

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Consider
Alternative-Fueled Vehicle Programs,
Tariffs, And Policies

Rulemaking 13-11-007

COMMENTS OF CHARGEPOINT, INC.

In accordance with the Administrative Law Judge’s February 5, 2014 Ruling Setting Prehearing Conference and Requesting Comments, ChargePoint, Inc. (“ChargePoint”) submits these additional comments regarding the Energy Division Workshop Summary Report, Energy Division White Paper (*“Vehicle-Grid Integration: A Vision for Zero-Emission Transportation Interconnected Throughout California’s Electricity System”* (October 2013)), and questions regarding steps the California Public Utilities Commission (“Commission”) can take to support and encourage development and implementation of vehicle-grid integration (“VGI”) in California.

I. Introduction

This proceeding presents a very important opportunity for the Commission to establish policies that can expand electric vehicle (“EV”) adoption consistent with the Zero-Emission Vehicles Action Plan, and make California a leader in supporting and facilitating VGI applications. As ChargePoint emphasized in the December 4, 2013 workshop, many of those applications are enabled by “smart” EV charging service equipment (“EVSE”) and advanced cloud-to-cloud communication technologies that are available on the market today. And making VGI choices widely available to EV users and service providers will perfectly complement the state’s goals of expanding the use of plug-in electric transportation and reducing greenhouse gas emissions, because consumers are more likely to invest in an electric vehicle and smart grid charging if they know they will be paid for regulation, demand response (“DR”) or other grid services provided by their EV battery or EVSE.

In a recent forum to discuss the potential benefits of the smart grid, Christine Herzog of the “Smart Grid Library” made this observation about the transformational potential of electric vehicles and VGI opportunities:

Perhaps the biggest disruptive technology will be electric vehicles (EV) and their potential to earn customers the almighty dollar with ‘cash for charging’ or ‘cash for cars’ models... If people can make money off their cars, it has the potential to disrupt multiple sectors, including transportation and energy. In particular, adoption of this model could accelerate EV adoption...¹

This is the outcome that this proceeding can produce—an outcome that will benefit ratepayers and move EV adoption in California.

The analytical work in the White Paper and the Energy Division’s leadership in initiating discussion on the issues have established a strong foundation for discussing VGI opportunities and developing goals. The next step will be to make the vision concrete by identifying near-term priorities and action items, and eliminating barriers to full implementation of VGI strategies. ChargePoint looks forward to working with the Commission and stakeholders to make VGI implementation a near and long-term success in California.

II. Additional Comments on the Summary Report and White Paper

ChargePoint previously provided input at the December 4, 2013 workshop and written comments on topics raised in the Order Instituting Rulemaking and White Paper. We will not repeat those comments here, but offer what we see as five key recommendations from the perspective of a company providing “smart charging” infrastructure and network services to EV users and EV service providers here in California and in other markets around the country:

Provide a path for recovering investment in EV and smart grid infrastructure. VGI offers an opportunity for consumers to use EVs and “smart charging” infrastructure in ways that benefit the reliability and stability of the electric grid; but to encourage participation the Commission needs to

¹ <http://www.fiercesmartgrid.com/story/industry-disrupters-technology-policy-and-money/2014-02-12>.

create policies that enable a return on that investment in the form of payments to drivers for grid services. This is absolutely critical. As the White Paper notes, the Commission already has study results showing that aggregated regulation services can yield \$100/month-vehicle in revenues.² In other words, an EV user can more than offset the monthly cost of fueling an average EV by providing grid services. The Commission needs to set as a priority figuring out how to ensure that this revenue stream can flow back to EV owners, institutional charging infrastructure owners, and distributed storage owners. As noted above, smart grid industry analysts have recognized that providing a means to monetize the value inherent in EV batteries and charging infrastructure could be a transformational “game changer” in encouraging widespread EV adoption.

Support private investment in technology that enables VGI. As discussed in ChargePoint’s opening comments, access to financing is another key to encouraging private investment in “smart” charging equipment that will enable VGI on a broad scale. Discussion of options for financing should be a priority in this proceeding, and should include the full range of options, from innovative “public private partnership” models to simple on-bill financing for EVSE, which can replicate existing programs used today for energy efficiency.

Avoid undermining policies that encourage private investment and technical innovation. The smart charging technologies and communications infrastructure needed to integrate electric vehicles with the electric grid are on the market today. Technical innovation and development of new infrastructure to facilitate interface with the existing utility grid will continue in response to market opportunities and customer demand. This private sector activity can provide enormous benefits for the citizens of California, but will only continue to flourish as long as the Commission ensures a level playing field in competitive markets. Specifically, requiring the utilities to facilitate state-of-the-art

² White Paper at 13.

cloud to cloud communications with third party service providers will be crucial to preserving the environment for private investment in California.

Recognize that fear of “complexity” could undermine real progress. ChargePoint is concerned that real near-term opportunities could be lost if the Commission places a high priority in avoiding “complexity” in developing VGI policy. It is vital to take on aggregation and multi-user use cases *now* because these offer the greatest opportunity for impact and future expansion. Specifically, smart charging facilities at residential and mixed use multi-dwelling unit (“MDU”) locations and workplace charging should be a high priority target for VGI, as well as the arguably less “complex” but also less scalable consumer sector of commercial and government fleet operators.

Integrate discussion of EV rate design with VGI. The Commission should take care to recognize crossover issues between discussion of VGI and alternative fuel tariff development. At the risk of stating the obvious, the terms and conditions of a customer’s electric tariff and related utility tariff rules and definitions will have an effect on the customer’s ability to participate in demand response, etc. And as discussed further below, two of the three investor-owned utilities have not yet implemented EV rates for commercial customers. ChargePoint encourages the Commission to make this a priority.

III. Comments on Specific Questions

In addition to requesting additional comments on the White Paper and issues discussed in the December 4, 2013 workshop, the ALJ Ruling solicits comments on three additional specific questions.

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What programmatic changes can be made to support VGI as a resource within existing or proposed state energy programs and policies, such as demand response, resource adequacy requirements, energy storage, interconnection, and net energy metering?

This is a very important question. Many current Commission initiatives and programs have implications for the development VGI as a resource. In each of these separate but interrelated proceedings, the Commission should begin integrating discussion of VGI.

With respect to the need for programmatic change, the fundamental barrier has been the inability to get incentive money to flow back to consumers. The Commission should take steps in the appropriate proceedings to ensure that money from demand response, technology incentives, and frequency regulation can flow back to electric vehicle owners, charging infrastructure owners, and distributed storage owners. The current tariffs are not working. We discuss this further below.

To the extent possible, the Commission should use this proceeding to coordinate and integrate policymaking as it relates to VGI. As noted in ChargePoint’s December 20, 2013 reply comments, industry stakeholders with direct experience and expertise in “smart charging” technologies and capabilities may not have the resources to participate in multiple and overlapping proceedings.³ The Commission should take procedural steps to ensure that key smart grid industry participants are “at the table” when VGI topics are discussed, and to the extent possible ensure that cross-over issues are discussed in this proceeding.

What immediate, near-term actions should the Commission undertake to support the development and implementation of VGI use cases and applications?

First, the Commission should schedule a facilitated workshop to discuss financing support for VGI. The workshop should be scheduled soon. It should include a detailed discussion of how to adapt existing on-bill energy efficiency tariff language to be used for customers investing in smart grid equipment (including EVSE and associated storage devices) that is capable of enabling participation in

³ ChargePoint Reply Comments at 7.

managed charging, demand response and/or ancillary services. The workshop should also focus on other financing issues, including the potential utility role in financing deployment of EV infrastructure, third party financing funds, rebate programs for MDU upgrades, and the utility role in installation of EVSE.⁴ Parties should be invited to submit specific proposals for discussion.

Second, the Commission should take appropriate steps in either the demand response proceeding or in this proceeding to discuss how proposed Rule 24 needs to be modified to enable full participation by owners and operators of EVSE. From ChargePoint's perspective, Rule 24 must be revised to allow broader aggregation of EV-related DR and frequency regulation services. The current rule allows too few aggregators, and could keep many enterprises out of the market. Modern networking technology could easily enable many small loads such as electric vehicles or distributed storage to be efficiently aggregated. The technology is here but the markets are inhibited by regulation.

ChargePoint understands that much effort and thought has already gone into the development of Rule 24, but in light of the purpose and objectives of this proceeding, the Commission should seek additional input to ensure that the rule works for EVSE as well as conventional third party market participants.

Third, initiate a proceeding to develop commercial EV rates. Recognizing that the second track of this proceeding will concurrently focus on the development of new alternative fuel tariffs, the Commission should ensure that this effort includes implementation of EV rates for all eligible commercial classes. As noted above, EV rate design has direct relevance to implementation of many VGI applications. Currently the lack of commercial EV rates for all three utilities has been identified as an obstacle to moving forward with submetering pilots.⁵ The connection between VGI, rates and

⁴ See generally, ChargePoint Opening Comments at 9-15.

⁵ In Chargepoint's recent protest to the Joint IOU Advice letters implementing the EV submetering pilot, we noted that the proposal does not adequately address rate design issues in that there is not a consistent treatment of commercial customer rates for participation. While SCE does have a commercial EV rate, PG&E and SDGE do

submetering is straightforward: EV users and operators of EV charging stations in commercial settings need access both to “smart” submeters to measure charging loads and rates that are structured properly to encourage EV use and reward optimal EV charging behavior. VGI applications will be facilitated and enabled more easily once rates and grid-integrated infrastructure are in place at as many locations as possible. The majority of charging outside the residence will be in workplace settings. Indeed, it is a priority focus of the PEV Collaborative and the Department of Energy to promote workplace EV infrastructure deployment as the most effective means to support EV adoption. In addition, many MDU settings could be ineligible for residential PEV rates. While the pilot program is on a different schedule than this OIR, it is critical that the Commission prioritize expanding EV rates to all eligible customers.

In consideration of the Use Case prioritization proposed in the Whitepaper, are there near-term actions that the Commission should avoid in order to not preclude progress on Use Cases considered to be more complex?

Yes. As discussed above, the Commission should be very careful not to presume that “complexity” (which the White Paper defines in part by reference to the number and nature of actors and resources) justifies delay in implementation. As discussed above, most of the regulatory barriers delaying implementation of *any* of the four use-cases described in the White Paper can and should be addressed in the near term.

As ChargePoint noted in the December 4, 2013 workshop, it would be a bad idea to focus exclusively on the single actor case because it isn’t an important case. Fleets are a smaller sector of potential load and not a predominant case. It is vital to take on the important widespread cases like the MDU case where the ratepayer is not the driver. Similarly the workplace charging case should be taken up where once again the ratepayer is not the driver. Fleets are both too easy and too unimportant. The

not. *See* Protest of ChargePoint, Inc. to Southern California Edison Company Advice 2993-E, Pacific Gas and Electric Company Advice No. 4343-E, San Diego Gas & Electric Company Advice No. 2566-E (Plug-In Electric Vehicle Submetering Pilot).

Commission should not ignore this use case, but it should not be prioritized over other use cases that offer far greater opportunities.

IV. Conclusion

We appreciate the opportunity to provide additional comments and recommendations, and encourage the Commission to continue promoting and rewarding market innovation, while optimizing use of new smart grid and communication technologies. Every dollar of infrastructure investment that comes from the private sector is a benefit for California ratepayers. We look forward to discussing concrete proposals for advancing VGI applications, implementing effective and innovative financing options, and expanding EV tariff options.

Dated: February 19, 2014

Respectfully submitted,

By: _____/s/_____

Colleen Quinn
Vice President Government Relations and
Public Policy
ChargePoint, Inc.
1692 Dell Avenue
Campbell, CA 95008
Phone: (917) 523-1813
Email: Colleen.Quinn@chargepoint.com