VEHICLE-GRID INTEGRATION COUNCIL

September 22, 2022

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 6694-E of Pacific Gas and Electric Company: Rate Structures for Vehicle Grid Integration Pilots

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 6694-E of Pacific Gas and Electric Company ("PG&E"), *Rate Structures for Vehicle Grid Integration Pilots* ("Advice Letter") on September 2, 2022.

VGIC is excited about the November launch of PG&E's vehicle-grid integration ("VGI") pilots, which will pilot program and rate design for residential vehicle-to-everything ("V2X"), commercial V2X, and vehicle-to-microgrid ("V2M") use cases. VGIC believes that these pilots will provide critical insights into how dynamic rates can help to shape electric vehicle ("EV") load and bidirectional charging to reduce the cost of EV ownership, ensure resiliency for customers and communities, maximize the use of renewable generation resources, reduce transmission and distribution costs, and generally support the evolving electric grid.

Resolution E-5192 requires that PG&E implement a "dynamic, marginal cost-based rate" for Phase II of VGI pilots 1 and 2, including all the following elements:[1]

> 1) This rate shall be bidirectional. All consumption and exports shall be billed or credited based on marginal costs;
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> 2) Energy costs shall be determined based on the CAISO wholesale day-ahead or CAISO same-day prices;
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> 3) Generation capacity costs shall be determined on an hourly basis using the scarcity pricing concept so that more fixed costs are recovered when system utilization is higher relative to the system capacity limit;

[1] Resolution E-5192 at 20-21.

4) Line loss costs shall be determined based on volumetric consumption;

5) Distribution capacity costs shall be determined on an hourly volumetric basis in lieu of monthly or annual demand charges.

Resolution E-5192 highlighted PG&E's approved day-ahead, hourly real-time pricing ("DAHRTP") rate and the Agricultural Flexible Irrigation Technology ("AgFIT") pilot being conducted with Valley Clean Energy as models for aspects of the required rate for the VGI pilots.

In alignment with Resolution E-5192, PG&E is proposing to incorporate a real-time pricing ("RTP") rate including the marginal energy costs ("MEC") and marginal generation capacity costs ("MGCC") from the DAHRTP rate and hourly distribution rate with subscription options, based mainly on the AgFIT pilot and discussion in Energy Division's California Flexible Unified Signal for Energy ("CalFUSE") framework whitepaper. PG&E's current proposal covers the required elements 2 through 5 outlined by the resolution.

VGIC supports the Advice Letter; however, we provide additional information below to support the Energy Division's analysis of the Advice Letter and PG&E's implementation of the pilots. VGIC recommends that Energy Division approve the Advice Letter without delay, as VGIC's below recommendations can be addressed during pilot implementation and in subsequent VGI market development efforts undertaken by PG&E and Energy Division staff.

I. DISCUSSION.

A. To facilitate vendor participation, customer acquisition, and broader VGI market development, PG&E should clearly communicate that the rate is bidirectional, per Resolution E-5192.

The VGI pilots that PG&E will soon launch focus on bidirectional VGI use cases where customers can discharge electricity from their EV battery to the site load, PG&E grid, or a microgrid. Accordingly, Resolution E-5192 requires that PG&E implement a bidirectional rate.[2] PG&E's proposed rate design does consider the implications of a bidirectional rate, stating on page 10 that there is a "Resolution requirement that the real-time price be bidirectional, i.e., the same price for consumption and exports."[3] However, beyond this particular reference, the Advice Letter does not clearly communicate that the proposed dynamic rate is bidirectional. VGIC appreciates PG&E's detailed Advice Letter, supports the proposed rate design, and believes PG&E does intend to offer the rate as bidirectional. As such, VGIC does not view this as a significant omission, error, or shortcoming in PG&E analysis and, therefore, does not believe this is grounds for protest or should delay Advice Letter approval and pilot implementation.

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[2] Resolution E-5192 at 20-21.
[3] Advice Letter at 10.

However, VGIC recommends that PG&E clearly communicate that the rate is bidirectional in any future and related Advice Letters, compliance filings and reports, marketing and outreach materials, workshops, and other appropriate venues. VGIC believes this clarity is needed to support customer acquisition, vendor participation, and broader VGI market development.

Meanwhile, the Commission recently issued a *Proposed Decision Adopting Settlement on Export Compensation for Certain Pacific Gas and Electric Company Customers,* which may be voted on as early as October 20, 2022.[4] If adopted, the proposed decision would implement an optional dynamic export compensation rate for commercial EV customers taking service under PG&E's optional DAHRTP EV rate. VGIC commends PG&E for its first-in-the-nation leadership in proposing multiple optional dynamic V2G export rate designs in addition to the active Emergency Load Reduction Program ("ELRP"). Each export compensation pathway employs different eligibility requirements, rate and credit designs, and implementation timelines. As such, VGIC respectfully requests that PG&E help facilitate a common understanding for vendors and other VGI stakeholders by clearly communicating the nuances of each pathway in upcoming related fillings, workshops, and marketing/outreach materials.

B. PG&E should work with vendors to utilize charger- or vehicle-based measurement to compensate exports but should not inadvertently limit device eligibility by aligning with D.22-08-024.

The dynamic rate proposed by PG&E for these VGI pilots is relatively complex and meant to elicit responses by EVs, not other customer loads. Given the diversity in customer classes that will participate across the residential and commercial pilots, VGIC believes it is appropriate to only apply these rates to EV charging/discharging, not the entire site. To implement this, PG&E will likely measure and assess charging/discharging at the EV charger or EV itself rather than the customer's utility master meter. Meanwhile, given the residential and commercial V2X pilots will focus on backup power use cases in Phase 1, VGIC anticipates that bidirectional chargers will be placed behind the same meter as the customer's site load for many customers in Phase 2. With this in mind, VGIC anticipates charger- or vehicle-based submetering approaches will be heavily relied on in PG&E's VGI Pilots.

Meanwhile, the Commission recently adopted Decision ("D.") 22-08-024 ("Submetering Decision") that allows customers to use approved submeters to directly measure EV load for participation in rates, thereby reducing costs and increasing access to EV-specific rates. The Submetering Decision, once implemented through upcoming Tier 2 Advice Letters, will direct technology providers to seek approval under the California Department of Food and Agriculture, Division of Measurement Standards ("CDFA-DMS") accuracy testing. VGIC anticipates that implementation of the

[4] A.20-10-011. *Proposed Decision Adopting Settlement on Export Compensation for Certain Pacific Gas and Electric Company Customers*. https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M496/K924/496924142.PDF

Submetering Decision, including the establishment of sufficient CDFA-DMS testing capacity, will not align with the PG&E VGI pilots implementation timeline.

The Submetering Decision applies a specific submetering protocol and testing regime to rates but does not extend the protocol to pilots and programs. As such, VGIC does not believe that the submetering activity in PG&E's VGI Pilots needs to comply with the Submetering Decision. VGIC advises against aligning the VGI Pilots submetering with the Submetering Decision at this time, as we are concerned that imposing overly strict requirements on which devices can be used to submeter EV charging and discharging may further limit the already small pool of bidirectional chargers eligible to participate in PG&E's VGI pilots. This would likely lead to further delays to pilot implementation. Therefore, VGIC recommends that PG&E work with vendors to utilize available charger- and/or vehicle-based approaches to measuring and compensating charging/discharging, and recommends PG&E avoid aligning submetering within the pilots with the submetering protocol adopted in the Submetering Decision at this time. VGIC believes this flexible approach is justified and would not violate any Commission order since the Submetering Decision expressly opted not to extend the submetering protocol to programs and pilots.

II. CONCLUSION.

VGIC appreciates the opportunity to submit this response to the Advice Letter and looks forward to collaborating with the Commission and stakeholders in this proceeding.

Respectfully submitted,

/s/ Zach Woogen
Zach Woogen
Policy Manager
VEHICLE GRID INTEGRATION COUNCIL

cc: Sidney Bob Dietz II c/o Megan Lawson (PGETariffs@pge.com)
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