions that normally exist on the customer side of the meter, it is important to consider the EV charging market today and how it is growing into tomorrow's market.

The growth in both emerging and well-established EV charging markets is driven by competition, customer choice and private investment, which allows the market to quickly and efficiently respond to evolving consumer needs and technological requirements. Ratepayer-funded investments by regulated utilities are not inherently aligned or misaligned with respect to innovation, competition, and customer choice. However, the manner in which ratepayer dollars are invested in an otherwise competitive environment can either support or frustrate the continued growth of a sustainable, responsive market.

ChargePoint is proud to be a partner of utilities around the country in deploying utility-supported charging infrastructure and pilot programs. We believe that there is a vital role for utilities in supporting increased EV adoption. The right utility program design can increase access to clean transportation while also supporting scalable and sustainable growth in the

competitive EV charging market. This necessitates that any utility program should require that associated charging stations participating in the program include demand response capabilities, two-way communications, and embedded energy metering.

ChargePoint encourages the Commission to expand its investigation to include this topic and develop transparent criteria for evaluating and approving utility programs to ensure that competition, innovation, and customer choice continues in the market, and that the programs are in the best interest of ratepayers. Stakeholders from across the auto, utility, EV charging, and nonprofit sectors signed onto a series of *Guiding Principles for Electric Vehicles and Charging Infrastructure* which were signed by nearly 50 industry members, including PPL Electric Utilities, General Motors, ChargePoint, and many others.¹¹ These principles should be considered when developing regulatory policy and utility programs.

In determining whether, and under what conditions, to permit utilities to invest ratepayer funds in the competitive EV charging market, ChargePoint encourages the Commission to consider the full range of costs and benefits to ratepayers, drivers, and site hosts, as well as the potential impacts to competition, innovation, and customer choice in the EV charging market.

Residential and Commercial Rates

With regard to residential rates, studies have shown that the vast majority of EV charging occurs at the home.¹² Given longer residential dwell times, this is a use case in which there is a great deal of flexibility in when the vehicle must actually be charged. As such, drivers are often very willing, with the right incentive, to defer charging to later times when it is more ideal and efficient for the grid. Several options exist today with EVSE technology to enable and incentivize this charging behavior including load management and using the embedded EVSE meter to support on-bill, or off-bill, incentives based on specific EV charging time-of-use. Assuming the EV Program is successful in accelerating EV adoption, a smart home EV charging initiative would ensure that the majority of this associated load growth can be integrated into the grid in a manner that minimizes potential infrastructure upgrade risks and maximizes operational benefits.

Commercial rate design for EV charging requires focused consideration, as well. While peak demand is used by utilities to properly size electrical facilities for their commercial and industrial customers and to ensure they have adequate capacity, traditional demand charge rate structures for those customer segments are misaligned with early EV charging markets and do not take into account benefits of EV load growth. Demand charges to customers are typically based on the highest average 15 minutes in a monthly billing cycle. In the early EV adoption

¹¹ White House Press Office, July, 21 2016. "Guiding Principles for Electric Vehicles and Charging Infrastructure." Source: <https://www.whitehouse.gov/the-press-office/2016/07/21/fact-sheet-obama-administration-announces-federal-and-private-sector>

¹² See, e.g., Smart, John. Lessons Learned about Workplace Charging in The EV Project. Idaho National Labs, 2015.

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phase, DC fast charging stations are currently characterized by having a low load factor with sporadic instances of very high-power 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 face high demand charges, which may reach hundreds of thousands of dollars annually, due to the few peak charging sessions that occur each month. Given these utilization factors are expected to increase significantly over the coming years, the critical importance of access to DCFC solutions to support accelerated EV adoption, and the benefits to utility operations and all ratepayers due to the associated load of EVs across a utility system, ChargePoint recommends an evaluation into alternative rate structures to support DC fast charging service. There are several options to consider that would allow utilities to recover reasonable associated costs while at the same time encouraging commercial customers to deploy additional DC fast charging stations. Examples include:

- Demand charges 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 utilization changes over time with increased EV adoption.
- 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 EV charging requirements. 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 should factor in the EV load from all electric vehicles in all charging locations within its service territory and its associated benefit to the grid - not just that metered at the DCFC. While DCFC can play a critically important role in enabling EV adoption, the vast majority of energy consumed will still be from home locations where grid benefits and load management optionality is greatest.

E. Conclusion

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

II.