BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue the Development of Rates and Infrastructure for Vehicle Electrification.	Rulemaking 18-12-006 (Filed December 13, 2018)

REPLY COMMENTS OF ENVIRONMENTAL DEFENSE FUND, THE VEHICLE-GRID INTEGRATION COUNCIL, CALSTART, SIEMENS, NATURAL RESOURCES DEFENSE COUNCIL, ENEL X NORTH AMERICA, INC., ADVANCED ENERGY ECONOMY, AND GREENLOTS ON PROPOSED DECISION CONCERNING IMPLEMENTATION OF SENATE BILL 676 AND VEHICLE-TO-GRID INTEGRATION STRATEGIES

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I. INTRODUCTION

Environmental Defense Fund, the Vehicle-Grid Integration Council, CALSTART, Siemens, Natural Resources Defense Council, Enel X North America, Advanced Energy Economy, and Greenlots (Joint Commenters) provide these joint reply comments on the Proposed Decision regarding vehicle-grid integration (VGI) and SB 676 implementation (PD) issued on November 13, 2020. Joint Commenters address the following topics on reply:

- Having an opt-out time-varying price signal passed through to the driver should provide sufficient flexibility while also encouraging load management through VGI;
- It will continue to be critically important to collect data of multiple types;
- There is a great opportunity and need to test out the capability of vehicles to provide resiliency services
- Networked charging will provide valuable insights into charging patterns and load shape that would otherwise be difficult to obtain, and will provide a greater level of automation;
- Cost-effectiveness must be assessed on a holistic basis; and
- Advanced Load Management (ALM) should continue to be explored as way to benefit ratepayers.

II. DISCUSSION

A. *Having an opt-out time-varying price signal passed through to the driver encourages load management through VGI without negatively affecting customer experience.*

In opening comments, Tesla expresses concern that the PD contemplates having price signals passed through to the driver as the default arrangement,[1] stating that Southern California

[1] Joint Commenters note that the PD should be corrected in its reference to the Charge Ready 2 Decision. Instead of the reference to pages 93 and 151 in D. 20-08-045, this PD should reference pages 93 and *148*.

Edison's Charge Ready Phase 2 program does not provide "sufficient precedent to make the default option for all programs going forward given that [it] is focused on specific use cases in a specific program [Level 2 charging]…and did not adequately evaluate the impact of default pass through on DCFC [direct current fast charging]."[2] Tesla states that this may negatively impact the customer experience. However, if passing through a price signal proves to be untenable for drivers who are not the site host, site hosts can opt out and provide for additional means of load management. Moreover, while Joint Commenters agree that customer experience is important for encouraging adoption, EV charging station operators and drivers should be encouraged to charge in a manner that responds to grid conditions, which will be aided by passing price signals to drivers.

B. *It will continue to be important to collect data on VGI participation and performance, even if doing so requires additional resources.*

Pacific Gas & Electric (PG&E) requests that the Commission strike the requirement that they "report on VGI participation in their demand response programs,"[3] given that those programs do not currently collect such data, and it would be overly burdensome to do so. Joint Commenters contend that collecting this VGI-related data going forward is not as burdensome as is represented by the utilities. More can and should be done. First, difficulty collecting data is not an appropriate reason – particularly where such data is necessary to understand how VGI are performing and can be improved upon. Additionally, the framework required under SB 676 and contemplated by the PD will be in place over the next decade, making VGI participation in DR programs a reasonable expectation. Similarly, San Diego Gas & Electric (SDG&E) states that "the PD additionally requires utilities to report on aspects of VGI that are only marginally related to utility programs."[4] According to SDG&E, this includes "load profiles for managed EV charging as opposed to unmanaged charging…[and] "a running list…of utility-side upgrades avoided/mitigated for EV charging sites as a result of utilization of behind-the-meter EV services."[5] For separately metered EV load, utilities should readily be able to obtain data that differentiates participants in TOU rates and/or VGI programs; and for EV load that is not separately metered, utilities could seek to acquire data from a third party (e.g., an OEM/EVSP).

[2] Tesla at 6.
[3] PG&E at 7.
[4] SDG&E at 5.
[5] *Id.*

As well, SDG&E's position that it is impossible to know what utility-side upgrades can be avoided as a result of behind-the-meter activity appears misplaced. While Joint Commenters agree that it may be difficult to directly correlate all avoided upgrade costs to behind-the-meter EV services, secondary and customer-side upgrades that are avoided by customer election of ALM through TE tariffs, rules, and programs, as proposed in our opening comments, should be relatively easy to track. More broadly, if the utility is collecting load data, it should be reasonably apparent where interventions to manage charging have successfully deterred costly infrastructure build-out. For example, if a large commercial fleet plans to add several vehicles yet anticipates managing their charging such that they do not foresee needing the utility to build out distribution infrastructure, that is an important data point for planning and reporting.

C. *Resiliency will continue to be an important function of EVs.*

Joint Commenters urge the Commission to continue to evaluate the use of EVs to provide resiliency services and should consider the emerging capabilities of different vehicle types. SDG&E states "as the Nissan Leaf is the only commonly sold EV to use the CHAdeMO standard, the opportunities for SDG&E to accelerate the use of EVs as PSPS resiliency resources are limited."[6] Several ongoing policy developments[7] and product announcements[8] indicate the increasingly common nature of light-duty EV resiliency solutions. As well, many MHDV manufacturers offer bidirectional capability on their vehicles, and SDG&E is piloting bidirectional charging in their school bus VGI pilot. The continued evolution of charging standards, and the emergence of additional technical configurations for V2G functionality must be a perennial topic of consideration. Given the larger battery sizes of MHDVs, as well as the fact that the use cases of certain vehicles, like school buses, make them well suited to potentially providing resiliency services, the Commission should embrace opportunities to encourage OEMs to build V2G capabilities into their products and for IOUs to enable these technologies.

Further, PG&E's implication that it is less imperative to test out the capability of EVs to provide resiliency services because they are already pursuing other solutions is misplaced. While we agree that these solutions should address some grid reliability challenges in the region, they do not obviate the need to pursue EV resiliency projects. Compared to many other

[6] SDG&E at 3.
[7] See for example Rule 21, Microgrids PD, SGIP, UL and SAE standards development.
[8] VGIC reply comments on SGIP scoping memo at 9 (Oct. 23, 2020).

customer-side PSPS mitigation solutions, EV-based solutions utilize battery capacity that is embedded into the cost of the vehicle, meaning that these solutions serve as a relatively inexpensive solution when compared to alternatives such as new microgrid or distributed generation investments.

D. *Networked charging provides important benefits.*

Plug In America states that "self-managed charging [i.e., non-networked charging] is an important way to address affordability and equity concerns of consumers while also benefiting the grid" and expresses "caution against favoring networked charging over self-managed charging." While there are potentially multiple technologies that can help drivers manage their load, Plug In America neglects to mention one important factor. Failing to facilitate networked charging (including EVSP and OEM solutions) to the extent possible will prevent utilities – and ultimately the Commission and stakeholders – from being able to glean important insights from having access to load data. Not having that information (and, more to the point, not requiring utilities to collect and analyze that data, whether through their own processes or by purchasing agreements with third-party data collectors) may very well create a solution where the costs of integrated increased EV load into the system are much larger than they otherwise could be, since it will not be possible to determine if and when course corrections to better manage load need to be made. These benefits are on top of other important benefits that networked chargers provide, including providing drivers with enhanced abilities to easily respond to price signals or participate in managed charging programs, and otherwise act as an intelligent grid asset, with much less risk of becoming stranded. Joint Commenters also strongly disagree with the implication that equity considerations should be addressed by providing solutions with lesser capabilities to disadvantaged customers or communities.

E. *Establishing whether a solution will be cost-effective should be determined through a holistic lens.*

In opening comments, PG&E recommends that "the PD be revised to condition any implementation of the three strategies adopted pursuant to SB 676…on demonstration that they meet the cost-effectiveness requirements of the statute."[9] Joint Commenters believe this is appropriate, with an important caveat: while cost-effectiveness may be an important consideration pursuant to the directive of SB 676, PG&E's assertion highlights the fact that the

[9] PG&E at 13.

Commission has to do a better job of *defining* what type of cost-benefit analysis is necessary to make this determination. Pursuant to the opening comments filed by Joint Commenters, we urge the Commission to consider benefits and costs more holistically than what is currently implied, which is strictly a qualitative monetary determination based on an assumption of low costs without considering the benefits side of the ledger. Significant further analysis is necessary across vehicle types and vocations before conclusions can be drawn. Failure to do so may mean that projects may be deemed ineligible for further pursuit based on a skewed determination.

F. *The PD is correct to pursue implementation of ALM as a core VGI strategy*

SDG&E and PG&E both rebuke the PD's order for IOUs to implement ALM as part of all TE-related tariffs, rules, and programs, stating that the code-worthiness and cost-effectiveness of ALM is not supported by the record of this proceeding,[10] and that the Commission has other forums, such as the Distribution Resources Planning (DRP) proceeding, to pursue use of VGI for distribution deferrals.[11] While Joint Commenters agree that ALM capabilities should be optional, as these solutions may not be appropriate for all customers, the Commission should reject these arguments. First, ALM is recognized in the National Electric Code (NEC) section pertaining to EVSE ratings,[12] meaning that the largest barriers to deployment come down to awareness of the technology on the part of the authority having jurisdiction and allowance in local building codes. However, this does not preclude the Commission from ordering the IOUs to pursue ALM while addressing related challenges in parallel. Second, distribution deferral efforts under the DRP are focused on primary distribution system upgrades identified through annual planning processes, whereas ALM, as included in the PD and supported in our opening comments, would be deployed to avoid upgrades to customer-specific distribution infrastructure and equipment identified through interconnection applications. We agree with TURN that further workshops would be helpful to further flesh out the technical implementation details of ALM alongside the IOUs' proposed evaluation criteria for determining where ALM should be deployed as a ratepayer-beneficial method to meet customers' EV charging needs.

III. CONCLUSION

Joint Commenters thank the Commission for the opportunity to provide reply comments.

[10] SDG&E at 7-8.
[11] SDG&E at 9; PG&E at 5.
[12] See NEC Article 625 on Electric Vehicle Charging and Supply Equipment Systems, Section 625.42.

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Respectfully submitted,

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