

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

Order Instituting Rulemaking Regarding Policies,
Procedures and Rules for the Self-Generation
Incentive Program and Related Issues

Rulemaking 20-05-012
(Filed May 28, 2020)

**REPLY COMMENTS OF THE VEHICLE-GRID INTEGRATION
COUNCIL TO THE ASSIGNED COMMISSIONER'S SCOPING MEMO
AND RULING**

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In accordance with Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the Vehicle-Grid Integration Council (“VGIC”)¹ hereby submits these reply comments on behalf of its members to the *Assigned Commissioner’s Scoping Memo and Ruling* (“Scoping Memo”) issued by Commissioner Rechtschaffen on August 17, 2020. Pursuant to the September 17, 2020 assigned Administrative Law Judge Email Ruling authorizing an extension of the filing deadline indicated in the August 17, 2020 ACR from October 1, 2020 to October 23, 2020, VGIC timely files these reply comments on October 23, 2020.

I. OVERVIEW OF VGIC.

VGIC is a 501(c)6 membership-based advocacy group committed to advancing the role of electric vehicles (“EVs”) and vehicle-grid integration (“VGI”) through policy development, education, outreach, and research. VGIC supports the transition to decarbonized transportation and

¹ VGIC member companies and supporters include American Honda Motor Co., Inc., Connect California LLC, Enel X North America, Inc., Fermata, LLC., Fiat Chrysler Automobiles, Ford Motor Company, General Motors Company, Nissan North America, Inc., Nuvve Corporation, The Mobility House, and Toyota Motor North America, Inc. The views expressed in these Comments are those of VGIC, and do not necessarily reflect the views of all of the individual VGIC member companies or supporters. (<https://www.vgicouncil.org/>).

electric sectors by ensuring the value from EV deployments and flexible EV charging and discharging is recognized and compensated in support of achieving a more reliable, affordable, and efficient electric grid.

II. REPLY TO OPENING COMMENTS RELATING TO EV/EVSE IN SGIP.

A. There is a critical need to level the playing field for using bidirectional EV/EVSE as an energy storage resource.

In opening comments, several parties responded to Scoping Memo question h with support for the consideration of EV/EVSE eligibility in SGIP, and raised important questions that should be addressed as a next step.² However, some parties framed these same important questions as reasoning to cease consideration of EV/EVSE eligibility for SGIP funds. VGIC acknowledges the questions raised by parties, which primarily relate to: SGIP’s permanency requirement, incrementality and avoiding double-funding, relation to EV rates and programs, and commercial readiness. VGIC believes each of these factors merit further consideration in this proceeding, but that taken together they do not provide adequate reasoning as to why bi-directional EV/EVSE resources – a type of energy storage technology – should be excluded entirely from an incentive program that aims to deploy energy storage technologies in support of grid benefits, GHG emissions reductions, equity, and resiliency.

The recent August 2020 heat wave blackouts, as well as subsequent heat waves triggering CAISO Flex Alerts well into October – when generators go offline for scheduled maintenance – underscores the critical need to support the deployment of additional Resource Adequacy (“RA”)

² *Comments of the California Energy Storage Alliance on the Assigned Commissioner’s Scoping Memo and Ruling* at 13, *The Protect Our Communities Foundation Comments On Questions B – K In Section 3 Of The Assigned Commissioner’s Scoping Memo And Ruling* at 4, and *Comments Of Fermata LLC On The Assigned Commissioner’s Scoping Memo And Ruling* at 5.

resources, including V2G-capable technologies. While Behind-the-Meter (“BTM”) RA and/or emergency reliability services are not available monetization pathways today for V2G today, these market products are under development to address California’s urgent grid needs.³

Expanding SGIP eligibility to include bi-directional systems can help to future-proof California’s EV/EVSE fleet by incentivizing new EV/EVSE to be deployed with V2G capabilities included as a means to maximize RA resources (versus allowing EV/EVSE to proliferate that are limited to only unidirectional capabilities).

B. SGIP incentives should compensate incremental components of bi-directional EV/EVSE to avoid duplicating existing EV/EVSE funds.

In opening comments, parties noted that EVs and EVSE already receive incentives through other sources of funding.⁴ VGIC notes that some of these other incentives, such as the Federal EV Tax Credit, are quickly being phased down. Furthermore, there are no incentives that explicitly encourage incremental VGI technologies rather than buying down the initial cost of the vehicle itself or charging infrastructure. These opening comments concluded that the Commission should only consider the incremental elements of bi-directional EV/EVSE systems as eligible for SGIP incentives. VGIC generally agrees with this sentiment and suggest that SGIP for EV/EVSE be directed towards offsetting the additional cost (including hardware, software, and customer acquisition) for providing bi-directional capabilities on new EV/EVSE. As stated in our opening

³ As requested by the CPUC in the Resource Adequacy Proceeding Phase 2 decision (D.20-06-031), the CPUC, CAISO, and CEC are holding a joint public workshop to consider the potential to provide RA credit to behind-the-meter resources on November 24, 2020. Additionally, *E-mail Ruling Introducing Distributed Energy Resources Tariff Staff Proposal and Directing Comments and Responses to Questions* issued October 6, 2020 by ALJ Kelly A. Hymes in R.14-10-003 includes a staff recommendation that the “IOUs add an Emergency Dispatch for System Reliability Program as a near-term priority for an additional value stream to be added to the Clean Energy Customer Incentive” at 56.

⁴ See, for example, *Comments of the California Energy Storage Alliance on the Assigned Commissioner’s Scoping Memo and Ruling* at 13, and *Comments of the Center for Sustainable Energy in Response to the Assigned Commissioner’s Scoping Memo And Ruling* at 7.

comments, bi-directional systems do not currently receive direct incentives or support for their incremental costs, as existing IOU TE make-ready program funds are not focused on promoting and deploying bi-directional technologies.

C. SGIP incentives for EV/EVSE can be designed to ensure the physical permanency requirement is met.

In opening comments, several parties raise considerations about SGIP’s physical permanency requirement as it relates to EV/EVSE eligibility. For example, SDG&E states that “Wheeled EV’s by their very nature cannot meet this requirement.”⁵ In its opening comments, VGIC provided several robust recommendations for how to address concerns over the permanence requirements.⁶ Furthermore, while VGIC do not believe that residential customers receiving SGIP incentives for VGI are likely to leave the state on a meaningful scale, we believe that there are possible safeguards that could help ensure that permanency requirements are met for the vast majority of program participants. For example, customer enrollment in a California utility’s whole-house EV TOU rate could signal permanency in support of SGIP’s permanency requirements, as it would ensure that customer is a utility customer within the state who owns an EV. Second, OEMs could theoretically supply GPS data for EV charging events to track how many SGIP program participants remain in the state. If there are widespread migrations from California by SGIP program participants, these could be addressed by modifying eligibility requirements as needed. In addition to these, VGIC note that other EV-related programs implemented by the IOUs, such as the LCFS rebate, do not have permanency requirements. Thus, some flexibility on this issue appears warranted based on past precedent.

⁵ *Opening Comments of San Diego Gas & Electric Company (U 902-E) on Questions “B Through K” of Assigned Commissioner’s Scoping Memo and Ruling* at 5.

⁶ *Joint Comments of the Vehicle-Grid Integration Council and BMW of North America, LLC to the Assigned Commissioner’s Scoping Memo and Ruling* at 13-15

D. VGIC is concerned by SCE’s suggestion that costs and benefits must be evaluated prior to SGIP implementation or that the VGI WG must be reconvened first.

In their opening comments, SCE stated that “SCE believes that SGIP incentives could facilitate the use of electric vehicle (EV) energy storage systems to reduce grid stress. However, the potential benefits and costs are unknown.”⁷ VGIC believes that a precise determination of costs and benefits should not be an impediment to pursuing EV energy storage systems within SGIP in the near term. It is worth noting that an *a priori* evaluation or determination of cost-effectiveness has not been a requirement for SGIP program support in the past. For example, the 2015 SGIP Program Cost Effectiveness Study revealed that many of the technologies being supported by SGIP, including advanced energy storage, had benefit-cost ratios of <1.0 under a Societal Total Resource Cost test.⁸ More recently, the 2019 SGIP Energy Storage Market Assessment and Cost-Effectiveness Report stated that the “the potential cost-effectiveness of behind the meter storage is highly variable and sensitive to the parameters and use cases tested.”⁹ That said, the report also showed that many of the EV-TOU rates and EV-specific use cases, actually tended to increase cost-effectiveness. For example: “Under the residential EV-TOU rates analyzed, residential PCT ratios increase significantly relative to the TOU rates analyzed.”¹⁰

Additionally, in contrast to SCE, VGIC does not think it is necessary to reconvene the VGI WG to move forward with next steps for including VGI resources within SGIP. VGIC does support

⁷ *Opening Comments of Southern California Edison Company (U 338-E) on Questions (B)-(K) in Section 3 of the Assigned Commissioner’s Scoping Memo and Ruling* at 8.

⁸ *2015 Self-Generation Incentive Program Cost Effectiveness Study: Final Report* prepared by Itron (October 5, 2015) <https://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=7889> at 1-6.

⁹ *2019 SGIP Energy Storage Market Assessment and Cost-Effectiveness Report* prepared by Itron (December 3, 2019) <https://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442463457>

¹⁰ *Ibid* at 1-7.

several parties' opening comments¹¹, including its own, recommending for the Commission to convene stakeholders to explore the details of EV/EVSE in SGIP, however we do not believe the VGI WG is the appropriate venue for this convening due to its scope, composition, and the fact that it ended in July. Additionally, VGIC believes the inclusion of VGI resources within SGIP could be a valuable step to gain more insight into VGI costs and benefits that could inform any future reconvening of the VGI WG. VGIC does not believe the specific use cases need to be identified in advance. This would match the way that stationary storage is currently treated under SGIP whereby participants can dispatch their storage resources for a variety of purposes so long as they meet a limited set of performance requirements (i.e. cycling and GHG reduction).

E. VGIC agrees with PG&E's opening comments that SGIP should be coordinated with other EV programs being addressed in the DRIVE OIR. This does not mean that certain EV-related incentives (e.g. SGIP) cannot be implemented outside of the DRIVE OIR.

In opening comments, PG&E states “PG&E believes any and all EV issues (e.g. EV energy storage systems and EVSE) should be considered exclusively in R.18-12-006, as this proceeding covers all transportation electrification-related matters.”¹² VGIC believes that it is reasonable to address certain EV-related issues outside of – but in coordination with – R.18-12-006 (“DRIVE OIR”). This is consistent with the recommendation for a VGI Portfolio, proposed by VGIC et al. in DRIVE OIR.¹³ A VGI Portfolio would represent a comprehensive suite of VGI policies, with some portfolio elements (e.g., rates) contained within DRIVE OIR, while other elements are referenced in the portfolio but contained in other proceedings. Furthermore, VGIC notes that certain EV-

¹¹ See, for example, *Comments of the California Energy Storage Alliance on the Assigned Commissioner's Scoping Memo and Ruling* and *Comments of Fermata LLC on the Assigned Commissioner's Scoping Memo and Ruling*.

¹² *Comments of Pacific Gas and Electric Company (U 39 E) on Questions "B-K" of Assigned Commissioner's Scoping Memo and Ruling* at 9.

¹³ *Joint Comments of the Vehicle-Grid Integration Council, Enel X North America, Inc., Advanced Energy Economy, California Energy Storage Alliance, Chargepoint, Inc., Environmental Defense Fund, Greenlots, Natural Resources Defense Council, and Siemens on Email Ruling Seeking Party Comment on Vehicle-Grid Integration Issues* filed August 17, 2020 in R.18-12-006.

related issues are actively being addressed in proceedings outside of the DRIVE OIR that may be more appropriate on a case-by-case basis. For example, a recent Energy Division Staff proposal in R.19-09-009 recommends the Commission authorize utility pilot programs for the intentional islanding of customers so they can use DERs, namely EVs, as backup power. VGIC notes that the pilot program proposed in the R.19-09-009 may relate to similar resiliency applications promoted through SGIP, but that the two proceedings address clearly distinct aspects of using VGI resources for resiliency purposes. While an upcoming R.19-09-009 Track II Decision could authorize funding for a pilot program to explore the technical and customer considerations of using intentional islanding to enable EV backup power, the instant SGIP eligibility questions h-k address how to level the playing field for bi-directional EV/EVSE as a type of energy storage. Although related, VGIC believes these are two distinct issues.

VGIC generally agree with PG&E's comments that any SGIP incentives provided to EVs/EVSE should not be duplicative to those being provided elsewhere. This is consistent with Joint Commenter's opening comments, which suggested that any SGIP program to support EVs/EVSE should be well-coordinated with activities occurring through the Transportation Electrification Framework.

Despite these concerns about overlapping programs, VGIC believe it is still beneficial to pursue EV/EVSE-related incentives through SGIP now as a means to make tangible progress on developing the VGI market. This is even more true due to the very uncertain timing (let alone the existence of) possible VGI-related incentives through the TEF.

VGIC also recognizes some of the concerns raised regarding how the SGIP incentives might be structured vis a vis any VGI-related incentives developed through TEF or other proceedings.

Furthermore, it is imperative that any VGI-related incentives are workable for EV/EVSE owners, and address unique challenges that may not exist for standalone storage. As such, VGIC reiterates its recommendation that the Commission convene a workshop, although not the VGI WG, to address any SGIP Handbook changes and incentive structure modifications that might be necessary for EV/EVSE. VGIC believes the following topics could be included in a workshop agenda: (1) incentive design, (2) eligibility requirements (including permanency considerations), (3) SGIP Handbook changes, (4) data collection, and (5) coordination with DRIVE OIR programs/processes.

F. SGIP incentives can help accelerate bi-directional EV/EVSE out of its relative nascency.

In opening comments, CSE states, “not all EV models have the functionality to provide bidirectional flow that is necessary to provide meaningful benefits as required by SGIP.”¹⁴ VGIC notes that the relative nascency of the bi-directional charging market demonstrates why SGIP incentives can provide meaningful support for the deployment of bi-directionally capable technology. Furthermore, TURN states that “[V2G] capabilities are not yet commercially available. Funding such technologies from SGIP thus violates the statutory goal of the program to fund ‘commercially available’ technologies.”¹⁵ VGIC believes this is an inaccurate statement, as several vehicle OEMs and EVSE providers currently offer commercially-available and certified bi-directional technologies, and more models will become available in the near-term.¹⁶

¹⁴ *Comments of the Center for Sustainable Energy in Response to the Assigned Commissioner’s Scoping Memo and Ruling* at 5.

¹⁵ *Comments of The Utility Reform Network On Questions (B) Through (K) in Section 3 of the Assigned Commissioner’s Scoping Memo and Ruling of August 17, 2020* at 8.

¹⁶ See, for example, ABB <https://cleantechnica.com/2020/10/14/11-kw-bi-directional-abb-chargers-coming-to-france-uk-germany-italy-belgium/>, Audi <https://electrek.co/2020/07/24/audi-bi-directional-charging-electric-cars-store-solar-energy/>, Blue Bird <https://www.electrive.com/2020/09/16/v2g-charging-with-electric-school-buses-in-the-usa/>, Coritech <https://coritech.com/v2g-architecture>, Daimler <https://www.axios.com/electric-school-buses->

G. Implementing SGIP for EVs does not depend upon further resolution V2G interconnection issues

In opening comments, SDG&E states:

“the Commission, the automotive industry, national standards development organizations, and the utilities have been unable to develop a pathway for V2G alternating current (AC) interconnections, since these systems are currently unable to comply with UL 1741 to ensure safety and reliability.”¹⁷

VGIC disagrees with this characterization. The Commission’s recent decision on Rule 21 (D.20-09-035) clearly outlined a pathway for V2G AC interconnections at least for a limited set of pilot programs. Additionally, as detailed in *Comments of the Vehicle-Grid Integration Council on Vehicle to Grid Alternating Current Interconnection Subgroup Report*,¹⁸ there may be other viable interconnection pathways for V2G AC outside of UL 1741. Although this may require further modifications to Rule 21, and the Commission has directed the V2G AC Subgroup addressing these issues to reconvene once further progress has been made to develop standards, including those proposed by the automotive industry that would likely not directly reference UL

[vehicle-to-grid-power-19f7b6b1-662b-4501-a96e-dcf3fd57a886.html](https://www.prnewswire.com/news-releases/brandenburgische-technische-universitat-and-delta-pave-the-way-for-a-future-smart-grid-for-emobility-301154128.html), Delta <https://www.prnewswire.com/news-releases/brandenburgische-technische-universitat-and-delta-pave-the-way-for-a-future-smart-grid-for-emobility-301154128.html>, Fermata <https://www.greencarcongress.com/2020/09/20200920-fermata.html>, Lucid Motors <https://www.autoblog.com/2020/08/19/lucid-air-ev-charging-v2g-300kw-900v-electrify-america/>, Mitsubishi <https://www.theverge.com/2019/3/6/18252883/mitsubishi-dando-drive-home-power-battery-electric-car-plug-in-hybrid>, Nissan <https://cleantechnica.com/2018/11/29/nissan-using-vehicle-to-grid-technology-to-power-us-operations/>, Nuvve <https://www.prnewswire.com/news-releases/how-nuvves-vehicle-to-grid-v2g-technology-and-electric-school-buses-can-help-curb-power-blackouts-301117324.html>, Ossiaco <https://cleantechnica.com/2020/08/02/ossiaco-has-built-the-one-home-solar-inverter-to-rule-them-all/>, OVO <https://www.current-news.co.uk/news/ovo-claims-world-first-install-of-domestic-v2g-charger>, PRE <http://www.pr-electronics.nl/en/news/58/pre-power-developers-leader-in-v2g-charger-modules/>, Proterra <https://www.raconteur.net/infrastructure/v2g-school-buses/>, Rhombus Energy Solutions <https://www.prweb.com/releases/rhombus-energy-solutions-announces-ul-1741sa-certification-for-its-ac-dc-high-power-conditioning-systems-for-fleet-electric-vehicles/prweb17308158.htm>, and Wallbox <https://electrek.co/2020/01/06/wallbox-quasar-tesla-nissan/>.

¹⁷ *Opening Comments of San Diego Gas & Electric Company (U 902-E) on Questions “B Through K” of Assigned Commissioner’s Scoping Memo and Ruling* at 4.

¹⁸ *Comments of the Vehicle-Grid Integration Council on Vehicle to Grid Alternating Current Interconnection Subgroup Report* filed in R.17-07-007 on January 6, 2020.

1741. Furthermore, certain non-exporting bi-directional applications, such as those that have been proven in microgrids or customer premises, may not require interconnection at all.¹⁹

III. CONCLUSION.

VGIC appreciates the opportunity to submit these reply comments to the SGIP Scoping Memo on EV/EVSE eligibility. We look forward to further collaboration with the Commission and stakeholders on this initiative.

Respectfully submitted,

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¹⁹ See, for example, CEC-backed Nuvve INVENT Project on the UC San Diego Microgrid, and *Comments of Fermata LLC on the Assigned Commissioner's Scoping Memo and Ruling*.