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I. Introduction

ChargePoint welcomes the opportunity to provide comments in response to the Joint Agency Workshop hosted by the California Energy Commission (CEC), California Public Utilities Commission (CPUC), and Governor's Office of Business and Economic Development (GO-Biz) on October 12, 2021. The Joint Agency discussion was focused on how EV charging infrastructure stakeholders, including EVSE providers, state agencies, local government and the utilities can create channels to accelerate the deployment of charging infrastructure and enhance grid integration of EVs. California has consistently led the country in transportation electrification, and ensuring the state continues to meet its ambitious deployment goals requires policies that focus on reducing barriers to deployment and adoption. ChargePoint's recommendations below are focused on how to make the various permitting processes more efficient, how to design rates that are driver-friendly and where stakeholders can focus to optimize EV-grid integration.

II. EVSE Installation and Reducing Barriers

A. Streamline Permitting

The State of California has made a concerted effort to streamline permitting processes for EVSE. AB 1236 requires all of California's cities and counties to develop an expedited, streamlined permitting process for electric vehicle charging stations (EVCS). Since the implementation of AB 1236, local jurisdictions have adopted streamlined ordinances for expedited EVCS, provided permit requirement checklists, and limited permit review to health and safety matters. Yet, our teams have reported a difference in permit application processing timelines between urban and rural local jurisdictions, which further complicates the broader planning process. Some jurisdictions have not incorporated existing law into their code and processes, resulting in some staff being unaware of the proper permit review process. ChargePoint will continue working with Go-Biz, CEC, and others to educate and share information to ensure that these processes continue to be streamlined across agencies.

With the passage of AB 970, ChargePoint also expects to see a further reduction in EVCS permit application processing timelines. AB 970 builds upon AB 1236 by adding specific timelines to the review period based on the size of the project and clarifies parking requirements. AB 970 will become operative on January 1, 2022 for local jurisdictions with a population of more than 200,000 residents and on January 1, 2023, for cities and counties with less than 200,000 residents. Nevertheless, we encourage the state to continue to highlight the best practices of cities and counties. In addition to developing materials for cities and counties, the state should develop an EVCS guidebook or permit checklist for single-family residents. In many cases, single- family residential consumers have limited experience and knowledge of the local permitting process. Working to provide these resources in advance of a project will support their preparedness in complying with AB 970. In particular, smaller cities and counties with limited resources may find it more difficult to implement the timelines for reviews and anticipating their needs will improve the overall process.

In addition, continued efforts to streamline permitting processes will take on greater importance with the recent approval of EV Infrastructure Rules by the CPUC.[1] As the utilities implement the new Rules, we expect to see an increase of EV installations in California, which will require efficient permitting processes at both the state and local levels to better enable achievement of the state's electrification goals. Lastly, continuing to dismantle roadblocks in local permitting will support the state's ability to access and maximize available federal infrastructure funding.

B. Maximize Federal dollars from the Infrastructure Innovation & Jobs Act (IIJA)

ChargePoint believes that the IIJA funds will serve as a complement to the significant investments that have been made by the California Energy Commission through its Clean Transportation Program, as well the recently announced $1.4 billion Investment Plan Update under the program.[2] A robust, sustainable build-out of an EV ecosystem requires significant commitments from the state, such as the other $1 billion CEC has invested since 2009 to support the advancement of alternative and advanced fuels technologies.[3] Without the foundation of these projects, federal funds would be less effectively distributed.

In 2022, funds authorized from IIJA will be released from the National Electric Vehicle Formula Program (NEVFP) through state formula grants. States will receive funding on a proportionate basis, similar to the allocation for the federal highway formula funds. The White House has identified expected state allocations of formula funding, which could be augmented if states successfully attract additional proposals funded through a $2.5 billion competitive grant program for EV charging and other alternative fuel technologies. Based on current estimates, California is expected to receive $384 million over 5 years to support the expansion of EV charging.[4] California will put itself in the best position to take advantage of formula funds and competitive grants by ensuring that policies and regulations support electric vehicle infrastructure and do not create impediments to its deployment.

III. Rate Structures for Public EV Charging

Transportation electrification represents a tremendous opportunity for the electric grid. However, it also represents a new class of load with its own characteristics, growth rates, flexibility, and ability to respond to demand side management signals. As such, ChargePoint highly encourages the Commissions and utilities to continue implementing rate designs and managed charging programs to enable and shape this beneficial load.[5] Utility rate design is an effective tool for incentivizing EV adoption. However, rate design must be viewed in context, with an understanding of the unique distinctions between various use cases. To reflect the variability in use cases, rates should be optional for customers and the Commissions and utilities should provide a suite of options for EV charging station site hosts and EV drivers. Importantly, a customers' ability to use their vehicle for its primary purpose – driving – must be at the center of any rate design. Customers will not participate in a rate if participation will negatively impact them financially, or restricts their driving ability.

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[1] Resolution E-5167, Pacific Gas & Electric, Southern California Edison, and San Diego Gas & Electric request approval to establish new Electric Vehicle (EV) Infrastructure Rules and associated Memorandum Accounts, pursuant to Assembly Bill 841.
[2] https://www.reuters.com/business/autos-transportation/california-oks-14-bln-plan-car-chargers-hydrogen-refueling-2021-11-16/
[3] Lead Commissioner Report at 4. Access report here: https://www.energy.ca.gov/publications/2021/2021-2023-investment-plan-update-clean-transportation-program
[4] https://www.whitehouse.gov/wp-content/uploads/2021/08/CALIFORNIA_The-Infrastructure-Investment-and-Jobs-Act-State-Fact-Sheet.pdf.
[5] ChargePoint notes that rate design is only one way, and not always the best way, to manage EV charging load to support grid management objectives.

Every business, local government, employer, retailer, apartment owner, and other entity that considers installing EV charging infrastructure will closely analyze the total cost including the ongoing costs of energy and demand charges to operate the chargers. For residential and fleet customers, the cost of energy, and the associated fuel savings, is a key determinant in the decision to purchase an EV or convert a fleet to electric. Some traditional rate structures with relatively high demand charges can result in untenable financial burdens for station operators during early EV adoption years when utilization may be lower or in rural areas where stations are vital to enable electric transportation but may always experience low utilization as a result of location. This is particularly acute for operators of DC fast chargers which are vitally important to support longer range EV travel yet can result in high power and low load factors.

Ultimately, the utilities should design rates that can amplify the benefits of transportation electrification without complexity that prevents participation. This requires that across the use cases, the utilities recognize where the largest barriers may lay. In public charging, ensuring affordable access for drivers with limited residential charging is critical but this may often conflict with the demands of the grid. Rates should work to accommodate public EV drivers and integrate solutions to offset excess strain on the grid. Likewise, for residential, fleet, and other use cases with repeated charging patterns, the utilities should leverage drivers' behavior in tandem with their naturally occurring charging behaviors. Fueling an electric vehicle will become second-nature for drivers if the utilities maximize participation by limiting the complexities of rate design.

A. Multi-Dwelling Unit and Public L2 Sites

For L2 public charging, rate proposals must match the reality that the primary use of an EV is as a customer's vehicle. Ensuring access to public charging for drivers unable to charge at home is still an important pathway for encouraging EV adoption. Rates must be designed to balance being user-friendly and ensuring site host autonomy for setting pricing policies at public stations. AB 631, which codified CPUC D.09-08-009, exempted providers of EV charging services from regulation as a utility and therefore setting pricing for EV charging is not under the CPUC's jurisdiction. ChargePoint reiterates the importance of not imposing pricing to drivers at MDU or public EV charging stations to ensure that site hosts can determine the appropriate pricing policies for charging services based on their specific use case. Charging station site hosts inherit the risk of whether a public station is profitable and can optimize their pricing for charging services.

As Commissioner Rechtschaffen highlighted during the Joint Agency Workshop, we need to find solutions that balance drivers' needs with the grid's. ChargePoint also recognizes that in many cases, rates designed around peak-dependent price signals cannot always complement the needs of price- or schedule- sensitive customers. There will be drivers who cannot accommodate their charging behavior because of their professional schedules or their access to home charging and innovative solutions will be required to buffer these immovable demands on the grid. These scenarios necessitate offering site hosts rates that can reduce costs for the system without exacerbating disparities across drivers' needs. In these instances, ChargePoint encourages that rates should be designed to optimize charging during times of peak renewable generation when possible but limit penalties for drivers with limited flexibility. As the number of EVs on the road increases, many of these drivers in California will charge at public L2 stations. Equilibrating the impact of this reality with grid constraints requires that the utilities optimize at the system level – such as employing renewables – to avoid local system congestion. Where

optimized charging behavior for the grid is suboptimal for customer charging needs, ChargePoint underscores the need for coordination at the system level to offset these opposing demands.[6]

B. L2 Fleets

Many fleets run and charge on predictable schedules, which make them ideal for supporting demand-side management and optimizing smart charging for the vehicles. Given the long dwell times these EVs will spend at a 'base', they can maximize charging during off-peaks without interrupting operational needs of the vehicle or charging station owner. Likewise, many fleets can more easily shift their loads and respond to time-of-day pricing to avoid expensive peak hour pricing.

However, in certain cases such as depot charging of trucks, private fleets or transit vehicles, they will require fast charging solutions that meet their real-time needs. Electricity rates that have traditionally serviced commercial and industrial (C&I) customers can manifest as an accidental barrier to EV adoption for customers with larger load profiles because of cost-prohibitive demand charges. These comments discuss below rate designs from across the country that have effectively managed demand charges as utilization continues to scale.

C. Direct Current Fast Charging Use Cases

There are many use cases that will require higher-powered charging at DCFC stations for shorter duration charging, including fleets and transit systems. Electricity costs account for one of the largest operating costs for a charging station site host and rates should be designed to avoid prohibitive demand charges as site utilization continues to scale.

(i) DCFC Public Charging

As with public L2 charging stations, it is difficult for site hosts to translate a dynamic rate through their pricing policies during peak periods without effectively penalizing drivers with no other option. ChargePoint stresses that in these instances, DCFC will serve as a complement to longer-term charging and not as a substitute. The fluctuations between consumption and peak energy use vary across a month and it would be impractical for a site host to pass this cost along, leaving them to absorb the demand charge fees. Given the fluctuations in energy used and total energy consumed at public DCFC stations, rates should employ a technology neutral approach to account for the inherent low load factor of fast charging stations. This will help to minimize the disproportionate costs of demand charges for low load factor sites.

(ii) C&I Customers and Demand Charges

For fast charging C&I users, the demand component of traditional commercial electricity rates (i.e., demand charges) can represent a disproportionate percentage of a business' operating costs. This can impact businesses' decisions to invest in or expand infrastructure or to even electrify. Distinct from other commercial use cases, until these sites have reached a sufficient level of utilization, customers will need long-term cost certainty. Short-term demand charge "holidays" are not a sustainable solution for

[6] SEPA. Managed Charging Incentive Design: Guide to Utility Program Development at 9, October 2021. https://sepapower.org/resource/managed-charging-incentive-design/

the unique load shapes of these large load profile EV charging stations. To combat this, ChargePoint recommends that EV rates should be designed as long in duration (e.g., 10 years) and should remain technology neutral. Ultimately, fueling vehicles should not result in business operational uncertainty nor inadvertently discourage EV adoption.

ChargePoint also supports that tariffs that minimize demand charges and maximize the use of volumetric rates will not create a cost shift if designed as cost-based and represent incremental revenues. Emphasizing accurate volumetric rates over demand charges ensures that EV service providers (EVSPs) may encourage their customers to the extent feasible to charge at times that provide the most system benefits, rather than trying to minimize demand charges. The utilities can recuperate their costs without discouraging investment in EVs through prohibitive demand charges.

The EV charging use case's profile is unique to traditional C&I customers and requires a rate that reflects this unique cost of service. Utilities across the country have recognized that demand charges have manifested as a barrier EV investment and have introduced alternative rates specific to EV charging or that apply to all use cases, i.e., technology neutral rates, where users have high power needs but low utilization.

Examples of Technology Neutral Low Load Factor Rates:

(A) **Madison Gas and Electric, WI: Low Load Factor Rate (50% Demand Reduction)[7]:** Final Commission Decision in Docket NO. 3270-UR-123
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 DCFC facilities, but also other types of low-load-factor customers.

(B) **Dominion, VA: Low Load Factor Rate (Below 200 kWh per kW):** Tariff Effective 07-01-19
GS-2 rate is a technology-neutral, low-load factor rate applicable to customers with a load factor below 200 kWh per k.

(C) **PacificCorp, OR: Schedule 29[8]:** Commission Order in Docket NO. 20-473
Schedule 29 pairs a TOU energy charge with a demand charge that scales with utilization at the site. On Schedule 29, participants will not pay a traditional demand charge but will instead be charged a higher rate for their first block of energy kWh and a lower rate for all additional kWh. Customers pay declining kWh-per-kW energy charges. The first 50 kWh for each kW of demand will be charged a higher rate and all additional kWh per-kW will be charged a lower rate.

As C&I customers transition their vehicles, rates should be designed with embedded flexibility to ensure that users can adopt to their system needs. As load factors and diurnal load profiles change, customers will adapt to rates that accommodate the unique charging demands of their business. Moreover, within the application of DC fast charging, there are myriad site host profiles. Proscribing a one-size-fits-all rate for all high-capacity stations would not accurately represent the differing economics and underlying cost causation of, for example, a standalone charger versus one serving off the host power of a larger business. Ensuring that C&I customers can choose across qualifying rate options – throughout a

[7] https://www.mge.com/MGE/media/Library/pdfs-documents/rates-electric/e9-1-0-ScheduleLLFP-1.pdf; https://www.mge.com/customer-service/for-businesses/electric-rates/low-load-factor-provision.
[8] https://www.pacificpower.net/savings-energy-choices/time-of-use/or-schedule29-pricing.html

charger's lifecycle – will ensure that businesses can make the near-investment and optimize the economics of the vehicles.

IV. Opportunities for Accelerating EVSE Interconnection and EV Grid Integration

To continue to enhance EVSE interconnection, ChargePoint recommends a few best practices. First, projects and applications should establish criteria and timelines to ensure that the utility, vendor charging company and site hosts can expedite EVSE installation. By conducting this at the start of the utility-vendor project relationship, less time will be spent determining project requirements. Likewise, all projects should have a single utility point-of-contact to ensure that the project manager is able to keep the utility on target for installation timeliness it has committed to for the site. Finally, to accelerate EVSE interconnections across the state, we believe that robust implementation review should be enforced. In instances where projects have faced extensive delays – and where the site host often bears those carrying costs – the utilities should provide detailed reports justifying the delays.

On EV Grid Integration, ChargePoint recommends that additional funding be directed to pilot studies to provide potential use cases for VGI. EV Grid Integration and EV2G present opportunities and benefits, such as reducing congestion on the existing power distribution infrastructure and reducing need for costly distribution system upgrades. In turn, these can improve grid resiliency and security, including minimizing public safety power shutoff events. However, additional data is needed in pilots to understand what types of incentives are most effective for customers integrating these technologies. In some cases, new retail rates will influence charging decisions. On the commercial side, we find the most significant opportunity to reduce load demand in both emergency load and peak demand reductions from EV fleets.

V. Conclusion

ChargePoint appreciates the opportunity to provide these comments. We look forward to working with the Commissions, Staffs, and all stakeholders to create channels to accelerate the deployment of charging infrastructure and enhance grid integration of EVs.

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Respectfully submitted,

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