



State of New York

New York Public Service Commission

CASE 22-E-0236 - Proceeding to Establish Alternatives to Traditional Demand-Based Rate Structures for Commercial Electric Vehicle Charging

Response to Notice Soliciting Comments on Behalf of Metropolitan Transportation Authority

- 1. Provide examples of commercial electric vehicle charging tariffs or operating cost relief programs (solutions) from jurisdictions outside of New York that should be considered or avoided, based on the experience in those jurisdictions, and explain why they are effective or ineffective.

Response: Regulators and utilities across the country are exploring alternatives to traditional demand charges to find solutions that allow commercial electric vehicle (EV) charging to be more cost competitive. Some of these modified demand charge rates do not account for the fact that commercial charging covers a wide range of consumers with vastly different consumption patterns. For example, some commercial EV users, like owners of commercial electric vehicle fleets (CEVFs), may not have an issue with utilization rate to the same extent that owners of publicly available charging stations do; they also have more control over charging timing and can charge their vehicles during off-peak hours. Far from stressing grid capacity, this behavior can lower overall power system costs for all utility customers. A time-of-use or on-peak/off-peak tariff can address differences such as these between different commercial EV customer profiles.

While there are multiple alternatives to traditional demand-based rate structures in effect across the country, not all consider how different commercial EV operations impact peak load. Below are four examples, two of which include features to disincentivize on-peak charging.

Incrementally Increasing Demand Charge – Pacific Power¹

Pacific Power offers Commercial and Industrial customers a discount on demand charges that decreases at 10, percentage points per year, as depicted in Figure 1 below.

Simultaneously, customers receive a discount on the on-peak energy charge that increases at 10 percentage points per year. This tariff incents commercial EV companies to install chargers to support EV growth, while also prioritizing investment in energy management technologies. The time period of 10 years is beneficial for fleet owners as it gives time for the fleet owner to invest in smart

Table with 3 columns: Date, On-Peak Energy Charge Transition Discount, Demand Charge Transition Discount. Rows show a 10% annual increase in on-peak discount and a 10% annual decrease in demand charge discount from 2018 to 2030.

1 Source: Pacific Power, "Schedule 45 Public DC Fast Charger Optional Transitional Rate," January 1, 2021, https://www.pacificpower.net/content/dam/pcorp/documents/en/pacificpower/rates-regulation/washington/rates/045_Public_DC_Fast_Charger_Optional_Transitional_Rate.pdf.



charging software/interfaces. **The primary disadvantage of this methodology is that the transition to demand charge-based rate recovery in the future is capable of disincentivizing CEVF customers from adopting EVs.**

Subscription Charge and Time-of-Use – Pacific Gas and Electric (PG&E)

Customers select a subscription plan, wherein the customers must indicate their anticipated maximum kW consumption in 50 kW increments. PG&E then charges customers a flat fee based on the selected subscription plan. At the end of each billing cycle, PG&E verifies that customers did not exceed their stated subscription plans; if they do, they are charged twice the cost for additional energy (*i.e.*, kW). In addition to the flat subscription fee, customers pay time-of-use rates.

This approach encourages off-peak charging, while simultaneously encouraging commercial customers to closely monitor their peak usage and invest in energy management solutions. This tariff resulted from the California Public Utilities Commission’s stipulation that utilities must devise alternative tariff structures that decrease EV charging during peak demand periods while also lessening the impact of demand charges on commercial/industrial customers.²

The “Lesser Of” Approach – Florida Power and Light (FPL)

FPL bills customers for the lesser of standard measured demand or limited demand which FPL calculates by dividing energy sales (in kW hours (kWh)) by 75 hours.³ This provides a discount to commercial customers with a load factor of under 10 percent.⁴ As charger utilization increases, the commercial customer will be better able to bear the costs as they can split the demand charge across a higher volume of charging vehicles. This tariff allows the transition to demand charges to occur when utilization reaches an economically sustainable level. This mechanism would, in effect, only apply to commercial charging stations as CEVF charging will naturally have a load factor that is higher than 10 percent. **FPL’s approach therefore does not account for the impact the demand charge will have on CEVF customers.**

Demand Charge Holiday – Southern California Edison (SCE)

Under SCE’s TOU-EV-8 and TOU-EV-9 tariff schedules, from March 1, 2019 to March 1, 2024 commercial customers are not subject to demand charges. After the conclusion of the demand charge holiday, SCE will phase back in the demand charge across a five-year period; at this time, the tariff does not specify how this phase-in will be done. SCE’s TOU-EV-8 and TOU-EV-9 tariff schedules apply to commercial EV charging stations with a maximum demand ranging between 20 kW and 500 kW, and maximum demand exceeding 500 kW, respectively.⁵ The benefit of this demand charge format is that as EV usage is anticipated to increase over time, demand charges will be spread across a higher volume of charging sessions. The slow phase-in will allow customers

² Herman K. Trabish, “PG&E, SCE, SDG&E pursue subscriptions, time-of-use rates to drive more California EVs,” *Utility Dive*, January 23, 2019, <https://www.utilitydive.com/news/pge-sce-sdge-pursue-subscriptions-time-of-use-rates-to-drive-more-cali/545907/#:~:text=SCE's%20new%20C%26I%20rate%20plan,40%25%20below%20the%20current%20charge.>

³ National Association of State Energy Officials, *Demand Charges & Electric Vehicle Fast-Charging* (October 2021).

⁴ Florida Public Service Commission, *ORDER GRANTING PETITION FOR APPROVAL OF OPTIONAL VEHICLE PUBLIC CHARGING PILOT TARIFFS BY FLORIDA POWER & LIGHT COMPANY* (Tallahassee, Florida: December 21, 2020).

⁵ SCE, *Schedule TOU-EV-8*, March 22, 2019.



to avoid rate shocks when SCE reintroduces the demand charge. **Regardless, this tariff adjustment fails to account for the impact on CEVF customers who may not have low utilization problem and can better regulate their charging patterns.** The absence of a clear methodology on how SCE will conduct the five-year phase may introduce uncertainty into the market. Typically, the industry practice is to clarify phase-in methodologies when a tariff is initially introduced.

2. *When evaluating the impact of potential solutions, what assumptions should be applied to appropriately represent the investment decision that charging station developers and/or site hosts must make? Key assumptions of interest include, but are not limited to, utilization of the charging stations over the investment horizon, capital costs, capital structure, and operation and maintenance costs (i.e., leasing costs of land, the fees or pricing consumers will pay for public charging, and the minimum financial threshold: Internal Rate of Return or Return on Investment to determine if the tariff or cost relief program is sufficient to spur investment).*

Response: When making an investment decision, a transportation agency, such as MTA, must consider the cost of the installation, operation, and maintenance of the charging stations, including the cost of the power each station delivers. In order to promote EV supply equipment deployment, operation of a CEVF should not be cost prohibitive. At the very least, it should stay within constraints of the fleet owner's budgeted fuel cost. Ideally, these investments, when assessed over a multi-year period, should generate a net economic savings.

When considering investing in an EV fleet, MTA will compare the CEVF operating costs with the costs of its existing diesel and renewable natural gas fleets. MTA estimates that the current fuel costs of its electric bus fleet far exceed those of competing technologies, such as compressed natural gas and diesel bus fuel, on a cost per mile basis, which constrains budgetary flexibility to deploy more electric buses. Approximately 45 percent of MTA's operating budget is comprised of dedicated allocations of various taxes and surcharges. Income from these sources vary based on a variety of factors (e.g., economic conditions) that are not correlated to actual operating/fuel costs. Since the COVID-19 outbreak, public ridership has declined across the state (and across the country), putting downward pressure on fare revenue and further constraining MTA's operating budget.

MTA asks the Commission to also consider the MTA's charging profile, which is likely to require the simultaneous charging of multiple buses across its service area, including 28 bus depots averaging over 200 buses per depot. As the MTA adds electric buses to its fleet, the total demand charge cost will also increase. Therefore, increased utilization of chargers over time will not necessarily yield the same economic benefit for CEVF owners as it will for the owners of public charging stations.

The New York State legislature's Statement of Justification for 2022 Session Law Chapter 168 states that in "order to unlock the full potential of electric vehicle technology, barriers to the development of electric vehicle charging infrastructure need to be removed."⁶ A separate tariff

⁶ *New York State Assembly Memorandum in Support of Legislation*, N.Y.S. Assembly (2022), https://nyassembly.gov/leg/?default_fld=%0D%0A&leg_video=&bn=A08797&term=0&Summary=Y&Memo=Y&Text=Y.



for CEVF owners based on time-of-use pricing and that provides relief from a utility demand charge will remove a substantial cost barrier and adequately incentivize CEVF investment.

3. *How should the rate design principles articulated by the Commission in the REV Track Two Order be applied when evaluating the potential solutions in this proceeding? Are there additional rate design principles you believe should be applied and why?*

Response: The rate design principles from the REV Track Two Order are a useful expression of important social value considerations in the setting of energy rates; however, they were adopted before the passage of the Climate Law and Community Protection Act (CLCPA). The review of these principles by the Commission, therefore, is appropriate to ensure they are being applied in support of achieving the legal requirements and objectives of the CLCPA, such as achieving equitable economy-wide decarbonization. When contemplating new rate design under this proceeding, the Commission should consider how such design will support accelerated wide-scale electrification of mobility, which is currently at an early stage. This will be particularly important to capturing and incentivizing the expansion of the major benefits of mass transit in support of decarbonization and community protection, as required by CLCPA.

MTA's commitment to electrification of its bus fleet completely aligns with the CLCPA's economy-wide decarbonization requirements as well as its obligation to "prioritize the safety and health of disadvantaged communities, control potential regressive impacts of future climate change mitigation and adaptation policies on these communities and prioritize the allocation of public investments in these areas."⁷ Mass transit generally, and e-buses in particular, are well-proven as a highly effective means of reducing vehicle miles traveled and emissions from internal combustion engine vehicles. Additionally, the mass transit network is the fabric that connects the entire New York community. Many of MTA's depots are within Potential Environmental Justice Area (PEJA) communities, and many MTA riders live and work within PEJAs—areas that CLCPA requires receive 40 percent of the overall benefits of the Act's implementation.

In this context, the REV Track Two Order rate design principles of "Encourage Outcomes," "Policy Transparency" (as examples) appear highly supportive of creating a rate design that does not burden or disincentivize the accelerated transition to e-buses. Other principles, however, seem more appropriate for operation of a mature system (such as the distribution grid) and would be less supportive of the necessary transition of mobility to zero-carbon emissions in the timeframe required by the CLCPA.

4. *What solution design elements should be considered to best maintain an incentive to manage electric demand? For example, should the structure of the potential solutions incentivize charging station owners to use time-varying pricing for drivers, to co-locate storage with electric vehicle charging stations, or to co-locate charging stations with complementary load profiles or anchor customers such as commercial fleets or ridesharing businesses?*

Response: A time-of-use rate will provide strong incentive to manage electric demand and therefore should be considered a critical solution design element. Additionally, it is noteworthy that the examples provided in the question above all imply a demand management prerequisite

⁷ Climate Leadership and Community Protection Act, 2019 N.Y. Sess. Laws Ch. 106 (McKinney), § 1(7).



as part of a rate design in order to benefit from relief from demand charges. This is appropriate, but MTA strongly encourages the Commission to value the potential system-wide grid management benefits of electrified mass transit. Accomplishment of economy-wide decarbonization under the CLCPA will require a significant expansion of electrified mass transit, such as CEVF. The necessary and overwhelming public benefit of electrified mobility should be recognized by the Commission in its solution rate design.

5. What solution design elements should be considered to encourage increased utilization of charging stations over time?

Response: No response.

6. What solution design elements should be considered to encourage good investment decisions for charging stations?

Response: No response.

7. Should the solution design address sites that may be necessary to establish a minimum network of public charging but are located in areas that are likely to experience lower utilization in the long run? If so, how?

Response: No response.

8. *Should a separate service class for commercial electric vehicle charging stations be established for tariff-based solutions? What are the benefits or drawbacks of this approach? Should separate service classes be established for different types of electric vehicle charging infrastructure and applications (e.g., L2 versus High Voltage Direct Current, fleet charging infrastructure)?*

Response: The Commission should consider requiring the development of a separate service class for CEVF. MTA believes it is important to split out CEVF from public charging stations due to the fundamentally different charging profiles of the two. CEVF owners have more control over charging schedules and greater potential to provide grid services. Given this, the Commission should establish a service class unique to CEVF.

9. *What selection criteria should the Commission use to rank potential alternative tariffs?*

Response: When considering the selection criteria for ranking alternative tariffs, the Commission should consider the different charging profiles of Commercial EVs and their impact on the grid. Furthermore, Case 18-E-0138 establishes New York's Make-Ready Program and notes that the goal of the program is to "incentivize utilities and EV charging station developers to locate and invest in projects that produce the greatest public benefits, while encouraging development to achieve the State's EV policy goals at the lowest cost to ratepayers."⁸ As noted in the MTA's response to Question 1, developing a demand charge adjustment based upon a one-size-fits-all approach will result in unjust rates for CEVF operators as it fails to recognize that Commercial EVs have varying capabilities to provide grid services and generate positive externalities. For example, MTA's location (over 20 depots in PEJAs) and status as a public transit provider to many PEJA citizens will be more effective at contributing to the social and environmental outcomes required

⁸ Case 18-E-0138, *Proceeding on Motion of the Commission Regarding Electric Vehicle Supply Equipment and Infrastructure*, Order Establishing Electric Vehicle Infrastructure Make-Ready Program and Other Programs (July 16, 2020), at 21.



by the CLCPA. The absence of these considerations disincentivizes CEVF development and is, therefore, in opposition to the goals set forth by the Make-Ready Program.

Accordingly, the Commission should use a ranking system that promotes the implementation of the CLCPA. The selection criteria should prioritize solutions that incentivize CEVF adoption. **For example, charging rates should be set such that CEVF owners do not incur higher costs than when operating diesel and compressed natural gas vehicles on a cost per mile basis.** Lowering cost hurdles for public bus fleet charging by limiting demand charges and other cost-prohibitive rate mechanisms would constitute an appropriate and necessary application of the CLCPA.

10. *How should the Commission determine whether the alternative tariffs or cost relief programs are effective (e.g., possible metrics)?*

Response: The Climate Justice Working Group established under New York state law is currently working on the criteria for Disadvantaged Community designation. The Climate Justice Working Group's improvements in these criteria, specifically in disadvantage indicators in economic, social, and environmental areas, should be used as a measure by which the Commission can determine whether alternative tariffs or cost relief programs are effective. If the Climate Justice Working Group has not made any such designation or finalized its criteria by the time the solution is adopted, the Commission should develop its own metrics to evaluate whether the alternative tariffs or cost relief programs meet the requirements of the CLCPA statute. One of the possible methodologies would be to peg the reduction in demand charges to an indicator is tied to the Environmental justice metric in that geographic region that the fleet owner serves/operates in. MTA has developed Environmental justice ranks for each of the boroughs we operate in. Such rankings can be used to determine the appropriate reduction in tariffs.

11. *How should the Commission determine whether the alternative tariffs or cost relief programs are still necessary in the future?*

Response: No response.