



June 17, 2020

VIA ELECTRONIC FILING

Hon. Aida Camacho-Welch
Secretary
New Jersey Board of Public Utilities
Post Office Box 350
Trenton, New Jersey 08625

Re: Comments in Docket # QO20050357 In the Matter of Straw Proposal On Electric Vehicle Infrastructure Build Out

Dear Secretary Camacho-Welch:

Tesla, Inc. ("Tesla") thanks the New Jersey Board of Public Utilities ("BPU" or "Board") and Board Staff for developing a Straw Proposal regarding the build out of electric vehicle infrastructure in New Jersey and for the opportunity to provide comments. New Jersey has been leader in transportation electrification through its adoption of a goal of having 330,000 electric vehicles ("EV") on the road by 2025, and most recently with the passage of Senate Bill 2252 which sets ambitious EV charging targets for the next five years. The Straw Proposal is a useful guide about the role different entities, and in particularly electric distribution companies ("EDCs"), can play in order to achieve these goals.

With the 2025 ZEV and charging infrastructure goals rapidly approaching, it is imperative that the Straw Proposal set EDCs on a course to develop electric transportation programs that are as economically efficient as possible and that compliment actions taken by independent Electric Vehicle Service Equipment ("EVSE") Infrastructure Companies. In particular, programs developed as part of this process should avoid overly prescriptive requirements that may impede continued innovation in EVSE technology or impede deployments by EVSE Infrastructure Companies.

This can be achieved by providing additional guidance for the "shared responsibility" model to streamline the deployment of make-ready infrastructure by EDCs, and leveraging existing tariffs, utility processes and EVSE Infrastructure Companies' deployment strategies so as not to create delays or unintended cost increases. With the EV industry and charging technology still in its relatively early stages and rapidly innovating, we recommend modifying several aspects of the Straw Proposal to provide participants with greater flexibility in order to maximize New Jersey's charging deployments and societal benefits.



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Our recommendations include:

- Develop two distinct tracks as part of Charger Ready programs. The first being a track that is focused on investments that occur on the utility's side of the meter by modifying existing EDC tariffs and is integrated into the EDC's service request process. This track would waive all, or a portion, of contribution in aid of construction ("CIAC") fees. The second track is a program for make-ready investments on the customer side of the meter.
- Applications for Charger Ready investments should require firm development commitments from EVSE Infrastructure Companies and site hosts in order to be eligible.
- Provide additional guidance about commercial EV charging rate designs, including that they be made available to all separately metered commercial EV charging accounts, and that the rates provide some level of long-term certainty.
- Extend eligibility for the Charger Ready model to other electric transportation use cases, including medium- and heavy-duty fleets, transit fleets and taxi and ride-share fleets.

The remainder of our comments expounds on the recommendations above, and provide feedback on topics raised in the Straw Proposal.

About Tesla

Tesla's mission is to accelerate the world's transition to sustainable energy through the deployment of electric vehicles and sustainable energy products, including battery storage and solar energy systems. Globally, Tesla has produced more than 1 million all-electric vehicles. Tesla's vehicle line-up includes the Model S sedan, Model X crossover vehicle, Model 3 sedan, and our newest offering, the Model Y crossover vehicle. The vehicles have all-electric range of up to 402 miles per charge, and industry leading efficiency, performance, and safety ratings. Tesla is also planning to launch a Roadster sports car, a Cybertruck pickup, and a Class 8 heavy-duty vehicle, the Tesla Semi.

In support of these vehicles and our customers, Tesla has uniquely made substantial investments in developing, owning and operating a direct current fast charging ("DCFC") network, The Supercharger Network, to provide drivers with quick and convenient access to charging. There are currently more than 1,900 Supercharger locations and 17,000 Supercharger stalls globally. In New Jersey, there are 25 Supercharger locations and a total of 222 Supercharger stalls. Supercharger equipment is manufactured at Tesla's Gigafactory in Buffalo, NY.

Tesla also has an extensive Level 2 "Destination Charging" network with chargers located at hotels, restaurants and shopping centers around the world. Destination Chargers operate on 208/240 volt, alternating current circuits and can provide about 25 to 50 miles of range per hour. There are more than 27,000 Destination Chargers globally. There are currently 53 Destination Charging locations and a total of 122 chargers in New Jersey. Unlike the Supercharger network, Tesla does not own Destination

Chargers. Instead, Tesla works with businesses and property owners to install the charging equipment, and the site host owns the equipment and pays for electricity while Tesla markets the chargers to drivers. Use of Destination Chargers is free. Tesla also works with businesses to deploy banks of Tesla Wall Connectors, Tesla's Level 2 charging product, at workplaces and multi-unit dwellings. The Tesla Wall Connector is available for purchase from Tesla's website.

Creating a seamless and convenient charging experience is key to enabling mass market EV adoption because it ensures people do not need to compromise to drive electric. Since the Tesla Supercharger network's initial development in 2012, Tesla has gathered valuable experience about the challenges and barriers to deploying, owning and operating DCFC infrastructure. At the same time, Tesla continues to innovate on how to provide a reliable network with a seamless customer experience. Last year, Tesla launched its V3 Supercharger capable of operating up to 250 kW and providing up to 75 miles of range in as little as 5 minutes. The new V3 hardware along with other software and vehicle updates are expected to cut charging time in half relative to the previous Supercharger hardware.

Clarifying and Streamlining the Charger Ready Approach

The Straw Proposal outlines a "Shared Responsibility" approach in which EDCs invest in the wiring and backbone infrastructure necessary to enable the deployment of EVSE, while non-EDC companies shoulder the bulk of the investment and operation of the charging equipment and networks. The approach is similar to the way EDCs have deployed infrastructure for decades that establish service connections at parcels so that customers can develop their own businesses or services. Board Staff rightly points out that the "Shared Responsibility" model would put less ratepayer money at risk, and that the approach more closely aligns with the experience and expertise of EDCs of deploying backbone infrastructure, while relying on the private sector to site, maintain, market and operate EVSE since that is their area of expertise.

Under the Straw Proposal, EDCs would perform any upgrades on the utility-side of the meter necessary to accommodate charging station infrastructure. That role is critical for EVSE deployments and appropriate since it is consistent with existing line extension policies. To further encourage EVSE deployment, the Board should seek to focus on and clarify two tracks for the Charger Ready approach. The first approach is for front of the meter ("FOM") infrastructure investments, and the second is behind-the-meter ("BTM") or customer-side investments.

For FOM investments, the Board and EDCs should consider modifying the revenue test calculations in their line extension policies for all new commercial and residential EV service requests. Doing so would serve two primary purposes. The first is to provide some charging accounts with relief if they are expected to have a relatively low load factor in the early years. Modifying the revenue test would help some accounts avoid a potentially large upfront payment for the service connection, while preserving

the revenue test ensures that the connection will be paid over time. The second purpose is to streamline the program by leveraging the existing service request process and tariffs rather than standing up a new Charger Ready program which may be administratively burdensome and lead to delays.

Since line extensions are addressed in utility tariffs, the program can be developed relatively quickly by directing utilities to update tariff sheets with new allowances for commercial EV charging accounts without other technology, process, or program requirements. Support for a customer's EV charging deployment would come in the form of waiving all, or a portion, of CIAC fees. Budgets and cost-containment mechanisms for this track can be designed in different ways, including setting a per site or stall allowance for upgrades on the utility side of the meter, or extending the revenue test to ten or more years. This approach was recently approved by the Florida Public Service Commission, and has also been proposed by three investor-owned utilities in California.¹ Given the importance of EVSE to enable EV adoption, the first track should build off the tried-and-true non-discriminatory service connection process and be available to all commercial and residential EVSE service requests, rather than imposing arbitrary eligibility requirements.

The BTM aspect of the Charger Ready approach can be used to further encourage EVSE deployments, but care should be taken to ensure that program designs are not administratively burdensome, do not lead to unnecessary costs or investments, and do not impede the site development processes used by EVSE Infrastructure Companies. In particular, the Straw Proposal envisions that EDCs will be primarily responsible for making a site Charger Ready when ratepayer funds are utilized, and that EDCs would have twelve months to develop sites before an earnings reduction penalty is applied. Board Staff should reconsider the approach of solely relying on EDCs to make sites Charger Ready. EVSE Infrastructure Companies typically work with site hosts to design the layout of stations on the customer side of the meter. Under the Straw Proposal, it appears that utilities would be tasked with playing a greater role in designing station layouts. Moreover, twelve months is far too long of development timeline, especially since 2025 deployment goals are rapidly approaching and EDCs would be authorized to own and operate charging stations if EVSE infrastructure companies do not promptly deploy stations. Charger Ready programs should provide a rebate or Charger Ready allowance option that allows EVSE Infrastructure Companies to build the Charger Ready equipment themselves and seek reimbursement from the EDCs for the Charger Ready work.

¹ The Florida Public Service Commission recently approved a utility-side of the meter make-ready program for Tampa Electric Company that utilized a 10-year revenue generation test when calculating an applicant's CIAC. See Order NO. PSC-2020-0108-PAA-EI issued April 16, 2020. See also: San Diego Gas & Electric Company's Reply Comments on the Transportation Electrification Framework Overview, Investor-Owned Utility Transportation Electrification Plan Development, IOU Roles, and Near-Term Investment Priorities. California Public Utilities Commission case R. 18-12-006. April 27, 2020. Pages 17-18. See also: Pacific Gas & Electric's Reply Comments on Draft Transportation Electrification Framework. California Public Utilities Commission case R. 18-12-006. April 27, 2020. Page 9. See also: Southern California Edison's Reply Comments on Administrative Law Judge's Ruling Adding Staff Proposal For a Draft Transportation Electrification Framework. California Public Utilities Commission case R. 18-12-006. April 27, 2020. Pages 7-8.

Finally, it appears that the Charger Ready program would permit entities to request sites be Charger Ready without having a firm commitment to actually deploying charging stations. That approach could lead to several unintended consequences including a “land grab” situation for site hosts that foreclose opportunities for other interested site hosts in the area, sub-optimal charging experiences for customers, and ultimately put ratepayer funds at risk of being stranded at Charger Ready sites that are not developed with charging stations. The application process for Charger Ready programs should require firm commitments for development from EVSE Infrastructure Companies and the site hosts in order to be eligible.

Commercial EV Rate Design

Utility rate reform will be critical if New Jersey is to meet its EV and public charging station goals. Rate reform should be viewed as a foundational action complementary to all future programs because rates signal to customers the best times for them to charge. Non-coincident demand charges can lead to effective rates for commercial charging accounts being substantially higher than the commercial class average rates because of relatively low load factors for charging accounts. Since utility costs are the majority of the total lifetime costs of building and operating charging stations, high effective rates will discourage investment.

The Straw Proposal highlights the challenges existing rate designs can pose to charging stations, and offers several potential alternative designs. The first is a “set point” method which would ensure that effective rates do not exceed a specific price. There are several examples of rates in use around the country that can be used as models for New Jersey. In particular, Dominion in Virginia has a mechanism in their Intermediate General Service rate that automatically bills the account a volumetric rate if the load factor is below approximately 25%.² The volumetric rate is slightly above the commercial class average. If the customer’s load factor exceeds 25% in a particular month, it is billed on a demand basis and the effective rate at 25% is on par with what they would pay on the volumetric track, and declines as their load factor increases.

The “set point” approach can be effective so long as the set-point is based on something within the Board or EDCs control, such as average commercial class rates. Basing set-points on factors exogenous to the electric sector would be inappropriate, overly complicated and administratively burdensome. For example, basing the set-point on the retail gasoline price equivalent would require a variety of assumptions including the efficiency of gasoline vehicles, efficiency of electric vehicles, and would require constant modification as gasoline prices change daily. Moreover, there’s a critical flaw in

² See Virginia Electric and Power Company’s (Dominion) Schedule GS-2, available from: <https://www.dominionenergy.com/library/domcom/media/home-and-small-business/rates-and-regulation/business-rates/virginia/schedule-gs2.pdf?la=en&modified=20190401150615>

a retail gasoline set point because retail electricity prices are not an appropriate comparison to retail gasoline prices because they do not reflect the fixed, overhead and maintenance costs of building and operating charging stations.

The Straw Proposal also suggests that time-limited waivers of demand charges can be offered to help operators get through low utilization in early years of deployments. Short-term incentive rates should be avoided because they do not provide sufficient certainty for investments in charging infrastructure or commercial fleet vehicles. There is a common view that short-term waivers will only be necessary for a few years until utilization of stations increases to the point where non-coincident demand charges are less of an issue for charging operators. That is true to a point, but it is not a given that many stations will reach that point. In particular, it will be difficult for public charging stations to achieve high enough load factors across the entire network, especially if the 2025 charging station goal is met but there aren't enough EVs sold to support consistent utilization of stations. Commercial class average rates typically occur within the 35-45% load factor range depending on the utility. To achieve that, charging stations would essentially need to be completely occupied from 7:00 A.M. to 10:00 P.M. every day.³ While technically possible, it is unlikely, and an undesirable outcome for EVSE Infrastructure Companies and EV drivers because congested stations can lead to delays and bad customer experiences that can hurt EV adoption. To avoid bad customer experiences, additional station or charging network capacity would need to be added to relieve congestion.

The Board and EDCs should consider set-point methods similar to Dominion's, or optional rates that send more precise time signals including coincident demand charges or time-of-use volumetric rates. It is also important to note that conventional cost-of-service ratemaking and electric vehicle rates are not mutually exclusive. Multiple utilities and commissions around the country have developed revenue neutral rate designs that reduce costs for charging operators because of the beneficial load profiles stations have.⁴ Finally, rates developed as part of EDC electric transportation plans should offer all commercial EV charging accounts access to the same rate, regardless of their location, use case or other characteristics. Doing so would ensure all entities are on equal footing and are getting the same price signals about the best time to charge.

Extending the Straw Proposal to Medium- and Heavy-Duty Vehicles

The Straw Proposal, as proposed, appears limited to light duty applications. For New Jersey to meet its ambitious climate, air quality, environmental justice, and EV goals, the program should be expanded

³ Vehicles do not charge at full capacity during a session because of a variety of factors including the vehicle's state of charge, battery temperature, ambient temperature and other factors.

⁴ See NV Energy Electric Vehicle Commercial Charging Rider Time-of-Use schedule as part of Nevada PUC Docket Numbers 20-03024 and 20-03025. See Eversource Energy Connecticut EV Rate Rader in Docket No. 17-10-46RE01. See PG&E Commercial Electric Vehicle Rate in California PUC Application 18-11-003. See Xcel Colorado S-EV Rate Tariff, Colorado PUC Proceeding No. 19AL-0209E.

to include medium and heavy-duty vehicle (“MD/HD”) applications. Emissions from diesel buses and trucks are concentrated in disadvantaged communities and cause adverse public health outcomes including high rates of asthma and lung disease. Expediting the electrification of these sectors is vitally important for improving air quality and public health in disadvantaged communities.

In the last five years, the commercial maturation of electric buses and trucks has been significant with commercially available models now available from numerous manufacturers across an assortment of vehicle applications. Since the announcement of the Semi, Tesla has been engaged with truck fleets across the country. These fleets are oftentimes making purchasing decisions based on total cost of ownership which includes getting charging infrastructure in place to allow them to operate their trucks effectively. Building out charging infrastructure for a fleet is a potentially complicated and expensive proposition and can be a significant impediment to electrification for most operators. It is critical that New Jersey prioritize utility support for these efforts through Charger Ready programs, in order for these fleets to begin planning their transition to electric vehicles in the near term.

While MD/HD vehicles have unique charging needs compared to light duty non-fleet vehicles, there is not a huge deviation when it comes to service connection issues when compared to other EV charging use cases. For instance, the power levels needed for the charging infrastructure for a mid-size fleet of vehicles can be similar to a large DCFC charging location. In both cases, the utility would provide the same essential Charger Ready services on the utility and customer side of the meter – there would be no difference from a utility build out perspective. The planning horizon, however, may be longer for MD/HD fleets with high-power charging making it even more important to include them in the Charger Ready program from the start. From a program administration perspective, it would be fairly straightforward to expand eligibility in this program to include medium and heavy-duty charging infrastructure.

Conclusion

Tesla appreciates the Board and Board Staff’s work to develop the Straw Proposal, and for the opportunity to provide recommendations and feedback. It is crucial that New Jersey rapidly accelerate charging deployments and EV adoption in order to achieve its climate and ZEV targets. The Charger Ready approach has the potential to lead to a meaningful increase in charging deployments. Streamlining and simplifying the program requirements by leveraging existing utility tariffs and line extension processes will provide applicants with flexibility and ensure ratepayer benefits of the program are maximized, while developing alternative commercial rates will encourage additional investments in charging infrastructure and EVs.

Respectfully submitted,



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