

January 3, 2022

Holly Anderson, Clerk
Vermont Public Utility Commission
112 State Street, Drawer 20
Montpelier, VT 05620

Re: Public Utility Commission 2021 Investigation into Rates Related to Electric Vehicles

Dear Ms. Anderson,

On December 20, 2021, the Public Utility Commission (Commission) issued an Order opening an investigation and requesting comments regarding rates related to electric vehicles (EV). Vermont Public Power Supply Authority (VPPSA) submits the following responses to the Commission's request.

1. **Rate details.** Details on the specific rate or rates offered, including eligibility by customer class or group. Utilities may either provide a descriptive narrative or the titles or numbers of any tariffs or pilot programs previously filed with the Commission. Please also identify the default residential and commercial retail rates and tariffs for point of reference.

The Village of Swanton Electric Department has an electric vehicle rate in place at their utility-owned EV charging station. That rate dictates the price paid by users of this station and was filed in 2016 in Tariff Filing #8615.

2. **Enrollment.** The number of customers enrolled in such rates and the percentage of customers who utilize utility incentives related to EVs (Tier III, for example) who are also enrolled in the rate or rates.

N/A for the VPPSA member utilities

3. **Effectiveness.** Whether the rates appear to be directing load away from peak times related to cost. What are the "lessons learned" during implementation so far?

N/A for the VPPSA member utilities



4. **No EV or EVSE rates.** If the utility has no EV or EVSE rates, please describe (1) progress toward developing such rates, (2) any barriers the utility is facing as it attempts to implement the requirement, and (3) pathways to overcoming any such barriers associated with the development of rates for EV and EVSE rates in Act 55.

(1) The VPPSA members continue to investigate options for implementing EV-specific and/or technology agnostic time-of-use rates that will encourage customers to conduct charging during off-peak periods. In 2022, VPPSA and Efficiency Vermont are implementing an EV charging pilot in several VPPSA member utilities' service territories. The chargers that will be provided to customers that purchase electric vehicles will be equipped with Open Charge Point Protocol (OCPP) technology meaning that they can be integrated with multiple control platforms through open-source standards. At the time of installation, these EV chargers will be programmed to provide charging during off-peak hours and may facilitate direct control of EV charging in the future. Theoretically, installing open-source technology will help utilities avoid the risk of being beholden to one load management platform that can increase its prices.

In addition, VPPSA recently was awarded a modest grant from the Department of Public Service to support EV rate development. These grant funds will, in part, be used for consultants with expertise designing cost-based EV and EVSE rates for small municipal utilities from around the country.

Finally, VPPSA continues to move forward with development of a centralized Advanced Meter Infrastructure system for its members with deployment anticipated to begin in 2022. This technology, once deployed, will facilitate development and implementation of time-based rates.

(2) The most significant barrier to implementing EV rates remains the associated technology costs. In researching the OCPP Pilot, VPPSA has learned that the integration costs required to enable *direct control* of EV charging will be significant. Offering a specific rate for the kWh used to charge an EV may prove less costly than a load control program that credits customers for allowing utility control of their charging. However, there are also costs associated with implementing EV-specific rates. Implementing such a rate requires that the EV usage be sub-metered from the rest of the load at the premise, either through a traditional utility meter or through the EV charger itself.

Typically, EV charging manufacturers own the data from the EV charger. Often data will be made available to the utility free of charge for a set period of time, and after this initial period the manufacturers require payment for that data. This data is necessary for the utility to determine when charging occurred and accurately bill an EV rate. Once the data is obtained from the charging meter, there is a manual process required for getting the EV charging data into the utility billing system. These associated costs should be assigned to the participants in the EV rate to avoid cross subsidization by other ratepayers, but this means that the "discount" that can be offered in a cost-based EV rate may not be significant enough to encourage customer participation.

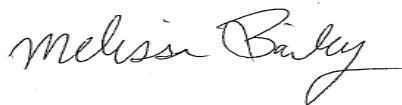
In addition, the lack of universal broadband and cellular service coverage in Vermont limits the technologies that can be used to implement EV charging rates.

- (3) Because of the significant hardware, software, and personnel costs associated with implementing EV rates, the VPPSA members may ultimately satisfy the requirements of Act 55 by implementing whole house time-of-use rates. These rates provide an incentive for customers to shift their electric usage away from high-cost hours and don't require the submetering and additional costs associated with EV-specific rates.

Another option for overcoming the cost barrier that should be explored to overcome the barriers to implementing EV rates would be for the State to mandate that charging companies utilize OCPP technology to minimize ratepayer costs associated with the use of proprietary data standards.

Please contact me (m Bailey@vppsa.com or 802-882-8509) with any questions you may have.

Sincerely,



Melissa Bailey
Manager of Government and Member Affairs
Vermont Public Power Supply Authority