

June 17, 2021

CPUC Energy Division Tariff Unit
505 Van Ness Avenue
San Francisco, California 94102
EDTariffUnit@cpuc.ca.gov

Re: Response of the Vehicle-Grid Integration Council to Advice Letter 3774-E of San Diego Gas & Electric Company, Advice Letter 4510-E of Southern California Edison Company, and Advice Letter 6209-E of Pacific Gas and Electric Company

Dear Sir or Madam:

Pursuant to the provisions of General Order 96-B, the Vehicle-Grid Integration Council (“VGIC”) hereby submits this response to the above-referenced Advice Letter 3774-E of San Diego Gas & Electric Company (“SDG&E”), Advice Letter 4510-E of Southern California Edison Company (“SCE”), and Advice Letter 6209-E of Pacific Gas and Electric Company (“PG&E”), *Joint Advice Letter Proposing Interconnection Pathway for Vehicle-to-Grid Alternate Current Projects and Implementation Steps for Direct Current Electric Vehicle Supply Equipment Projects, Pursuant to Decision 20-09-035* (“Joint Advice Letter”), submitted on May 28, 2021.

I. INTRODUCTION AND BACKGROUND.

With the unanimous approval of Decision (“D.”) 20-09-035 on September 24, 2020, VGIC commended the Commission for advancing vehicle-grid integration (“VGI”) through its crucial clarification regarding the treatment of vehicle-to-grid direct current (“V2G DC”) systems under Rule 21. The Decision adopted Issue 23 sub-proposals that explicitly made clear that V2G DC electric vehicle supply equipment (“EVSE”) can interconnect under Rule 21 if the relevant Rule 21 requirements are met. The Decision also adopted an Issue 23 sub-proposal to allow V2G DC EVSEs to operate first in load-only mode (or “V1G”) and later switch to bi-directional mode after receiving a Rule 21 interconnection agreement and permission to operate (“PTO”).

In 2019, the Commission worked with stakeholders to convene a V2G alternating current (“V2G AC”) technical subgroup. Subgroup participants worked diligently to identify gaps between relevant industry standards and Rule 21 requirements, and produced a detailed technical report highlighting key gaps that need to be addressed in the development of a standard V2G AC interconnection pathway. In recognition of these gaps, the September Decision did not adopt a standard interconnection pathway, instead directing IOUs to develop a temporary interconnection

June 17, 2021

Page 2 of 5

pathway for V2G alternating current (“AC”) pilots that would be exempt from Rule 21 requirements. The Decision directed investor-owned utilities (“IOUs”) to work with stakeholders to develop a temporary interconnection pathway for V2G AC pilots. The IOUs and parties collaborated through a series of workshops to identify the appropriate temporary pathway that ensures safety and meaningfully supports V2G AC pilots. During the March 29th V2G workshop, IOUs presented their near-final proposed temporary interconnection pathway for V2G AC pilots as well as their proposed implementation plan for the interconnection of V2G DC systems in uni-directional mode.

VGIC appreciates the IOUs’ good faith efforts and flexibility during the workshops and development of the proposal in the Joint Advice Letter. The Joint Advice Letter represents a significant step toward widespread V2G adoption and is an encouraging reflection of stakeholder efforts. VGIC is pleased to see that both the V2G DC and V2G AC implementation steps are generally consistent with the preliminary details shared previously by the IOUs. VGIC supports the Joint Advice Letter as filed, but highlights in this response several critical areas related to V2G DC that could benefit from additional clarification before full implementation by the IOUs, including:

- Process for V2G DC systems to interconnect in bidirectional mode from the outset (i.e., go straight to Rule 21 process, skipping uni-directional mode)
- Standard date used for the 5-year grace period for accepting out-of-date EVSE certification
- IOUs’ intent to update interconnection application portals to accommodate V2G DC EVSE specifications
- General streamlining and consistent treatment of V2G DC as a DER interconnecting under Rule 21 on a level playing field with other DERs

In addition, VGIC is concerned over the potential interaction between the proposed V2G AC temporary interconnection pathway and SDG&E’s existing interconnection handbook. VGIC thus submits this response to the Joint Advice Letter and respectfully requests that implementation of V2G DC and V2G AC pathways not be unduly delayed due to the issues raised herein. VGIC offers its time and resources to Energy Division staff, Commissioners, IOUs, and other stakeholders to support addressing each issue in a timely manner.

II. DISCUSSION: V2G DC INTERCONNECTION.

A. IOUs should explicitly clarify the process for V2G DC to interconnect in bidirectional mode from the outset (i.e., go straight to Rule 21).

VGIC commends the Commission and IOUs for working to establish a pathway for V2G DC EVSE to switch from uni-directional to bidirectional mode upon completing a Rule 21 review process and receiving a PTO. As outlined in the Joint Advice Letter, V2G DC

June 17, 2021

Page 3 of 5

systems intending to switch from uni-directional mode to bidirectional mode must demonstrate certification to the UL Power Control System (“PCS”) Certifications Requirements Decision (“CRD”). However, customers and benefits would also benefit from a straight-to-Rule 21 option that would not require certification to UL PCS CRD. Based on VGIC’s understanding, nothing in the Joint Advice Letter or Rule 21 strictly prohibits V2G DC EVSE from interconnecting under Rule 21 in bidirectional mode from the outset, but there is also no statement or process detailed in the Joint Advice Letter to demonstrate that the potential pathway is available to customers and vendors. Therefore, VGIC respectfully requests that the IOUs work to clarify that a straight-to-Rule 21 pathway is available to all V2G DC EVSE systems that comply with the technical requirements of Rule 21. The IOUs’ V2G DC implementation details should present two clear and distinct interconnection pathways for V2G DC EVSE systems: (1) request interconnection in bidirectional mode under Rule 21 from the outset by meeting all relevant Rule 21 requirements, or (2) connect in uni-directional mode with UL PCS CRD certification and then request Rule 21 interconnection and switch to bidirectional mode once PTO has been granted. This clarity will facilitate customer/vendor understanding and ensure that the IOUs’ skilled but finite interconnection staff can swiftly resolve any potential ambiguity regarding whether a particular V2G DC EVSE configuration can proceed to Rule 21 review process without demonstrating compliance with UL PCS CRD. This clarification is critical to the near-term success of V2G DC EVSE interconnection.

B. IOUs should clarify how the 5-year grace period for accepting legacy EVSE certification is determined.

VGIC commends the IOUs’ proposed grace period for V2G DC EVSE systems, in which IOUs will accommodate the certification for EVSE that is requesting interconnection up to five years after the “model year.” VGIC appreciates the flexibility and believes this structure should be implemented to address potential timing concerns raised by allowing a two-step process of V1G-only followed by V2G mode. However, VGIC recommends the IOUs work to clarify what is meant by “EVSE model year.” Alternatively, the IOUs should consider using another standard date to mark the beginning of the 5-year grace period. VGIC recommends an EVSE’s commercial operation date (“COD”) be used as the starting point for the 5-year grace period, as COD represents a simple, understandable, and easily accessible data point.

C. IOUs should clarify whether they intend to update interconnection application portals to accommodate V2G DC EVSE information.

The Joint Advice Letter states: “Note: each Utility’s interconnection portals may need to be updated to allow precise identification of EVSE information.”¹ It is unclear from this language whether the IOUs are signaling a clear intent to update their interconnection portals or merely identifying that this task may need to be done. VGIC requests that each IOU clarify whether it intends to update its interconnection portal. If updates do need to be

¹ Joint Advice Letter at 4.

June 17, 2021

Page 4 of 5

made, VGIC strongly recommends the IOUs both identify *and* implement any updates to interconnection portals that are needed to facilitate V2G DC EVSE interconnection.

D. IOUs should align V2G DC EVSE interconnection process with other DERs interconnecting under Rule 21 to ensure a level playing field and streamline interconnection.

Prior to D.20-09-035, V2G DC EVSE were not explicitly prohibited from interconnecting under Rule 21. D.20-09-035 clarified that V2G DC EVSE – a type of DER – could interconnect under the same guidelines governing stationary energy storage systems. In Section II.A above, VGIC details the importance of having IOUs make clear to customers and vendors that V2G DC EVSE may seek bidirectional mode from the outset via the Rule 21 interconnection process. Without this explicit clarification, VGIC is concerned that customers and vendors may be nudged toward the two-step process of sequentially acquiring service as a V1G resource and then seeking interconnection as a V2G resource. VGIC posits this may nearly double the amount of time required for a V2G DC EVSE to operate in bidirectional mode compared to the time required for a similarly-sized stationary energy storage system.

As a related issue, it is important that the review timeline and inspection process for Rule 21 interconnection be consistent between V2G DC EVSE and stationary energy storage systems. VGIC recognizes that IOUs may need some time to gain familiarity and comfort with new V2G DC EVSE configurations, whereas stationary energy storage systems have been moving through Rule 21 interconnection processes for several years. VGIC respectfully request the IOUs plan for – and work toward – aligning the Rule 21 interconnection review timeline and process for V2G DC EVSE with that of stationary energy storage. Once IOUs gain more comfort and familiarity with V2G DC EVSE products and configurations, VGIC recommends implementing virtual inspections and other streamlining measures. Notably, V2G DC EVSE product adoption may outpace stationary energy storage deployment due to several factors, including low incremental costs of V2G equipment relative to stationary energy storage system costs and non-monetary factors that impact customer’s choice to purchase vehicles and charging equipment.

Lastly, the IOUs should remain clear and consistent about the separate treatment of V2G DC and V2G AC systems. V2G DC EVSE interconnecting under Rule 21 is not a pilot or temporary, but rather a standard and routine pathway. VGIC recommends both the Commission and IOUs continue to distinguish in all interconnection-related efforts between these two pathways so as to ensure the V2G DC EVSE can interconnect under a standard, routine pathway.

III. DISCUSSION: V2G AC INTERCONNECTION.

A. SDG&E should clarify whether a secondary relay is needed for V2G AC pilots.

June 17, 2021

Page 5 of 5

VGIC is pleased to see that the V2G AC pilot eligibility criteria and temporary interconnection pathway are both consistent with the consensus proposal developed alongside a range of stakeholders since the September Decision. The Joint Advice Letter details a temporary interconnection pathway for eligible V2G AC pilots that uses a relay programmed with voltage and frequency settings, which are found in the IOUs' interconnection handbooks.² Notably, SDG&E's interconnection handbook states the following:³

“Whenever primary relays or protective devices are out of service, backup or secondary relays must be available to clear faults. When restoring any relays that have been out of service, the Generator’s designated representative shall verify that the contacts of any such relays, which are normally open, are in fact open. The Generator must ensure that relays do not have standing trip output.”

VGIC is concerned with the potential for V2G AC pilots in SDG&E service territory to require both a primary and secondary relay. This may be cost prohibitive and effectively undermine the effort to facilitate V2G AC pilots and, in turn, VGI broadly. VGIC respectfully request SDG&E consider exempting V2G AC pilots from this secondary relay requirement. Given the relays will be IOU-approved, VGIC believes there may exist justification for this exemption, as IOU-approval may help to mitigate the risk of the primary relay failing, as noted in the SDG&E handbook.

IV. CONCLUSION.

VGIC appreciates the opportunity submit this response to the Joint Advice Letter. We look forward to further collaboration with the Commission and stakeholders on this initiative.

Respectfully submitted,

/s/ Zach Woogen

Zach Woogen

Policy Specialist

Vehicle-Grid Integration Council

cc: Greg Anderson, SDG&E (GAnderson@sdge.com and SDGETariffs@sdge.com)
Shinjini C. Menon, SCE (AdviceTariffManager@sce.com)
Tara S. Kaushik, c/o Karyn Gansecki (Karyn.Gansecki@sce.com)
Sidney Dietz , c/o Megan Lawson (PGETariffs@pge.com)
Service list R.17-07-007

² Joint Advice Letter at 6.

³ SDG&E Interconnection Handbook Section 5.2 Voltage Control Operation and Other Service Requirements at 25.
<https://www.sdge.com/more-information/customer-generation/electric-rule-21/distribution-interconnection-handbook>