April 11, 2022

Rosemary Chiavetta
Secretary
Pennsylvania Public Utility Commission
400 North Street
Harrisburg, PA 17120

P-2022-3030743

RE: Petition of ChargEVC-PA – Docket 3030743: Comments

Dear Secretary Chiavetta,

This letter contains the joint comments of ChargePoint, Electrify America, EVgo, and Tesla ("joint commenters") in response to the Petition to Initiate a Proceeding to Consider Issuance of a Policy Statement on Electric Utility Rate Design for Electric Vehicle Charging ("Petition"), submitted by ChargEVC-PA.[1] These comments are filed pursuant to 66 Pa.C.S. § 501, 1301, 1330, 2807(f) and 1501, and 52 Pa. Code § 5.41.

The joint commenters broadly support the Petition but offer the Commission several modifications and additional considerations regarding commercial rate design and Direct Current Fast Charging ("DCFC") for electric vehicles ("EVs").

Summary of Petition

The ChargEVC-PA Petition broadly requests that the Commission take the following actions:

- Initiate a proceeding focused solely on utility EV rate design (p. 12),
- Issue a Policy Statement on electric utility rate design for EV charging (p. 15),
- Issue an Order granting the Petition for a proceeding with a proposed set of questions to be addressed by parties filing comments (pp. 15-16), and
- Incorporate the proposed procedural steps and schedule when issuing an Order to open a proceeding (p. 17).

[1] The joint commenters represent the largest EV charging companies in the United States and in Pennsylvania. According to the U.S. Department of Energy's Alternative Fuels Data Center ("AFDC"), ChargePoint has deployed 1,041 publicly accessible Level 2 and DCFC ports in Pennsylvania. Electrify America operates over 80 ultra-fast (150 kW-350 kW) DC fast chargers across more than 20 DCFC stations in Pennsylvania. EVgo owns and operates 45 chargers in Pennsylvania, including 38 DC fast chargers and seven Level 2 chargers. Tesla currently operates 354 DC fast chargers across 44 sites in Pennsylvania.

Justification for the Commission to open a proceeding focused on EV rate design

In November 2021, President Biden signed into law amendments to the Public Utility Regulatory Policies Act ("PURPA") which establish a specific directive to utility regulators across the country to consider rates that "promote greater electrification of the transportation sector."[2] These amendments direct utility regulators in every state to begin proceedings before November 2022 to consider measures including the establishment of new, EV-specific rates that:

1. Promote affordable and equitable EV charging options for residential, commercial, and public EV charging infrastructure,
2. Improve the customer experience and reduce charging times,
3. Accelerate private investment in charging infrastructure, and
4. Appropriately recover the marginal costs of delivering electricity for vehicle charging.

Under the law, utility regulators are directed to consider rates that promote electrification, and they also have the opportunity to enhance the impact of federal funds recently made available by the Infrastructure Investment and Jobs Act ("IIJA") in their state. Specifically, by complying with the IIJA's directive to evaluate EV-specific rates, regulators can help ensure that the state Department of Transportation's charging infrastructure investments will be economically sustainable for the long term while advancing social equity goals and attracting private sector investment.

Public DC fast charging warrants particular consideration and should be handled in a separate and distinct track in any rate design proceeding that the Commission opens.

Utility rate reform is a central part of a comprehensive EV ecosystem and critical to the long-term, economically-sustainable operation of charging infrastructure for electric vehicles. Any proceeding must recognize the unique and distinct needs of different EV charging segments including residential, commercial, workplace, fleets, and public DCFC. Each segment involves different use cases, dwell times, consumer expectations, and equity concerns. As a result, the Commission should recognize these different EV charging segments in any rate-focused proceeding.

Specifically, because of their unique characteristics such as load profile and load factors, public DCFC infrastructure has specific rate design needs and considerations that are distinct from other types of commercial customers and are entirely different from residential and fleet charging applications. For example, public DCFC stations that prioritize the driver experience are often not suitable use case candidates for demand response and active load shifting programs, while L2 Alternating Current residential charging stations are often able to benefit from demand response and other time-based price signals. As explained by the Rocky Mountain Institute:

> "Under the typical use-case, DCFC are not useful as dynamic loads. Users expect to be able to obtain a maximum-speed charge from them in the shortest possible time, so it's

[2] These amendments are found in Section 40431 of "Infrastructure Investment and Jobs Act," also known as the Bipartisan Infrastructure Law. *See* Pub. L. No. 117-58, available at https://www.congress.gov/117/plaws/publ58/PLAW-117publ58.pdf (2021).

generally not practical to turn DCFC on and off (or ramp their power output) in response to changing grid conditions."[3]

EV drivers rely on DC fast charging for quick, reliable, and ubiquitous on-the-go charging, whether it is for long-distance travel or for daily activities around town, such as grocery shopping or other short dwell-time needs. Importantly, public DCFC can be critical for apartment-dwelling EV drivers that do not have access to dedicated at-home charging. As such, public DC fast charging is rather inelastic and less flexible or able to respond to demand response events, critical peak pricing, or similar interruptions to charging sessions. These types of grid-optimization are incompatible with an optimal DC fast charging driver experience and conflict with the directive in the IIJA to improve the customer experience and reduce charging times.

Requirements for managed charging for DC fast charging or critical peak pricing rates may increase DCFC station operator complexity and service costs. These problems may be especially acute for higher power levels of DC fast charging, for which energy storage is sometimes an incompatible use case given real estate, permitting, and capital constraints.

As a result, at the present time, policy statement 4(b) on managed charging, as proposed in the Petition, is premature or should be directed to specific sectors such as residential or L2 workplace charging where dwell times are longer and managed charging is feasible and congruent with the use case. Due to these unique characteristics, DCFC warrants particular consideration in its own track in any rate design proceeding that the Commission opens.

A DCFC-focused track must focus on rate design alternatives to traditional demand charges.

The procurement of electricity by operators of EV charging infrastructure constitutes the largest operating cost for DCFC. As a Great Plains Institute report noted in 2019, demand charges can account for nearly 90% of utility costs at a station.[4] According to the report, "[t]his situation can lead to operating costs that far exceed the revenue these chargers can receive from customer payments," a finding echoed in a 2021 DOE report.[5] Across the country, and even here in Pennsylvania, some utilities have started developing rate designs that attempt to address demand charges, an outsized element in traditional commercial and industrial tariffs, that for low load factor customers such as DCFC skews the effective $/kWh rate borne by operators (and therefore EV drivers). PECO, as a step toward addressing this issue, has since 2019 offered the Electric Vehicle DCFC Pilot Rider ("EV-CF"),[6] which is available until June 30, 2024 and provides a fixed demand (kW) credit, initially equal to 50% of the combined maximum nameplate capacity

[3] Fitzgerald, G., and Nelder, C., "From Gas to Grid," p.35, available at https://rmi.org/wp-content/uploads/2017/10/RMI-From-Gas-To-Grid.pdf (October 2017).
[4] McFarlane, D., et al, "Overcoming Barriers to Expanding Fast Charging Infrastructure in the Midcontinent Region," Great Plains Institute, available at https://www.betterenergy.org/wp-content/uploads/2019/08/GPI_DCFC-Analysis.pdf (July 2019).
[5] U.S. Department of Energy, "An EV Future: Navigating the Transition," available at https://8b9a2972-f6bd-463f-ab0e-7b2ba71ee2f1.filesusr.com/ugd/1c0235_965967cdf2bf4b94924c05637398fda3.pdf (October 2021).
[6] PECO Energy Company, "Electric Service Tariff," available at https://www.peco.com/SiteCollectionDocuments/CurrentTariffElec.pdf (January 2021).

rating for all DC fast chargers connected to the service, to the customer's billed distribution demand.

This pilot program provides a foundation to build upon in the development of long-term, sustainable commercial EV rate designs for all Pennsylvania utilities, and expanded programs would be a timely discussion given the upcoming end of the PECO pilot. Rate innovations like this one, which are proliferating across the country, provide valuable lessons through which the Commission can examine a suite of rate designs and structures that consider the particulars of DC fast charging and provide longer-term certainty for DCFC operators, fulling the statutory PURPA obligation to accelerate third-party investment in EV charging.

Public DCFC also helps to enable the transition to EV ownership for residents of multi-unit dwellings ("MUDs"), including apartment buildings, condos, and other residences without easy access to home charging and where building out additional access to L2 charging on site may be challenging in the near term. While more than 80% of all charging sessions happen at home,[7] in urban areas there is greater difficulty charging because urban households are more than twice as likely as suburban households to be located in MUDs.[8] To that point, a recent study by DOE's National Renewable Energy Lab indicates that only "33% of the current light duty vehicle stock in the United States is parked close to electrical access."[9] In many instances, these drivers may rely on public stations where they can charge quickly and affordably. Demand charges are the largest differentiating factor between effective electricity rates billed by the utility to residential and to commercial EV customer accounts. This inequity imposes greater costs on Pennsylvanians who depend on public charging stations, such as those who reside in MUDs, than on those who can charge at home. These costs must be reformed to enable sustainable private sector investment in stations serving MUD residents and ensure compliance with the equity directive of the PURPA amendments.

Summary

In summary, we support the Petition to open a proceeding focused on EV rate design and view such a proceeding as the first step toward compliance with the PURPA amendment requirements to begin consideration, by November 2022, of EV-specific rates that promote affordable and equitable EV charging options, improve the customer experience and reduce charging times, accelerate private investment, and appropriately recover utility marginal costs. As a result, we request that such proceeding have the following characteristics:

- Convene an informal stakeholder process prior to opening a formal proceeding to assist with scoping

[7] Hurlbut D., et al., "Electric Vehicle Charging Implications for Utility Ratemaking in Colorado," National Renewable Energy Laboratory, available at https://www.nrel.gov/docs/fy19osti/73303.pdf, accessed on June 30, 2021.
[8] In fact, 37% of urban households and 16% of suburban households reside in MUDs. *See* Mortgage Bankers Association, "MBA Chart of Week: Distribution of Housing Types, Race and Ethnicity (Urban Areas and U.S.)," available at https://newslink.mba.org/mba-newslinks/2017/october/mba-newslink-monday-10-2-17/mba-chart-of-week-distribution-of-housing-types-race-and-ethnicity-urban-areas-and-u-s/ (Oct. 2, 2017). Furthermore, 86% of the 31.4 million MUDs in the US are rented, and these residents have the greatest difficulty charging at home. *See* Neal N., Goodman, L., and Young, C., "Housing Supply Chartbook," Urban Institute (January 2020).
[9] Ge, Y., Simeone, C., Duvall A., and Wood E., "There's No Place Like Home: Residential Parking, Electrical Access, and Implications for the Future of Electric Vehicle Charging Infrastructure," National Renewable Energy Laboratory, available at https://www.nrel.gov/docs/fy22osti/81065.pdf (October 2021).

- Include separate tracks for distinct EV charging segments
- Carefully consider the particulars of the DCFC use case, specifically in relation to grid optimization mechanisms such as managed charging
- Consider rate design alternatives to demand rates for the DC fast charging segment

The joint commenters appreciate the opportunity to submit this letter. We would be happy to discuss this matter further and answer any questions the Commission may have.

Sincerely,

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