STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case No. 24-3023

Public Utility Commission 2024 Investigation
Into Rates Related to Electric Vehicles

Submitted: 10/31/24

Comments in Response to Investigation on Utilities Implementing EVSE

ConnectDER is a manufacturer of Meter Socket Adapters (MSAs), which improve the efficiency of interconnecting new electric loads and generating facilities. ConnectDER products have been used in Vermont since 2015, improving the interconnection process for approximately 6,000 residential solar arrays. Green Mountain Power recently approved the use of a new model of MSA which enables the connection of a new electric load, such as EVSE, on residential services up to 125A. We want to take this opportunity to respond to question 4b. of the investigation and commend GMP for approving the use of MSAs. MSAs help avoid the need for service upgrades, thus making EV charging more accessible, simpler, and reducing ratepayer impact.

Most homes have the service capacity to add large new loads such as EVSE even if their main panel is full. In these cases, least-cost, best-fit alternatives to panel replacement or service upsizing should be given preference. In 2024, multiple studies have addressed the issue of residential service capacity. A study of data from Home Energy Analytics found that "Many homes, even those with panels in the 100 amp range, can fully electrify without upsizing the panel," showing that 80% of homes with 100-125A services used less than 50% of their available service capacity.[1] A study by SPUR of California residents' electrical usage found that "The vast majority of homes—including single-family homes with 100-amp panels and multifamily dwellings with panels under 100 amps—use less than 50% of their panel's electric capacity. That means there's plenty of opportunity to electrify equipment without upsizing the panel. A SPUR analysis of TECH Clean California program data showed that of 1,764 homes with a 100-amp panel, 96% could add a heat pump water heater, heat pump HVAC, or both without upsizing the panel.[2]" By using high efficiency appliances, they find that homes can electrify all major end uses, including EV charging, on any panel of at least 100 amps. Contrary to the conventional

[1] Home Energy Analytics (HEA). "Dataset on Residential Panel Capacity and Utilization." Steven Schmidt, October 13, 2022.
[2] SPUR. (May 2024) Solving the Panel Puzzle.
https://www.spur.org/sites/default/files/2024-05/SPUR_Solving_the_Panel_Puzzle.pdf

wisdom, there are alternate options to panel replacement and service upsizing even when a main panel is full.

MSAs are one such option for avoiding costly upgrades. MSAs allow the addition of new loads for less than a thousand dollars and keep the work on the outside of the home by utilizing the meter socket. The cost savings benefits of avoiding service upsizing are obvious for the homeowner. But they also accrue to ratepayers and the utility, by obviating the need for transformer upgrades or other distribution system enhancements triggered by a service upsizing. We commend GMP for embracing cost-effective alternatives to service upsizing and believe such solutions should be incorporated into future EVSE programs. The GMP Home Charging[3] program offers a no-cost EVSE to customers. The customer is responsible for installation costs, and the FAQ on the program website is very light on details about the potential complications and expenses of the installation. The program could conduct additional consumer education on installation options, or even offer a free or discounted MSA along with the EVSE for qualifying customers.

Encouraging low-cost enabling technologies will help more homes prepare for the transition to electric transportation. Future MSA technologies will allow for the addition of multiple electrical loads, such as EVSE, heat pumps, water heaters, solar, and battery energy storage systems. MSAs should be considered an option for any program helping Vermonters electrify their energy needs.

Sincerely,

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[3]In Home Level 2 Charger, Green Mountain Power, https://greenmountainpower.com/rebates-programs/electric-vehicles/in-home-ev-charger/