BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company (U 39 E) for Approval of its Demand Response Programs, Pilots, And Budgets for Program Years 2023-2027.	Application 22-05-002 (Filed May 2, 2022)
And Related Matters.	Application 22-05-003 Application 22-05-004

OPENING BRIEF OF THE VEHICLE GRID INTEGRATION COUNCIL

Edward Burgess
Senior Policy Director

Zach Woogen
Senior Policy Manager

VEHICLE GRID INTEGRATION COUNCIL
10265 Rockingham Dr.
Suite #100-4061
Sacramento, California 95827
Telephone: (510) 665-7811
Email: vgicregulatory@vgicouncil.org

July 14, 2023

TABLE OF CONTENTS

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company (U 39 E) for Approval of its Demand Response Programs, Pilots, And Budgets for Program Years 2023-2027.	Application 22-05-002 (Filed May 2, 2022)
And Related Matters.	Application 22-05-003 Application 22-05-004

OPENING BRIEF OF THE VEHICLE-GRID INTEGRATION COUNCIL

In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission ("Commission" or "CPUC"), the Vehicle Grid Integration Council ("VGIC") hereby submits this opening brief in the consolidated *Application of Pacific Gas and Electric Company ("PG&E") for Approval of its Demand Response Programs, Pilots, and Budgets for Program Years 2023-2027,* and Related Matters*,* pursuant to the *Administrative Law Judge's Ruling Admitting Testimony and Exhibits Into the Record and Extending Due Dates for Opening and Reply Briefs on Phase II Demand Response Issues*, issued by Administrative Law Judge ("ALJ") Garrett Toy on June 28, 2023.

I. INTRODUCTION.

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

and electric sector 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.

VGIC's participation in this consolidated proceeding is focused primarily on why and how the Commission should direct PG&E, Southern California Edison Company ("SCE"), and San Diego Gas & Electric Company ("SDG&E") to modify their proposed demand response ("DR") programs and pilots to ensure DR offerings adequately support participating EV customers, benefit non-participating ratepayers, and yield meaningful lessons learned to inform the long-term development of VGI in California. Specifically, VGIC aims to promote a DR portfolio that meaningfully unlocks EVs as a DR resource by extending certain Emergency Load Reduction Program ("ELRP") provisions and expanding EV customer eligibility in DR portfolios through the use of vehicle-based managed charging. VGIC believes a successful DR portfolio would incentivize customers to shift EV charging load, discharge EV batteries to offset site load, and export energy from EV batteries to the grid when it can yield the most system cost reductions and reliability benefits for the grid. The record in this proceeding viewed as a whole, including VGIC's prepared written testimony, together with prepared written testimony submitted by others, including WeaveGrid and EV.Energy, makes an unassailable case for the Commission to direct each investor owned utility ("IOU") to modify their proposed DR portfolios to ensure it adequately compels EV customer participation, namely through the extension of ELRP Group A.5 provisions and the addition of vehicle telematics-based participation pathways (i.e., in ELRP, SDG&E's proposed EV DR pilot, and/or other large-scale telematics-based opportunities).

Critically, California currently lacks a robust framework for EV managed charging program design. Recent IOU proposals for EV managed charging programs have appeared in Low-

Carbon Fuel Standard ("LCFS") Holdback Fund Implementation Plans (i.e., PG&E's evPulse Program) and the one-off VGI Pilot Advice Letters filed in June 2021 (i.e., PG&E's V2X Residential, V2X Commercial, and V2X Microgrids Pilots). Aside from these two examples, if an IOU wishes to propose a large-scale managed EV charging program, there is no clear venue aside from the DR portfolios. Additionally, the only EV DR program available across all three major IOUs, ELRP Group A.5, is addressed in this Phase II DR proceeding. As a result, VGIC is interested in progressing EV managed charging program design in this Phase II DR proceeding, as it appears to be the only available proceeding to meaningfully advance the operationalization of EVs as a DR resource via managed EV charging programs.

The future of EVs in ELRP and other DR portfolio programs must be evaluated in the context of California's urgent need for distributed energy resources, of which unidirectional managed charging ("V1G"), bidirectional vehicle-to-everything power flow ("V2X"), and storage-backed EV charging resources are strategically vital components.[1] Moreover, it is not a sound public policy for the Commission to repeatedly urge IOUs to advance EVs in DR, as it has done in the VGI Strategies and SB 676 Implementation Decision ("D.") 20-12-029 and the Emergency Reliability Decision 21-12-015, only to allow the IOUs to continually miss opportunities to expand EV participation in DR, as has been evident in SDG&E opting not to propose a VGI Pilot per D.20-12-029 and inadequate telematics-based EV managed charging offerings found in the proposed 2024-2027 DR portfolios. Facilitating the continued deferral of managed EV charging program design downplays the value of VGI implementation, including its efficiency, reliability, peak load reduction, and renewable energy integration benefits. The continued delay also

[1] Senate Bill 676. Bradford, 2019. Section 1.

undercuts broader efforts to promote customer solutions that can maximize load reduction and export, including V1G, V2X, and storage-backed charging solutions. As more fully discussed in this opening brief, the Commission cannot afford to miss the opportunity presented by this proceeding to move IOUs toward maximizing EV participation in DR and, in particular, telematics-based managed charging.

II. EXTENDING THE EMERGENCY LOAD RESPONSE PROGRAM ("ELRP") SUBGROUP A.5 PROVISIONS WILL SUPPORT DR PARTICIPATION FROM ELECTRIC VEHICLES AND ELECTRIC VEHICLE SUPPLY EQUIPMENT ("EVSE")

A. ELRP, including the subgroup A.5 provisions, should be extended through 2027.

The ELRP program, including the subgroup A.5 provisions, should be extended for an additional two years through 2027, as opposed to the 2025 timeframe that is currently authorized under D.21-12-015. This closely aligns with the recommendations made by each of the utilities in their respective DR portfolio applications. Extending the ELRP program beyond the 2025 timeframe will provide more market certainty and will likely result in further participation from customers, particularly from customers that participate under subgroup A.5, given that these participants utilize relatively nascent VGI technologies and further adoption of such technologies is rapidly increasing. Furthermore, considering that ELRP subgroup A.5 is currently the *only* export compensation option currently available for V2X technologies, it is critical to extend the ELRP program through 2027.

While extending the ELRP program for an additional two years is critical to its success and an important mechanism for supporting grid reliability, its equally important to ensure participation in ELRP subgroup A.5 is not restricted by reducing or eliminating key features of the program for the subgroup, as further discussed in the following sections.

B. PG&E, SDG&E, VGIC, and California Efficiency+Demand Management Council ("CEDMC") agree that the 30-hour minimum dispatch requirement for customer group A.5 should be maintained.

In opening testimony, SCE proposes that the ELRP minimum dispatch requirements be reduced starting in the 2023 ELRP season.[2] Meanwhile, SDG&E testifies that "it is prudent to keep all of the eligibility subgroups active…especially in Subgroups such as A.4 -VPP and Subgroup A.5 -VGI…"[3] While PG&E initially proposed reducing the 30 hour-minimum dispatch requirement, PG&E has since agreed with VGIC's argument that maintaining the existing program design is needed to support the nascent development of the VGI market. PG&E states it "agrees to withdraw its request to eliminate minimum dispatch requirements for A.2, A.4, and A.5 for the reasons cited by CEDMC and VGIC." [4] Taken in combination, PG&E's statement along with SDG&E, VGIC, and CEDMC's positions represent agreement that it would be premature to eliminate the minimum dispatch requirements for ELRP and especially for customer group A.5 as proposed by SCE. ELRP subgroup A.5 was just recently included in the ELRP program in late 2022. VGIC believes that having under a year's worth of lessons does not support SCE's recommendation for changes to the pilot that could hinder current and future participation.

With this in mind, any changes to the ELRP program that hinder future participation should not be made at this time since there has not been adequate time to yield information supporting these changes.

---

[2] Exhibit SCE-13, pg. 4.
[3] Exhibit SDG&E-9 Supplemental Testimony of SDG&E Witness E Bradford Mantz, pg. EBM-46.
[4] Exhibit PG&E-8 pg. 3-6.

III. ELRP COMPENSATION RATES SHOULD NOT BE REDUCED BELOW $2/KWH AND A PHASE III DR TRACK SHOULD ASSESS INCREASING THE COMPENSATION RATE FOR SUBGROUP A.5.

A. The ELRP compensation rate should not be reduced below the $2/kWh initially set in Decision 21-12-015.

Reducing the ELRP compensation rate, as proposed by Cal Advocates, will hinder participation in ELRP at a time when VGI aggregators and customers are only beginning to enter DR participation through this program.[5] As stated in SDG&E rebuttal testimony, "ELRP incentives should not be reduced until clear evidence becomes available that demonstrates that the electric grid is stable without the additional load reduction payment provided by the ELRP program."[6] SDG&E's reasoning is sound and supports not reducing the ELRP compensation rate at this time.

B. The compensation rate for ELRP subgroup A.5 could be increased to incentivize more EV participation in the ELRP, and a Track III of this proceeding should assess the value of doing so.

The Commission recently deemed that "the market for VGI technologies, and in particular bi-directional charging equipment, is in its early stages of development and… the ELRP pilot [is] an opportunity to deploy and scale this resource."[7] Despite its desire to support the VGI market in its early stages of development, VGIC notes in opening testimony that California is not the largest market for V2X charging, and that many V2X site developers are "flocking to higher-opportunity markets in the northeast."[8] Given the need to incentivize more EV participation to support the grid, VGIC believes the Commission should consider bolstering the compensation rate for A.5

[5] Exhibit Cal Advocates-01, pg. 5-3 lines 13-14.
[6] Exhibit SDG&E-10, pg. EBM 17.
[7] Commission Resolution E-5267, pg. 15.
[8] Exhibit VGIC-01, pg. 23.

participants to make it more aligned with those in the northeastern US. However, VGIC acknowledges that the current record of this proceeding may not sufficiently support increasing the ELRP compensation rate for subgroup A.5 at this time and recommends that a Phase III track of this proceeding be opened to further assess this consideration. VGIC therefore agrees with PG&E that "as more experience is gained with [ELRP], Phase III would provide an opportunity to continually assess whether this rationale and requirement [related to subgroup A.5] remain necessary." [9]

IV. THE COMMISSION SHOULD EXPAND EV DEMAND RESPONSE PARTICIPATION BY ESTABLISHING PATHWAYS FOR TELEMATICS-BASED MANAGED CHARGING.

A. Including a telematics-based participation pathway in ELRP subgroup A.5 is a no-regrets program enhancement to support increased EV participation in DR.

Allowing customers to use embedded vehicle telematics capabilities to participate in DR programs in addition to the existing networked EVSE participation pathways will result in more DR-eligible equipment.[10] Increasing the total pool of EV customers eligible to participate in DR programs in turn increases the total potential of EVs to support the grid through DR portfolio offerings. VGIC believes this to be a no-regrets expansion of technology eligibility for ELRP, as telematics-based manage charging is already implemented in California, including in PG&E's evPulse program, PG&E's long-standing BMW ChargeForward offering, and several Community Choice Aggregator ("CCA") implementations.[11]

[9] Exhibit PG&E-8, pg. 3-7.
[10] Exhibit VGIC-01, pg. 24 lines 11-15.
[11] See, for example, Exhibit VGIC-01, Exhibit WG-1, pg. 6., and Exhibit EVE-1, pg. 3.

SCE testifies that VGIC's recommendation to allow telematics-based aggregation to be eligible to participate in ELRP is "misplaced because the ELRP is not the appropriate program to test or advance new approaches to EV participation."[12] Additionally, SCE testifies that "the ELRP Pilot is not the appropriate avenue to test or advance [EV] capabilities and policies."[13] SCE mischaracterizes both the maturity of telematics-based approaches and the purpose of ELRP. First, SCE's assertion that telematics-based participation represents a "new approach" is unsubstantiated. In fact, VGIC,[14] WeaveGrid,[15] and Ev.energy[16] have detailed the extensive implementation of telematics-based VGI, both in California and across the U.S., including PG&E's evPulse program, PG&E's BMW ChargeForward Pilot, and several CCAs. Telematics-based VGI, therefore, does not represent a "new approach" to EV load management, as asserted by SCE.[17]

Second, CPUC D.21-12-015 states that "aggregating and dispatching EV resources through the ELRP represents an opportunity to **enable and demonstrate the technical capabilities and...strategies necessary to harness and deploy this nascent resource**" [emphasis added]. Furthermore, in the Decision, the CPUC highlighted that "[these] efforts could serve to establish a foundation for further deployment of VGI resources, which is a priority for the CPUC."[18] With this in mind, SCE's assertion that ELRP is "not the inappropriate program" is inconsistent with the Commission's reasoning as adopted in D.21-12-015.

---

[12] Exhibit, SCE-14, pg. 4
[13] *Ibid.*
[14] Exhibit VGIC-01
[15] Exhibit WG-1, pg. 6.
[16] Exhibit EVE-1, pg. 3.
[17] See, for example, PG&E Annual Vehicle-Grid Integration Strategies Report, 2023. pg. 12.
[18] CPUC D. 21-12-015, pg. 35.

Allowing the use of EV telematics to participate in DR programs is, in fact, directly in step with D.21-12-015, as well as the Commission's priorities of establishing a foundation for further deployment of VGI resources as outlined in D.20-12-029 and SB 676. Enabling customers to use EV telematics in ELRP is a no-regrets decision that would significantly expand participation opportunities in the pilot, increase the effectiveness of ELRP, and inform future telematics-based program design. WeaveGrid testifies that "utility programs should be oriented to incorporate as many technology options as possible to capture as many customers as possible to maximize load shift, amplify customer choice, and provide options that are most affordable to a wide range of customers."[19] VGIC strongly agrees with this sentiment and strongly recommends the Commission explicitly expand ELRP eligibility to include telematics-based participation pathways to increase the number of eligible participants and "enable...customer engagement strategies necessary to harness and deploy this nascent resource."[20]

B. SDG&E's proposed EV DR Pilot budget and customer target should be increased.

SDG&E's proposed EV DR Pilot would meaningfully advance EV participation in SDG&E's DR participation by leveraging vehicle telematics, which, as noted above, has been critically underutilized in California. While SDG&E's proposed EV DR Pilot takes a step in the right direction by leveraging a wider portfolio of managed charging technologies, i.e., telematics-based managed charging, the program budget and customer enrollment targets are entirely insufficient compared to the opportunities EVs offer to support the grid. As such, VGIC, WeaveGrid, and Ev.energy recommend that SDG&E's proposed EV DR Pilot budget and

[19] Exhibit WG-1, pg. 6.
[20] CPUC D. 21-12-015, pg. 35.

customer target should be increased.[21] SDG&E supports this modification to its proposed EV DR Pilot, recommending increasing the pilot's budget contingent on the pilot reaching its maximum number of participants.[22] VGIC commends SDG&E for recognizing the substantial benefits of expanding participation in its proposed EV DR Pilot, and reiterates its recommendation that the Commission expand SDG&E's proposed EV DR Pilot budget to $9.6 million.[23]

C. ELRP and SDG&E's proposed EV DR Pilot are sufficiently distinct from one another to merit adopting both recommendations provided herein related to telematics-based EV DR.

While VGIC recommends the above modifications be made to both ELRP and SDG&E's EV DR Pilot, we note that these pilots are distinct in several ways and, in practice, there will be little to no overlap between the program offerings. SDG&E's proposed EV DR Pilot differs from ELRP in the following ways:

1. Customer eligibility: SDG&E's EV DR Pilot would apply only to residential customers in SDG&E territory, whereas ELRP applies to both residential and commercial customers of all three major IOUs.
2. Aggregator enrollment: ELRP allows any qualified aggregators to participate upon completion of an aggregator agreement with the IOU, whereas SDG&E would conduct an RFP to solicit 1-2 aggregators.

[21] Exhibit WG-1, pg. 11 lines 16-18 and Exhibit EVE-1 pg. 4 lines 10-11.
[22] Exhibit SDG&E-10, pg. EBM-15 lines 15-17 and pg. EBM-16 lines 1-2.
[23] Exhibit VGIC-01, pg 27.

3. Grid benefits: SDG&E's EV DR Pilot aims to manage charging to support peak load reduction and absorb excess solar generation, whereas ELRP focuses solely on peak load reduction.
4. Hours of dispatch per year: SDG&E's EV DR pilot aims to call between 30 and 60 events per year, with each event lasting up to five hours, whereas ELRP calls on subgroup A.5 EV/VGI Aggregations between 30 and 60 hours per year.
5. Dispatch season: SDG&E's EV DR Pilot aims to offer a spring DR season in March and April in addition to the May-October DR season, whereas ELRP is limited to May-October participation.
6. Compensation mechanism: SDG&E aims to test out three different incentive options (e.g., monthly incentives vs enrollment and annual incentives) to understand customer willingness to participate, whereas ELRP offers a single incentive model that differs from all three of SDG&E's models (i.e., $2/kWh of load reduction)

With this in mind, VGIC believes that SDG&E's EV DR Pilot and ELRP are sufficiently distinct from one another, which merits adopting both the recommended modifications detailed above in Section IV and summarized as follows: (1) the Commission should add a telematics-based participation pathway to ELRP and (2) the Commission should significantly increase SDG&E's proposed EV DR Pilot budget to $9.6 million.

V. DUAL PARTICIPATION RULES SHOULD BE REVISITED THROUGH A WORKING GROUP PROCESS.

PG&E proposed the need to revisit dual participation through a working group process, which multiple parties support, including Cal Advocates, the Joint Community Choice Aggregators ("Joint CCAs"), CEDMC, the California Large Energy Consumers Alliance ("CLECA"), and VGIC.[24] Considering the evolving capabilities of demand-side management technologies, the significant time since dual participation rules were last modified (i.e., about 10 years ago), and the essential role value stacking plays in the success of distributed energy resources participating in DR programs, VGIC believes that revisiting the dual participation framework through a working group process is necessary. Importantly, the goal of the working group should be to facilitate value stacking for distributed energy resources in DR programs, including for customers enrolled in dynamic pricing pilots or tariffs.

VI. CONCLUSION.

VGIC appreciates the opportunity to submit this opening brief. We look forward to further collaboration with the Commission and stakeholders on this initiative.

Respectfully submitted,

Edward Burgess
Senior Policy Director
VEHICLE-GRID INTEGRATION COUNCIL

July 14, 2023

[24] Exhibit PG&E-8, pg. 1-6 lines 10-16.