June 8, 2021

To:
Justine Chao, SCE: Justine.C.Chao@sce.com

Re: Comments of the California Energy Storage Alliance Regarding Vehicle-Grid Integration (VGI) Pilot Proposals

Dear Sir or Madam:

Following the second workshop held to present the investor-owned utilities' ("IOU") proposals for vehicle-grid integration ("VGI") pilots held on June 4, 2021, the IOUs solicited informal feedback from stakeholders. Accordingly, the California Energy Storage Alliance ("CESA") hereby submits these informal comments to provide our perspective on key areas of improvement and/or clarification.

I. INTRODUCTION & BACKGROUND.

CESA appreciates the IOUs' consideration of feedback from stakeholders to help ensure that the VGI pilots are aligned with key policy or technological barriers and market opportunities, as well as presenting an important opportunity to gain lessons learned that can enable technological innovations and/or support the scaling of VGI concepts or approaches.

Generally, CESA is supportive of the range of pilot proposals presented at the workshop, which are varied to support multiple learning objectives. As complementary proposals, the presumption is that the IOUs will share and leverage lessons learned from the other IOUs' pilot proposals such that they do not have to duplicate pilots to implement specific piloted VGI approaches or pathways in their own service territory. However, this should be made explicitly clear in their advice letter filings; otherwise, it may impact how stakeholders like CESA view each IOU's pilot proposals.

We raise this point because CESA views it important for each IOU to begin implementing vehicle-to-grid ("V2G") or vehicle-to-x ("V2X") resources as high-potential energy storage resources – *i.e.*, "energy storage on wheels" – for various applications, including bill management, customer resiliency, and grid services (*e.g.*, generation capacity). Among the IOUs, it appears that Pacific Gas and Electric Company ("PG&E") is the only IOU to pilot multiple V2X applications, which is commendable. Ideally, each of the IOUs would include V2X pilots to generate IOU lessons learned that could be used to support their own V2X-specific tariffs or programs or V2X considerations in broader distributed energy resource ("DER") or demand response ("DR") programs and contracts. Historically, CESA has observed that the IOUs are more willing to

implement a new technology or DER strategy if tested or piloted themselves, where having in-house experience is valued given their unique priorities, grid architectures, etc.

Therefore, while the IOUs provided some verbal assurances of sharing and leveraging lessons learned from one another, this should be affirmed in each of the IOU advice letters to be submitted on July 15, 2021. In other words, with PG&E piloting three different V2X applications, Southern California Edison Company ("SCE") and San Diego Gas and Electric Company ("SDG&E") should affirm that they will also incorporate lessons learned from PG&E's pilots to support non-pilot programs, tariffs, contracts, or policies, despite not having conducted their own parallel pilots themselves. Without such assurances, CESA is concerned that V2X opportunities may only emerge in the specific IOU territories where such resource types were piloted, leading CESA to request that the other IOUs also include similar pilots in their portfolio of proposals.

Other than this broader point, CESA is generally supportive of the pilot proposal concepts and looks forward to reviewing the details. In addition, CESA offers the following key recommendations and areas of clarification regarding two of PG&E's V2X pilot proposals.

- The study criteria and methodology for PG&E's Exploring V2X Export Value Pilot should be detailed in the advice letter filing.

- The Vehicle-to-Microgrid ("V2M") Public Safety Power Shutoff ("PSPS") Microgrid Pilot should consider how V2M resources reduce runtime and associated emission and pollutant impact of temporary generators as well as whether these resources could replace temporary generators at substations.

II. DISCUSSION.

In these comments, CESA offers two key recommendations and areas of clarification regarding two of PG&E's V2X pilot proposals.

1. The study criteria and methodology for PG&E's Exploring V2X Export Value Pilot should be detailed in the advice letter filing.

CESA strongly supports PG&E's inclusion of the Exploring V2X Export Value Pilot proposal. While supportive, CESA recommends that PG&E detail the study criteria and methodology as part of their July 15, 2021 advice letter filing since the workshop presentation materials do not clearly outline the study objectives, the approach by which PG&E will pursue, and how it could inform future programs and opportunities.

For example, PG&E discusses how the pilot will create revenue streams to capture value from V2X electric school buses performing electric vehicle ("EV") export to meet capacity shortfalls at the utility level and grid services at the California Independent System

Operator ("CAISO") level and test and validate the most cost-effective pathways of participation in VGI services while supporting transportation charging needs. However, these descriptions still raise a number of questions on the key study objectives and questions being tested.

- Will PG&E aim to determine the export value of V2X resources based on their use and energy limitations and the time of export delivery to meet the transportation charging needs?

- Or alternatively, will PG&E use established export values from the Avoided Cost Calculator ("ACC"), CAISO energy prices, and/or Resource Adequacy ("RA") values and requirements to determine their feasibility in capturing these "exogenous" values?

Whereas the former is seeking to determine export value, the latter is aiming to determine the feasibility of V2X to deliver and capture a separately-established export value. The latter may also involve how to "structure" or aggregate the V2X resources to meet minimum grid service requirements to capture these values. This is a question that is unanswered in PG&E's presentation that would benefit from greater detail. In addition to more information about the study design, CESA recommends stakeholder involvement in refining study methodologies and in evolving the pilot over time, as needed.

In addition to this core study question, PG&E should also consider how this pilot may intersect with orders from Commission Decision ("D.") 21-03-056, which directed the IOUs to establish export counting methodologies for DERs, such as V2X resources, to participate in the recently established Emergency Load Reduction Program ("ELRP"). PG&E and other IOUs have cited the complexities of establishing a baseline with exports and have previously cited limitations to existing billing and settlement systems to enabling export counting in incremental load reduction calculations. PG&E's forthcoming advice letter should elaborate on whether and how these systems may impact this pilot, and if it does present a barrier, how PG&E plans to overcome this barrier (*e.g.*, simulations, manual settlement).

2. The V2M PSPS Microgrid Pilot should consider how V2M resources reduce runtime and associated emission and pollutant impact of temporary generators as well as whether these resources could replace temporary generators at substations.

CESA supports the V2M PSPS Microgrid Pilot presents a unique opportunity to pilot clean diesel alternatives to support customer and community resiliency – a key priority of the Commission as established in R.19-09-009. To improve this pilot, CESA recommends not only testing the technical capabilities to coordinate real-time control and support customer transportation needs at the same time, but also measuring the actual avoided greenhouse gas ("GHG") emissions and local air quality impact of V2M resources in

reducing runtime of the temporary generator during PSPS events. While perhaps not obviating the need for PG&E to deploy a temporary generator at a substation location, there could be substantial environmental benefits of reducing customer load that needs to be served via V2M discharge and thus reducing the actual burn of diesel to support substation-level resiliency.

Furthermore, CESA seeks to explore whether V2M resources could connect at the substation itself in lieu of temporary generators. As a rapidly deployable resource (again, storage on wheels) with energy discharge capability, CESA believes a pilot may be a good opportunity to test whether V2M resources could be deployed and connected to a substation site that is made ready for temporary generator connections. At the very least, this could be explored in a later phase of the pilot.[1]

III. CONCLUSION.

CESA appreciates the opportunity to submit these comments regarding the workshop and looks forward to collaborating with the Commission and stakeholders in this proceeding.

Respectfully submitted,

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[1] If there are technical limitations to connecting inverter-based generation at substations (*e.g.*, lack of ability to cold pickup load), this should be explained.