July 23, 2018

Hon. Kathleen H. Burgess, Secretary
State of New York Public Service Commission
Three Empire State Plaza
Albany, NY 12223-1350

Dear Secretary Burgess:

On April 13, 2018, the New York Power Authority, the New York State Department of Environmental Conservation, the New York State Department of Transportation, and the New York State Thruway Authority (collectively referred hereto as the "Joint Parties"), jointly filed a petition requesting that the New York Public Service Commission ("NYPSC") direct investor-owned utilities ("IOUs") to provide electric vehicle ("EV") direct current fast charging ("DCFC") load with immediate and long-term relief from demand charges.[1] The Joint Parties also requested that the NYPSC open a proceeding to establish principles to guide the IOUs in the process of redesigning DCFC charging rates, and in designing broader EV implementation plans.

Tesla supports the Joint Parties' Petition, and believes the proposed policies for more affordable charging rates will help encourage deployment of DCFC infrastructure and increase adoption of EVs in New York State. Tesla also supports the Joint Parties' position that demand charges represent a significant barrier to the deployment of DCFC infrastructure, and identifies critical elements of DCFC rate design that should be considered by the NYPSC when directing the IOUs to design a charging rate that maximizes infrastructure investment, utilization, and ratepayer benefits.

As the Joint Parties highlight in their Petition, the State of New York has taken a strong and supportive stance on EV growth. New York is a signatory to public health and environmental standards that will require total sales of Zero Emissions Vehicles ("ZEV") within the state to reach 800,000 by 2025, up from the cumulative 30,000 ZEV sales in the state today. [2] Adequate DCFC infrastructure is critical to achieving New York's EV adoption goals.

The potential benefits of greater EV adoption in New York are significant. With no tailpipe emissions, EVs can help reduce ozone-forming nitrogen oxide emissions and greenhouse gas emissions. Additionally, increased adoption of EVs means there will be more charging of EVs in the evening hours, which results in higher utility system utilization during off-peak hours. This provides more electricity sales to the utility at average cost rates that typically exceed the utility's marginal costs. The increased revenue to the utility from EV charging means that the utility's revenue requirement will be reached more quickly; therefore, all other ratepayers should enjoy a rate decrease. MJ Bradley & Associates estimated that by 2030, each plugin EV in New York would provide $265 of net present value benefits annually. Of those benefits, utility customers would have a benefit of $166/EV/year due to higher utility revenues from EV charging obviating the need for future rate increases.[3]

[1] DC fast charging is often referred to as "Level 3" charging, and operates up to 50 kW and higher.
[2] Review of New York State Electric Vehicle Charging Station Market and Policy, Finance, and Market Development Solutions, Coalition for Green Capital, prepared for NYSERDA (October 2015) p. S-1. ZEV sales in NY available from Alliance of Automobile Manufacturers, Advanced Technology Vehicle Sales Dashboard, *available at* https://autoalliance.org/energy-environment/advanced-technology-vehicle-sales-dashboard/. (last visited March 10, 2018).
[3] MJ Bradley and Associates. 2017. State-Wide Costs and Benefits of Plug-in Vehicles in Five Northeast and Mid-Atlantic States.

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Increasing access to DCFC charging enables the adoption of EVs as it allows for consistent, reliable, and affordable charging which will make the difference between buying an EV or a traditional internal combustion engine vehicle. While more than 80% of EV drivers' charging currently occurs at home or work, customer access to DCFC is essential for long-distance travel or emergency situations, and for customers without access to at-home charging, such as those who reside in multi-family dwellings.[4] The National Renewable Energy Laboratory estimates that approximately 3.4 DCFC chargers will be needed to support every 1,000 battery EVs. [5] New York will need approximately 1,500 total DCFC plugs to support the ZEV targets by 2025.[6] This represents a significant increase over the State's approximately 300 existing DCFC plugs.[7]

Demand charges represent a significant barrier to the development of DCFC infrastructure. A recent study conducted by the Rocky Mountain Institute found that when utilization of DCFC stations is low, which is common given the nascent nature of EV technology, demand charges can account for up to 90% of a station's monthly electricity bill, resulting in prohibitively high operating costs.[8] This conclusion is consistent with the findings of a 2015 study commissioned by New York State Energy Research and Development Authority ("NYSERDA").[9] Tesla agrees with the Joint Parties that shifting DCFC customers to demand charge-free or reduced rates would help mitigate the high costs associated with the development and operation of DCFC infrastructure. Demand charge-free rates will maximize deployment of EVs and the benefits and the substantial ratepayer cost savings associated with EV adoption.

To help drive EV adoption and maximize ratepayer benefits, several utility commissions across the country have also directed utilities to implement DCFC-applicable charging rates that include a reduced demand charge. The table below includes descriptions of recent charging rates approved by utility. Tesla agrees with the Joint Parties that of the various demand charge-free charging rate structures, the model recently approved for California's Southern California Edison is optimal. Under this rate, the demand charges for charging load will be suspended entirely for five years, then gradually phased-in over the subsequent five years. The final demand charge under this rate option will be considerably lower than the demand charge under the alternative default commercial rate. This rate provides certainty and affordability, and encourages DCFC infrastructure investment in one of the highest cost electricity markets in the country.

Utility	EV Charging Rate Design
Southern California Edison, CA	Approved demand charge free rate for all non-residential DCFC load for a five-year period, followed by the phase-in of a modest demand charge over the following five years. Time-of-use (TOU) volumetric energy charges increased to recover costs previously recovered in the demand charge.
Eversource, CT	Approved demand charge free rate for all DCFC charging load with increase in volumetric energy charge to recover costs previously recovered in the demand charge. No limit on term of rate

[4] Charging at Home," Department of Energy, Office of Energy Efficiency & Renewable Energy, available at https://www.energy.gov/eere/electricvehicles/charging-home; and Evaluating *Methods to Encourage Plug-in Electric Vehicle Adoption*, prepared by Plug In America for CalETC, October 2016, p. 23, available at https://pluginamerica.org/wp-content/uploads/2017/03/PIA-Incentive-Survey-Paper-Final-Oct.-2016.pdf.

[5] Wood, Eric et al., National Plug-In Electric Vehicle Infrastructure Analysis, U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, September 2017, p. xi, available at https://www.nrel.gov/docs/fy17osti/69031.pdf.

[6] Appendix B of Joint Parties' Petition, and U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, *National Plug-In Electric Vehicle Infrastructure Analysis* (September 2017).

[7] Alternative Fuels Data Center, U.S. Department of Energy, Electric Vehicle Charging Stations (as of July 19, 2018) https://www.afdc.energy.gov/fuels/electricity_locations.html for non-Tesla DCFC station count, and internal Tesla data about Tesla Superchargers in NY.

[8] Fitzgerald, Garrett and Chris Nelder, *EVgo Fleet and Tariff Analysis*, Rocky Mountain Institute, 2017, p. 1, available at https://www.rmi.org/wp-content/uploads/2017/04/eLab_EVgo_Fleet_and_Tariff_Analysis_2017.pdf.

[9] Electricity Rate Tariff Options for Minimizing Direct Current Fast Charger Demand Charges, Final Report, Energetic Incorporated, prepared for NYSERDA (December 2015) p. 1.

	offering.
NV Energy (North and South territories), NV	Approved DCFC rate with a ten-year transitional demand charge (2019-2028).
Con Edison, NY	Approved economic development rate for DCFC, that includes a demand charge discount for seven years.
Pacific Power, OR	Approved rate beginning with a demand charge discount of 90%, phasing in at 10% per year until the demand charge is restored at 100%. Volumetric energy charges are adjusted to recover costs previously recovered in demand charges.
PECO, PA	Proposed five-year pilot rate in which the customer receives a fixed demand credit, initially equal to 50% of the combined maximum nameplate capacity rating for all DCFCs connected to the service to the customer's billed distribution demand.

As NYPSC considers directing the New York IOUs to create DCFC-applicable charging rates, Tesla recommends that the Commission consider the following key program criteria to maximize infrastructure deployment and ratepayer benefits:

Key Criteria #1: The DCFC rate must be technology agnostic.
The objective of an EV charging rate is to help drive deployment of DCFC stations and adoption of EVs, which results in significant ratepayer, economic, and societal benefits. To ensure highest utilization and participation on this charging rate, no DCFC-capable vehicle or manufacture should be excluded from the rate.

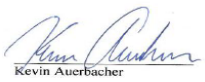
Key Criteria #2: The DCFC rate must be available to new and existing stations.
To help minimize the cost of demand charges on existing developers, and ensure that investment is available for future charging, participation in new rates should not be limited to new stations. If existing stations are not eligible for DCFC rates, they would be at a price disadvantage to new stations.

Key Criteria #3: The DCFC rate must include manageable eligibility requirements.
To maximize participation in a charging rate, eligibility requirements should be manageable. While Tesla was generally supportive of the Business Incentive Rate ("BIR") proposed by Con Edison, the eligibility requirement that new quick charging stations must receive economic incentives from a federal, state, or local municipality presents difficulties given the limited availability to EV charging station incentives. For example, the lapsing of the Federal alternative fuel station tax credit, and uncertainty in New York with the recent executive budget proposing a two-year delay for the New York State EV infrastructure tax credit has prevented a number of charging developers to leverage the BIR, including Tesla. Any new DCFC rates should not include such eligibility requirements.

Key Criteria #4: The DCFC rate must be available to all non-residential charging, including fleet and heavy-duty charging.
To ensure that any adopted rate does not quickly become outdated, with the increased adoption in electric vehicle fleets and forthcoming release of heavy duty EV trucking technology, charging rates should not include a limit on kW or kWh participation. One way to ensure that all DCFC-capable technologies will continue to have access under a charging rate is to direct utilities to create a complementary charging rate for each commercial rate currently offered. Eligibility for each of these tariffs would continue to be governed by existing limitations in of the customer's load or demand.

Tesla appreciates the opportunity to provide comment on these issues, and the Commission's consideration.

Sincerely,



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