STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case No. 22-4869-INV

Public Utility Commission 2022 Investigation into Rates Related to Electric Vehicles

VERMONT DEPARTMENT OF PUBLIC SERVICE COMMENTS

The Vermont Department of Public Service ("Department") appreciates this opportunity to comment on the progress of distribution utility rates to promote electric vehicles ("EV") and manage the resulting impacts on other ratepayers. These comments complement information provided directly by each utility.

A recent analysis[1] reported that Vermont leads the nation in the number of EV charging ports per capita, a reflection of investments by the state, private businesses and organizations, and certain utilities. State agency efforts to support Electric Vehicle Supply Equipment ("EVSE") deployment began in 2014 and continue to grow; this experience has, however, revealed certain barriers. For example, while EV rates may be straightforward, access to those rates by residents of multiunit (multifamily) dwellings is often dependent on EVSE software, internet access, parking lot layout, and more.

The following two rate-related topics are not addressed in these comments but may warrant Vermont Public Utility Commission ("Commission") attention in the future. First, electric aircrafts tested in Vermont use DC fast charging of 350 kW with Combined Charging System ("CCS")-style connectors not dissimilar from on-road vehicles. They are, in effect, EV loads. Second, a handful of EVSE developers have asked the Department for guidance related to battery electric storage systems that are co-located with public-serving EVSE. These operators offer various energy services beyond charging load management, such as real-time market arbitrage for energy, capacity, and ancillary services.

The Agency of Agriculture, Food and Markets' Weights and Measures Program is responsible for many aspects of consumer protection that fall outside the statutory jurisdiction of the Commission and Department. This includes, for example, clear pricing and accurate dispensing of electricity at public charging stations. Program staff are active in the national standard-setting process for EVSE consumer protection and can offer technical assistance if the multifaceted equipment described above falls both within and without the Commission's regulatory scope.

[1] CoPilot, Inc. November 17, 2022. https://www.copilotsearch.com/posts/states-with-the-most-alternative-fueling-stations.

State EVSE Investments

Staff from four state agencies meet regularly to coordinate investment in EVSE. Ongoing efforts include:

- $2.45 million awarded in 2020 and 2021 to support 17 DC fast charging locations along major travel corridors, with installations now ongoing;
- $1 million awarded in 2022 to support charging station installations at affordable multifamily housing, thereby making at-home charging access more equitable and affordable; and,
- $10 million appropriated by the Legislature in 2022, consisting of:
    - At least $3 million to expand charging for residents of affordable multifamily housing, and
    - The remainder, up to $7 million, to support charging at workplaces, downtowns, and public attractions, such as parks and museums.

The federal Infrastructure Investment and Jobs Act established the National Electric Vehicle Infrastructure ("NEVI") Formula Program to provide funding to states for an expanded DC fast charging network. In total, Vermont will receive $21.2 million during federal fiscal years 2022-2026. The Federal Highway Administration approved Vermont's NEVI Plan in September 2022.[2]

In addition, in 2022, the Legislature appropriated $20 million of American Rescue Plan Act funding to the Department to support low- and moderate-income homes with upgrading home electrical systems, such as electric panels. These upgrades will remove a common barrier to Level 2 EV charging (and other technologies, such as heat pumps) and enable more households to charge at home and participate in EV rates.

State-Supported Utility Pilot Projects on Rate Design

The Commission's *2022 Report on Electric Rates for Electric Vehicles* identified funding awarded by the Department for distribution utilities to analyze innovative retail rates. These pilot projects follow Phase 1 of the Department's Rate Design Initiative completed in 2020.[3]

Vermont Public Power Supply Authority ("VPPSA") is analyzing EV charging costs, rate structures, and VPPSA members' billing system capabilities. VPPSA and a consultant are preparing a range of rate options for residential and commercial customers, as well as public-serving EVSE such as DC fast chargers.

Burlington Electric Department ("BED"), in coordination with Vermont Electric Cooperative and Washington Electric Cooperative, is developing a system to monitor and manage Level 1 residential EV charging. This may consist of low-cost, web-connected "smart plugs" or,

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[2] Vermont Agency of Transportation. August 1, 2022. https://vtrans.vermont.gov/sites/aot/files/VERMONT_2022%20NEVI%20State%20Plan_FINAL.pdf.

[3] NewGen Strategies & Solutions. August 18, 2020. https://publicservice.vermont.gov/sites/dps/files/documents/Vermont%20PSD_Innovative%20Rate%20Design%20Study_08-12-20.pdf.

if a suitable commercial can be found, a web-connected Level 1 charger. The pilot will allow BED to promote off-peak charging through EV-specific rates.

Additional details about these efforts are included in the filings submitted by VPPSA and BED.

Access to EV Rates for Multiunit Dwelling Residents

Multiunit dwellings and similar properties (such as apartment complexes, condo buildings, and senior housing) with and without designated parking spaces have EVSE-related challenges that are different from single-family residences.

Meter configuration and customer class designation can prohibit access to EV rates for master-metered buildings or parking areas. For example, an EV rate only available to residential customers would exclude a commercial account that covers an apartment complex's parking lot. In 2022, applicants for state EVSE funding expressed concern that existing rates discourage EVSE investment for residents by making demand charges unpredictable or by forcing the operator to subscribe to expensive fee-based technology platforms that track and allocate costs based on usage. These factors contribute to higher costs that are borne by the housing property manager or passed to drivers through higher EVSE fees.

Ensuring that multiunit residents can access EVSE rates comparable to single-family residents and participate in managed charging programs will remain an important objective in coming years.

Demand Charge Rate Impacts

Demand charges are an ongoing concern for various customer classes.[4] Demand charges are a major barrier for DC fast charging equipment given their high instantaneous loads but—at this early stage of EV adoption—low overall load factors.

EVSE operators selected for state funding have identified demand charges as a major financial barrier to station deployment. This is especially true in rural areas where the lowest station utilization is found.[5] The operators report that they have no alternative but to pass the cost of high demand charges through to consumers through higher per-kWh charging fees.

Other types of EVSE can also incur high demand charges, especially as heavy-duty vehicles increase in number. Although medium and large commercial customers will benefit from lower operating costs of electric vehicles, their electric fleets will increase financial risk when charging has the potential to coincide with on-peak periods.

Thank you for the opportunity to provide comments. Please contact the undersigned parties should additional questions arise.

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[4] Vermont Department of Public Service. January 31, 2019. https://publicservice.vermont.gov/content/act-194-2018-demand-charges-analysis-and-recommendations.

[5] Alliance for Transportation Electrification. May 27, 2022. https://evtransportationalliance.org/wp-content/uploads/2022/06/Rate.Design.TF_.Demand-Charge-Paper-Final-5.25.22.pdf.

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VERMONT DEPARTMENT OF PUBLIC SERVICE

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