

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

Order Instituting Rulemaking to Consider
Streamlining Interconnection of Distributed
Energy Resources and Improvements to
Rule 21.

Rulemaking 17-07-007
(Filed July 13, 2017)

**REPLY COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE TO
THE PROPOSED DECISION ADOPTING RECOMMENDATIONS FROM WORKING
GROUPS TWO, THREE, AND SUBGROUP**

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September 14, 2020

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In accordance with Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the California Energy Storage Alliance (“CESA”) hereby submits these reply comments to the *Proposed Decision Adopting Recommendations from Working Groups Two, Three, and Subgroup* (“PD”), issued by Commissioner Martha Guzman Aceves on August 20, 2020.

I. INTRODUCTION.

CESA appreciates other stakeholders general support for the Issue 23 proposals that are proposed for adoption in the PD. Collectively, these proposals represent a significant milestone in advancing the ability of vehicle-to-grid (“V2G”) systems to interconnect to the distribution grid under Rule 21 to offer bidirectional vehicle-grid integration (“VGI”) services that support the state’s decarbonization and transportation electrification (“TE”) objectives. In particular, CESA appreciates the investor-owned utilities’ (“IOUs”) participation in the V2G Alternating Current (“AC”) Subgroup and their general support in opening comments for both the V2G Direct Current (“DC”) and V2G AC proposals.

However, we disagree with a couple of points made by Pacific Gas and Electric Company (“PG&E”) and San Diego Gas and Electric Company (“SDG&E”) regarding Working Group 3 Proposal 23i, which would direct the IOUs, via a series of meetings starting no later than 30 days from the issuance of the final decision, to develop a pathway to interconnect V2G AC systems on a timely basis for experimental and/or temporary use.¹ Their comments on Proposal 23i raise barriers that would contravene the intended learning objective of the Commission adopting Proposal 23i in the first place. In addition, CESA does not agree with the recommendation of Southern California Edison Company (“SCE”) that the V2G AC Subgroup can only reconvene after the Commission has addressed certain key questions outlined in their comments. Commission determination of these issues are not necessary to reconvene the subgroup, and the Commission and stakeholders may benefit from reconvening to help address those very questions and thus provide the Commission with additional guidance.

II. A PATH TO INTERCONNECTION FOR V2G AC PILOTS THROUGH A TEMPORARY EXEMPTION WILL INFORM ELECTRICAL STANDARDS DEVELOPMENT AND ADVANCE THE PILOT OBJECTIVES.

CESA reiterates our support of the PD’s proposed adoption of Proposal 23i. As noted in the PD, Proposal 23i will advance learning from these pilots, not only in accordance with the main objective of each respective pilot but also in getting these projects interconnected in the first place. While lessons on the safe and reliable interconnection of V2G AC pilots are not their direct objectives, the process of supporting an experimental or temporary pathway could, in turn, also inform the development of electrical standards for interconnection. Especially as the pilots are limited in number (*i.e.*, four)² and overseen by government agencies (*e.g.*, California Energy

¹ PD at 115.

² *Working Group Three Final Report* filed in R.17-07-007 on June 14, 2019 at 84. <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M309/K943/309943907.PDF>

Commission), CESA believes that the approval of Proposal 23i is reasonable and necessary. Any pathway developed would not be broadly available and would be temporary in nature, with the IOUs in a critical role to ensure safe and reliable interconnection.

However, SDG&E opposed the adoption of Proposal 23i by explaining the need for National Recognized Testing Laboratory (“NRTL”) testing to UL 1741 to identify the specific failed tests and help SDG&E address the specific barriers to safe and reliable interconnection of V2G AC systems.³ In contrast to SDG&E, PG&E and SCE expressed support for the adoption of Proposal 23i, but each recommended that the exemption only apply to current Rule 21 smart inverter requirements, such that legacy inverter requirements should still apply (*i.e.*, IEEE 1547-2003 and UL 1741) along with certification by a NRTL.⁴ These comments ignore one of the key gaps identified in the V2G AC Subgroup report that UL 1741 is not fully applicable to V2G AC systems:⁵

“While UL 1741 is the testing standard that applies more reasonably to stationary inverters, the automotive industry stakeholders explained that the *UL 1741 standard has certain requirements that would make the automobile components unreasonably big and heavy or would not be applicable to a vehicle.* For example, they argued that certain equipment (e.g., switches and relays) being required in the same inverter enclosure would reduce the effectiveness of the EV to serve off-grid functions for the customer. Additionally, *UL 1741 provides specific design requirements that have mechanical attributes that are appropriate for stationary facility equipment (e.g., facility or appliance wiring) that may not be applicable to vehicles (e.g., automotive wiring).* Similarly, UL 1741 is devoted to physical design requirements for stationary electrical equipment, which is inapplicable to EVs because NEC excludes equipment installed in automotive vehicles. By contrast, SAE explained that J3072 was written to allow every manufacturer to follow their own methodology to build their vehicle, so no standards around automotive wiring were established. See

³ SDG&E comments at 11-12.

⁴ PG&E comments at 5 and SCE comments at 13-14.

⁵ *Vehicle-to-Grid (V2G) AC Interconnection Technical Sub-Group Report: Gaps Analysis and Recommendations* (“V2G AC Subgroup Report”) filed in R.17-07-007 on December 11, 2019 at 23. <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M325/K636/325636696.PDF>

Appendix E for a breakdown of non-applicable components of UL 1741 to vehicles, as identified by a collection of automotive stakeholders.” [emphasis added]

Furthermore, one of the barriers of using UL 1741 with third-party NRTL testing has been the automotive industry’s unique needs to utilize a self-certification pathway, which follow their industry norms while still following a rigorous process.⁶ Considering these factors, the IOUs’ comments to test to UL 1741 and/or to legacy smart inverter requirements ignores these gaps and would essentially prevent these V2G AC pilots from ever being interconnected. These pilots should instead be safely experimenting with alternative pathways, possibly using the two potential pathways considered in the V2G AC Subgroup report or some other means that would ensure the various requirements under UL 1741 and IEEE 1547-2003 are met without actually having to be NRTL-certified to those standards. These pathways should be explored in the meetings directed in the PD’s adoption of Proposal 23i.

III. RECONVENING OF THE V2G AC SUBGROUP SHOULD NOT BE CONTINGENT ON COMMISSION RESOLUTION OF V2G AC STANDARDS AND CERTAIN POLICY QUESTIONS.

SCE recommended that reconvening of the V2G AC Subgroup be delayed until the Commission resolved which standard should govern V2G AC interconnections and what equipment certification procedures should be required of V2G AC interconnections.⁷ CESA disagrees and does not believe that the Commission has enough information on the record at this time to make these determinations. The V2G AC Subgroup only arrived at procedural recommendations,⁸ where additional subgroup meetings will likely be needed to discuss the

⁶ *Ibid* at 44-48.

⁷ SCE comments at 12.

⁸ V2G AC Subgroup Report at 6-7.

updated standards and policy development will be needed in either or both of R.17-07-007 and R.18-12-006 to resolve the difference in automotive internal testing norms and utility processes for third-party certifications. The Commission would be better positioned to address these questions if the subgroup was able to reconvene to further discuss these matters. Rather, CESA continues to support the PD's recommended approach to trigger a timeline for reconvening the V2G AC Subgroup once the SAE J3072 and/or UL 9741 standards have been updated.

IV. CONCLUSION.

CESA appreciates the opportunity to submit these reply comments on the PD and looks forward to collaborating with the Commission and stakeholders in this proceeding.

Respectfully submitted,



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