STATE OF VERMONT
VERMONT PUBLIC UTILITY COMMISSION

Public Utility Commission 2023 Investigation	)	Case No.
Into Rates Related to Electric Vehicles	)	23-1364-INV

COMMENTS OF CHARGEPOINT, INC.

ChargePoint, Inc. ("ChargePoint") provides these comments regarding the Vermont Public Utility Commission's ("Commission") investigation into gathering additional information needed to file its third report regarding the progress of Vermont distribution utilities on implementing rates related to plug-in electric vehicles ("EVs" or "PEVs") and electric vehicle supply equipment ("EVSE"), as requested in the Commission's April 27, 2023 Order per the reporting requirements of Act 55.[1] Act 55 Section 33(b) requires "all State distribution utilities" to "offer PEV rates, which may include rates for electricity sales to an entire customer premises, for public and private EVSE." Act 55 additionally specifies goals that the EV rates should encourage, and the criteria that the Commission will apply when evaluating a utility's proposed EV rate.[2]

ChargePoint appreciates the opportunity to submit these comments and the Commission's consideration of them in making its final determination for its third annual report. ChargePoint has been engaged in the development of utility EV rates in many jurisdictions. To assist the Commission, ChargePoint respectfully offers recommendations that will promote the goals of advancing transportation electrification while ensuring a healthy and competitive market for EV charging services. In summary, ChargePoint recommends the Commission:

- Consider the following topics for one or more future workshops:

[1] VPUC Order Opening an Investigation and Requesting Comments April 27, 2023; Public Act No. 55 (2021 Vt., Bien. Sess.) ("Act 55").
[2] Act 55, Sections (b)(1)-(b)(4), (c)(1)-(c)(2).

  - Minimize demand charges to instead utilize time-varying volumetric rates.
  - Expand the applicability of existing rates designed for industry-specific load shapes.
  - Consider different rates for different EV charging use cases.
  - Provide certainty with long-duration rates (e.g., 10 years).
- Direct each regulated electric utility in the state to submit one or more alternatives to traditional demand-based tariffs for Commission approval within six months of the Commission's third report in January 2024.

I. About ChargePoint

ChargePoint is a world-leading EV charging network, providing scalable solutions for every charging scenario from home and multifamily to workplace, parking, hospitality, retail, and transport fleets of all types. ChargePoint's cloud subscription platform and software-defined charging hardware is designed to enable businesses to support drivers, add the latest software features and expand fleet needs with minimal disruption to overall business.

ChargePoint's hardware offerings include Level 2 ("L2") and DC fast charging ("DCFC") products, and ChargePoint provides a range of options across those charging levels for specific use cases including light duty, medium duty, and transit fleets, multi-unit dwellings, residential (multi-family and single family), destination, workplace, and more. ChargePoint's software and cloud services enable EV charging station site hosts to manage charging onsite with features like Waitlist, access control, charging analytics, and real-time availability. With modular design to help minimize downtime and make maintenance and repair more seamless, all products are UL-listed and CE (EU) certified, and Level 2 solutions are ENERGY STAR® certified.

ChargePoint's primary business model consists of selling smart charging solutions directly to businesses and organizations while offering tools that empower station owners to deploy EV charging designed for their individual application and use case. ChargePoint provides charging network services and data-driven, cloud-enabled capabilities that enable site hosts to better manage their charging assets and optimize services. For example, with those network capabilities, site hosts can view data on charging station utilization, frequency and duration of charging sessions, set access controls to the stations, and set pricing for charging services. These features are designed to maximize utilization and align the EV driver experience with the specific use case associated with the specific site host. Additionally, ChargePoint has designed its network to allow other parties, such as electric utilities, the ability to access charging data and conduct load management to enable efficient EV load integration onto the electric grid.

II. Infrastructure Investment and Jobs Act of 2021

On November 15, 2021, President Joe Biden signed into law H.R. 3684, the Infrastructure Investment and Jobs Act ("IIJA").[3] The IIJA will allocate $5 billion to states through the National Electric Vehicle Infrastructure ("NEVI") Formula Program, which aims to develop a national highway charging system. In addition, $2.5 billion in competitive grants administered by the federal government will support the deployment of Alternative Fuel Infrastructure, such as electric vehicle charging stations, both along highway corridors and in communities. Vermont is expected to receive $21 million over five years to support the expansion of EV charging[4] and will also have the opportunity to apply for the $2.5 billion in grant funding dedicated to EV charging in the bill.

[3] H.R. 3684 became Pub. L. No: 117-58 on November 15, 2021, available at: https://www.congress.gov/bill/117th-congress/house-bill/3684/text

[4] https://www.whitehouse.gov/wp-content/uploads/2021/08/VERMONT_Infrastructure-Investment-and-Jobs-Act-State-Fact-Sheet.pdf.

The IIJA also includes amendments to the Public Utility Regulatory Policies Act ("PURPA"), which directs utility regulators across the country to consider measures that promote greater electrification of the transportation sector through third party investments.[5] Specifically, the PURPA amendments require utility regulators in every state to make a final determination before November 2023 whether to establish new measures, including EV-specific rate designs that:

1. Promote affordable and equitable EV charging options for residential, commercial, and public EV charging infrastructure;
2. Improve the customer experience associated with EV charging, including by reducing charging times;
3. Accelerate third-party investment in EV charging; and
4. Appropriately recover the marginal costs of delivering electricity to EVs and EV charging infrastructure.

ChargePoint recommends the Commission adopt the PURPA standards throughout the state and in these comments provides several recommendations that will support increased investment in EV charging stations and facilitate deployment of available federal funding in accordance with the IIJA.

III. Comments

The development of effective EV rate design across Vermont's distribution utilities directly supports Vermont's compliance with the state's Global Warming Solutions Act, which requires the state to reduce greenhouse gas ("GHG") pollution to 26% below 2005 levels by 2025, 40% below 1990 levels by 2030, and 80% below by 2050.[6] As of January 2023, the state has 8,875

[5] IIJA Section 40431, pp. 620-621.
[6] https://climatechange.vermont.gov/about#:~:text=Global%20Warming%20Solutions%20Act&text=The%20Act%20requires%20Vermont%20to,and%2080%25%20below%20by%202050.

active PEV registrations, an increase of 35% in the last year alone.[7] Since it is expected that EV adoption will proliferate within the coming years, the Commission can ensure the competitive market for charging services is also supported in Vermont's service territories through effective rate design. The following comments provide recommendations on how the Commission and Vermont's distribution utilities can implement rates that effectively advance transportation electrification.

IV. Alternatives to Traditional Demand-Based Rates

Traditional demand-based rates can pose a significant challenge to the deployment of EV charging, particularly at commercial and public charging locations, because these charging sites can be dominated by relatively rare, yet very power-intensive, fast charging sessions. This impact is amplified for fleets and other customers that require charging multiple vehicles simultaneously at high power levels and/or that do not have flexibility to adjust the timing of charging sessions for multiple vehicles.

For example, site hosts taking service on Green Mountain Power's Rate 8 experience significant demand charges at over $19 per-kW.[8] Green Mountain Power's commercial and industrial customers taking service on Rate 63/65 face similarly high demand charges of over $16 per-kW.[9] Due to the few but relatively high-power charging sessions that occur each month, these demand charges may lead to prohibitively high operating costs that deter EV infrastructure deployment and do not necessarily reflect the cost to serve DCFC customers. Simply put, rates like Rate 8 and Rate 63/65 were not designed with serving EV charging customers in mind.

[7] https://www.driveelectricvt.com/Media/Default/docs/maps/vt_ev_registration_trends.pdf.
[8] https://greenmountainpower.com/wp-content/uploads/2016/09/Rate-8.pdf.
[9] https://greenmountainpower.com/wp-content/uploads/2016/09/Rate-63-65.pdf.

Effective rate reform would allow the utility to more appropriately balance the need to accelerate charging infrastructure deployment with the cost of serving new DCFC customers.

For public charging sites, conventional commercial rate design often makes otherwise viable and desirable projects uneconomic. In some markets, demand charges can account for as much as 90% of a site host's electricity costs.[10] Unlike traditional commercial customers on demand-based rates, public EV charging station site hosts have very limited ability to manage or mitigate the impact of demand charges without negatively impacting the EV driver experience.[11] For example, a factory or large commercial facility may be able to avoid turning on several large loads at the same time to avoid higher demand charges. By contrast, if a public DCFC site host offers four charging ports, the site host could only avoid significant demand charges by limiting the number of ports in use simultaneously or by restricting the amount of power to each port, or both. Either action could negatively impact the driver experience and thus defeat the purpose of expanding public DCFC infrastructure. In fact, for charging stations funded by the NEVI program, stations must have four ports capable of simultaneously charging at 150 kW to minimize time to charge and to ensure a convenient charging experience for all users.[12]

Under traditional demand-based rates, site hosts will effectively be penalized for providing charging services not only in the early-stage EV market, but also as charging power levels increase in the future. Additionally, demand charges can permanently penalize site hosts that provide

[10] Rocky Mountain Institute, "EVgo Fleet and Tariff Analysis," 2017, available at https://rmi.org/wp-content/uploads/2017/04/eLab_EVgo_Fleet_and_Tariff_Analysis_2017.pdf.
[11] "Site host" refers to the owner or lessor of the property on which an EV charging station is located. Site hosts include residential customers; owners of multifamily housing units (MFH); commercial customers that offer charging to the public, their customers, and/or their employees; fleet owners; and government entities.
[12] Under the NEVI program guidance, maximum charge power per DC port should not be below 150 kW: https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/nominations/90d_nevi_formula_program_guidance.pdf.

charging services in locations that will continuously have low, sporadic, or seasonal utilization, such as in rural areas and disadvantaged communities in Vermont. Simply put, high demand charges coupled with low utilization can be an impediment to the widespread deployment of EV charging stations. The current demand-based commercial rate structures may not only slow down the deployment of NEVI stations, but also inhibit growth of third-party investments in DCFC.

It is imperative that rates are developed to provide long-term demand-charge alternative rate options for EV charging stations in Vermont. Further, a large difference in demand charges between utility service territories can greatly influence the economic feasibility for DCFC deployment. Without intervention by the Commission to ensure EV-supportive rates are available across all utility service territories, NEVI-funded stations will likely be concentrated in areas where the rate structure happens to be favorable, rather than sites that best serve the needs of long-distance travelers in EVs. These inconsistent rate offerings for DCFC may then lead to long-term geographic disparities in EV charger deployment and access, especially in the rural communities served by Vermont's distribution utilities and thus subsequently hinder EV adoption and its benefits in the state.

Intentional and consistent rate design throughout the state can alleviate the demand charge burden while assuring recovery of prudently incurred utility costs, assuring fairness to all customer classes, and setting economically efficient prices that optimally allocate utility and customer resources. While rates are generally designed to cover the embedded cost of service, it may be appropriate for the Commission to consider EV rates that recover marginal costs to serve new EV load. In fact, a recent report by the National Association of Regulatory Utility Commissioners noted, "as long as rates are set to recover at least marginal costs, existing customers will bear no

additional costs from bringing this new load onto the system, while benefitting in the long-term from downward pressure on rates due to the addition of incremental commercial EV load onto the grid."[13]

Overall, implementing appropriate rate designs that eliminate, defer, or reduce demand charges is key to unlocking increased investment in the EV charging infrastructure needed to support EV drivers throughout Vermont, as well as those travelling through the state. Therefore, ChargePoint urges the Commission to consider multiple, long-term sustainable rate designs that more precisely allocate costs and benefits of EV load.

Due to the various use cases (e.g., corridor fast charging, fleet, workplace, residential, etc.), there is no "one-size-fits-all" EV charging rate; therefore, the Commission should ensure the utilities have flexibility in developing appropriate solutions for their customers and can look to numerous examples of alternatives to traditional demand-based rate structures that are currently in effect. It is important to note that some of the alternative rate structures are "technology neutral" enabling any commercial and industrial customer to take service on the applicable rate structure whether the customer operates an EV charging station or not.

Models that have been employed by utilities in other states include:

a. **Eversource, National Grid, and Unitil; Massachusetts:** For commercial EV customers with relatively low peak demand (less than 100-200 kW), Eversource's GS-1, National Grid's GS-2, and Unitil's GD-2 eliminate demand charges and bill EV customers entirely on a volumetric (per kWh) basis. For customers with higher monthly peaks, Eversource's

[13] "Best Practices for Sustainable Commercial EV Rates and PURPA 111(d) Implementation," December 2022, available at https://pubs.naruc.org/pub/55C47758-1866-DAAC-99FB-FFA9E6574C2B.

EV-2, National Grid's GS-3 and Unitil's GD-3 rates provide a discount on demand charges on a sliding scale according to utilization.[14] The sliding-scale rates appropriately consider market growth (i.e., utilization) by adjusting per-kW and per-kWh charges in each graduation of the sliding scale to make the effective price of electricity relatively consistent for EV customers. Rates will be effective in July 2023 and be available for ten years to provide stability and predictability to the EV charging market. The sliding scale graduations are based on the following structure:

- <5% utilization: 100% demand charge discount
- Between 5% and 10% utilization: 75% demand charge discount
- Between 10% and 15% utilization: 50% discount
- 15% utilization: regular demand charges

b. **Central Hudson, National Grid, NYSEG, RG&E, ConEdison, Orange & Rockland; New York:** The New York Public Service Commission approved short-term and long-term relief for demand charges across the state. In the short term, all investor-owned utilities must provide a 50% discount on existing demand charges for all public DCFC customers. The demand charge discount will offer immediate relief while the utilities design and propose long-term rate solutions. Like the Massachusetts solution, the "EV Phase In" rates eliminate demand charges at low (<5%) load factors and phase in demand charges on a sliding scale as load factor increases, with relief available up to 20% load factor.[15] Each

[14] Massachusetts Department of Public Utilities, D.P.U. 21-90; D.P.U. 21-91; D.P.U. 21-92 Final Order, issued on December 30, 2022, available at: https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/16827694.

[15] New York Public Service Commission, Order Establishing Framework for Alternatives to Traditional Demand Based Rate Structures, Docket No. 22-E-0236, issued on January 18, 2023 and available at:

utility service territory will have discretion to design the appropriate mix of per-kW and per-kWh charges in each graduation of the sliding scale to recover the revenue requirement based on the embedded cost of service. The framework for the EV Phase In Rates was approved in January 2023, and rates should be available for enrollment by mid-2024. When the EV Phase In Rates are available, all commercial EV customers will also be able to opt in to managed charging programs to further managed operational costs and minimize the grid impacts of coincident peak load.

c. **Dominion, VA: Low Load Factor Rate (Below 200 kWh per kW):** Dominion's GS-2 rate provides an all-volumetric, technology-neutral, low-load factor rate applicable to non-residential customers with a load factor below 200 kWh per kw.[16] This rate effectively provides relief from prohibitive demand charges for low-load factor customers through an all-volumetric rate that has been designed to recover the utility's cost to serve. ChargePoint recommends the Commission consider alternative rate designs for low-load factor customers – such as the GS-2 rate – which are designed to recover capacity costs that may traditionally be recovered through demand charges on an all-volumetric basis. Importantly, GS-2 is technology neutral, enabling any low load factor customer to take service on the rate.

d. **Evergy, Kansas: Business EV Charging Service:** Evergy's Business EV Charging Service provides a three-period TOU rate option for non-residential customers for the

https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={7D5CAE92-0165-4745-AD4F-C85978636BE6}.

[16] Schedule GS-2, available at https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/business-rates/schedule-gs2.pdf?la=en&rev=18a7ab2b6072468f8766b6e5c10aebae.

exclusive use of charging electric vehicles.[17] While this rate eliminates the demand charge and has been designed to recover the majority of costs through volumetric energy charges, it does include a small kW-based facility charge ($2.32/kW).

e. **Madison Gas and Electric, WI: Low Load Factor Rate (50% Demand 10 Reduction):** The Low-load factor rate provides a 50% discount in the demand charge for customers with load factors below 15%. This technology-neutral rate is targeted not only for DCFC facilities, but also other types of low-load-factor customers.[18]

V. Suggested Topics for Additional Workshops and Written Filings

ChargePoint recommends the following topics be considered by the Commission for one or more additional workshops and written filings:

Workshop Topics

a. **Minimize demand charges to instead utilize time-varying volumetric rates.** Demand charges can create significant financial uncertainty for EV charging operators, which can lead to higher costs for customers. Costs that have been historically recovered through demand charges should instead be recovered through volumetric rates that vary based on the time of day, season, and other factors. This can help address the issue of high demand charges and help encourage EV charging at times that provide the greatest benefits to the grid.

b. **Expand the applicability of existing rates designed for industry-specific load shapes.** Many utilities have existing technology-neutral, low-load factor rates designed to

[17] https://www.evergy.com/-/media/documents/billing/kansas-central/other/bevcs-business-ev-charging-service-12062021_03282022.pdf.

[18] https://www.mge.com/MGE/media/Library/pdfs-documents/rates-electric/E32.pdf. *See also* https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=402247.

accommodate "spiky" loads that are similar to those at EV charging facilities. Loads related to agricultural activities, houses of worship, and sports facilities are good examples of this. Providing access to these low-load factor rates for EV charging operators can be a simple and effective solution.

c. **Consider different rates for different EV charging use cases.** A variety of commercial EV charging use cases and applications exist, including workplace, public and fleet charging. Although all commercial charging customers should have access to the same EV rates, it may be appropriate to consider different rates for different usage scenarios.

d. **Provide certainty with long-duration rates (e.g., 10 years).** Providing long-term rate certainty enables EV charging operators to plan for the future and make informed investment decisions.

Written Filings

a. **Direct each regulated electric utility in the state to submit one or more alternatives to traditional demand-based tariffs for Commission approval within six months of the Commission's third report in January 2024.**

VI. Conclusion

ChargePoint appreciates the Commission's consideration of these comments regarding the Commission's critical role in the development of EV rates to accelerate deployment of EV charging infrastructure and to support a long-term sustainable and competitive market for the installation and operation of electric vehicle charging infrastructure consistently across the state. ChargePoint looks forward to participating and contributing to future discussions with other

interested parties and stakeholders on how to effectively use competitive forces to efficiently achieve widespread beneficial transportation electrification across Vermont.

Respectfully submitted this 31st day of May 2023.

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