

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

Application of Pacific Gas and Electric Company
for Approval of its Electric Vehicle Charge 2
Program. (U39E)

Application No. 21-10-010
(Filed October 26, 2021)

**RESPONSE OF THE VEHICLE GRID INTEGRATION COUNCIL TO
THE APPLICATION OF PACIFIC GAS AND ELECTRIC COMPANY
FOR APPROVAL OF ITS ELECTRIC VEHICLE CHARGE 2 PROGRAM**

Edward Burgess
Senior Policy Director

Zach Woogen
Policy Specialist

Vehicle-Grid Integration Council
2150 Allston Way, Suite 400
Berkeley, California 94704
Tel: (510) 665-7811

Email: vgicregulatory@vgicouncil.org

November 29, 2021

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

Application of Pacific Gas and Electric Company
for Approval of its Electric Vehicle Charge 2
Program. (U39E)

Application No. 21-10-010
(Filed October 26, 2021)

**RESPONSE OF THE VEHICLE GRID INTEGRATION COUNCIL TO
THE APPLICATION OF PACIFIC GAS AND ELECTRIC COMPANY
FOR APPROVAL OF ITS ELECTRIC VEHICLE CHARGE 2 PROGRAM**

In accordance with Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the Vehicle Grid Integration Council (“VGIC”) hereby responds on behalf of its members to the *Application of Pacific Gas and Electric Company* (“PG&E”) for *Approval of its Electric Vehicle Charge 2* (“Application”). Pursuant to Rule 2.6 and Rule 1.15 of the Rules of Practice and Procedure, VGIC timely files this response on November 29, 2021.

I. INTRODUCTION.

A. 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 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.

B. VGIC generally supports the Electric Vehicle Charge 2 Program Application as a tool to advance transportation electrification (“TE”) and VGI.

As a general principle, VGIC supports TE programs that help achieve California’s greenhouse gas reduction and TE targets. VGIC believes that TE programs – if designed appropriately – can leverage VGI strategies to contribute to the following policy objectives:

- advance the state’s transportation electrification goals by reducing the total cost of EV ownership and impact on utility ratepayers
- deliver increased value to utility customers, including both EV and non-EV owners,
- support customer and community resiliency, including during Public Safety Power Shutoffs (“PSPS”) and other resilience events
- support grid reliability, including during extreme heat events or other times of high stress on the grid
- enhance grid modernization, ensuring efficient and increased integration of Distributed Energy Resources (“DERs”), and
- foster a growing market for VGI services.

VGIC appreciates PG&E’s continued efforts to promote the use of Automated Load Management (“ALM”) solutions that allow EV customers the option to choose behind-the-meter technologies that allow for charger installation while avoiding or deferring utility-side or additional customer-side infrastructure costs. Based on VGIC’s initial review of the Application, VGIC believes that the proposed approach to ALM could benefit from targeted refinements to better support the underlying intent of EVC 2.

The Application also has the potential to advance VGI by incorporating dynamic rate options, considering the use of bidirectional EV supply equipment (“EVSE”), and scoping in education and outreach to promote demand response (“DR”) offerings. VGIC believes program

design as it relates to each of these topic areas could be enhanced to represent significant progress toward maximizing the use of VGI pursuant to SB 676 (Bradford, 2019). VGIC stresses that Commission decisions supporting VGI strategies, including those found in EVC 2, are critical for manufacturers and service providers to accelerate product development activities. VGIC also reserves the right to provide more detailed feedback at a later date, including any recommendations for how the proposal could be improved.

II. ISSUES TO BE CONSIDERED.

A. Incentive for Customers to Select Automated Load Management (“ALM”) Solutions

In PG&E’s EV Charge Network (“EVCN”), the utility has been successful in leveraging ALM to manage the size of new service equipment to obtain cost and space savings where it is a good fit for customers. According to PG&E, savings ranged from \$30,000 to \$200,000 per project.¹

In its prepared testimony, PG&E states:

“ALM is used to share available electrical capacity among charging stations to avoid the installation cost of additional electrical capacity. PG&E will build off the successful use of ALM in EVCN, whereby costs were reduced and physical design constraints were overcome at customer sites that were deemed a good fit to use this technology. PG&E will use a standard evaluation criteria (Attachment A to this chapter) to make this determination.”²

VGIC is pleased that PG&E intends to continue leveraging ALM to reduce per port costs in EVC

2. In prepared testimony, PG&E proposes to assess ALM potential during the preliminary site design phase and then present ALM options to the host customer for sign-off. If a customer site decides to sign-off on the ALM options, then PG&E will “execute installation with ALM.”³ PG&E

¹ PG&E ALM/EV EMS Workshop Presentation. January 29, 2021.

² PG&E Prepared Testimony at Ch 5-2.

³ *Id.*

also states that “if costs per port come in below the program cost thresholds, savings will be shared with the host customer via the cost share methodology and tiered incentive structure of EVC 2.”⁴

VGIC believes PG&E’s proposed ALM assessment process is generally compliant with D.20-12-029 (“VGI Strategies and SB 676 Implementation”). However, VGIC is concerned that many host customers may not be adequately incentivized to adopt ALM solutions, as EVC 2 host customers choosing an ALM solution would only benefit from the savings from the “Realm of EVC 2” and not the “Realm of Rule 29.”⁵ Under the proposed EVC 2, both the host customer and PG&E would benefit from savings on behind-the-meter (“BTM”) make-ready infrastructure costs. However, under Rule 29, the host customer would not realize the savings on to-the-meter (“TTM”) infrastructure costs that could be a direct result of their choice to implement ALM solutions. For example, consider a hypothetical EVC 2 workplace charging customer outside of an AB 841 Prioritized Community with BTM make-ready infrastructure costs of \$12,500 per port without ALM solutions and \$10,000 per port with ALM solutions. Without ALM, this customer would pay 20% or \$2,500 of per port make-ready costs, and with ALM the customer would pay \$2,000 per port in make-ready costs. If this customer believes an ALM solution is appropriate and desirable in their situation, they could implement ALM to save \$500 on their BTM make-ready costs. Meanwhile, the resulting cost savings on TTM costs (e.g., service transformer, service/network upgrades⁶) that are in the realm of Rule 29 are not realized by that customer. In addition, implementing power sharing capabilities and ALM solutions may require customers to incur incremental costs (i.e., in partnership with their EV service provider or “EVSP”). Therefore,

⁴ *Id.*

⁵ PG&E Prepared Testimony Ch 4-8, Figure 4-1.

⁶ PG&E Prepared Testimony Ch 5-AtchA-3.

certain EVC 2 customers may have relatively little incentive to select an ALM solution, even if it would lead to reduced EVC 2 total program costs and/or increased ports deployed under EVC 2.

VGIC has on several occasions flagged the lack of incentive for customers to choose ALM when it is well-suited for them.⁷ While Resolution E-5167 entertains the possibility of a customer contribution after the first two years of Rule 29 implementation, it is uncertain at this time whether or when the Commission will shift a share of cost responsibility for utility-side infrastructure back onto customers.

Furthermore, as PG&E begins to implement Rule 29, VGIC believes it will be increasingly important for the Company to more precisely coordinate and track which costs are within the "Realm of Rule 29" and which costs are within the "Realm of EVC 2." The method used in EVC 2 of dividing these based on the ratio of EVCN BTM labor to EVCN TTM labor is sufficient as a temporary approach, but PG&E should seek to improve upon this over time. A more accurate benchmarking of both TTN and BTM costs will ultimately help to coordinate ALM activities targeted towards both realms.

With this in mind, VGIC believes EVC 2 customers could be offered an additional rebate for electing ALM solutions, which could help drive adoption of ALM solutions and lead to lower

⁷ See: January 15, 2021 Pre-Workshop Comments in Advance of January 29, 2021 EV EMS Workshop; VGIC Presentation during January 29, 2021 EV EMS Workshop; Comments of VGIC on Assigned Commissioners Ruling on AB 841 Implementation on February 5, 2021 <https://www.vgicouncil.org/s/Comments-of-VGIC-on-ACR-Regarding-Implementation-of-AB-841.PDF> ; Reply Comments of VGIC on Assigned Commissioners Ruling on AB 841 Implementation on February 19, 2021 <https://www.vgicouncil.org/s/VGIC-Reply-Comments-on-ACR-for-AB-841-R18-12-006.pdf> ; Multi-Stakeholder Letter on ALM Circulated to Commissioners and Energy Division staff on June 16, 2021 <https://www.vgicouncil.org/s/Enabling-ALM-Stakeholder-Letter-to-CPUC.pdf> ; VGIC Comments on EV Infrastructure Rules Resolution on August 25, 2021 <https://www.vgicouncil.org/s/VGICs-Comments-on-Draft-Resolution-E-5167-R18-12-006.pdf> ;

per port costs. VGIC believes this is in the best interest of ratepayers and supports the state's TE goals and the Commissions vision for a high DER future.

B. Utility, EV Service Provider (“EVSP”), and Customer Roles for ALM Solutions

In prepared testimony, PG&E details the process for ALM evaluation in which “PG&E will present a proposal with ALM options to the customer for sign-off.” PG&E also states, “if sign-off is received, PG&E will execute installation with ALM.”⁸ In its initial review, VGIC is unclear on the roles of the customer, vendor / EVSP, and utility in the implementation of ALM. VGIC believes adequate advance consideration should be given to each of these roles before a process for ALM assessment can be finalized and implemented. For example, it may be the case that PG&E's role should be to receive an attestation form or proof of ALM service from the host customer before proceeding with the initial phases of EVC 2 make-ready deployment at a site with Load Management Level (“LML”) below 100%. VGIC believes it is critical to define and clarify the roles that EVSPs, PG&E, and host customers each have in supporting ALM. VGIC recommends that such a determination, whether it be scoped into this Application, made through a formal working group process, or addressed in another ongoing or upcoming policy forum, be explicitly linked to the challenge detailed above in Section II.A of VGIC's Response.

C. Eligible ALM Technologies

The Application and accompanying prepared testimony are silent when it comes to which technologies are considered ALM solutions. PG&E notes the following in prepared testimony: “ALM is used to share available electrical capacity among charging stations to avoid the installation cost of additional electrical capacity.”⁹ There are several existing and in-development

⁸ PG&E Prepared Testimony Ch 5-2.

⁹ PG&E Prepared Testimony at 5-2.

technology standards and certifications that may be useful in determining what is considered an ALM solution (e.g., CSA EV EMS). In addition, VGIC notes that behind-the-meter stationary energy storage can be used to provide ALM at a customer site to share available electrical capacity among charging stations to avoid installation cost of additional electrical capacity. As ALM is often used as an umbrella term, VGIC believes it is critical to determine qualifying technologies for ALM in EVC 2, including behind-the-meter stationary energy storage.

D. Marketing, Education, and Outreach (“ME&O”) for Day-Ahead Hourly Real Time Price (“DAHRTP”) Rate

In prepared testimony, PG&E details that host customers must take service under a time-of-use (“TOU”) rate to be eligible for EVC 2 participation, and that customers will be defaulted onto PG&E’s BEV Rate.¹⁰ PG&E also states that customers may choose to enroll in the Day-Ahead Hourly Real Time Price (“DAHRTP”) Rate, which is likely to be first implemented around the same time as the proposed implementation of EVC 2.¹¹ As a general principle, VGIC supports dynamic pricing options for EV customers. VGIC believes dynamic pricing options – if designed appropriately – can advance TE by driving EV adoption, deliver increased value to utility customers by enabling VGI, enhance reliable operation of the grid, and foster the growing VGI market. While VGIC is pleased to see that EVC 2 customers may enroll in DAHRTP, it is unclear from the EVC 2 Application and prepared testimony how DAHRTP will be incorporated into PG&E’s ME&O strategies. VGIC believes that ME&O tactics will be an important driver of success for the DAHRTP rate, and the ME&O tactics for EVC 2 could include leveraging EVSPs

¹⁰ *Id.*

¹¹ Decision 21-11-017.

and automotive OEMs to ensure that customers are aware of the DAHRTP rate and the possibility that their participation can be managed “behind-the-scenes” by an EVSP or automotive OEM.

E. Bidirectional Charging Equipment

VGIC appreciates PG&E’s attention to bidirectional charging in the VGI chapter of its prepared testimony. PG&E correctly identifies that, although a nascent market, several bidirectional charger vendors do currently supply UL-certified and Rule 21-compliant bidirectional direct current (“DC”) EVSE.¹² With an ever-increasing supply of bidirectionally-capable vehicles and chargers, it is prudent to prepare California’s TE programs, rules, and policies to account for bidirectional use cases.¹³ In addition to growing product options and supply, bidirectional DC EVSE can also safely interconnect under Rule 21 and bidirectional alternating current (“AC”) pilots may interconnect under a temporary pathway.

In prepared testimony, PG&E states that “customers who are interested in owning bidirectional equipment...may be eligible to participate in EVC 2...”¹⁴ PG&E also notes that bidirectional EVSE can allow an EV to provide onsite backup power, but that “...PG&E will first need to, at a minimum, update customer rate analysis tools as well as billing systems to send correct usage to Third-Party Billing for Direct Access and Community Choice Aggregation customers.”

¹⁵ Based on PG&E’s expectation that customers who are interested in owning bidirectional equipment are may be eligible to participate in EVC 2, VGIC believes it may be reasonable to

¹² PG&E Prepared Testimony at 5-5

¹³ For VGIC’s “stocktake” of bidirectional-capable vehicles on California’s roads today, currently-deployed bidirectional EVSE, and forthcoming bidirectional products, see *Opening Testimony of Ed Burgess on Behalf of the Vehicle Grid Integration Council* filed September 1, 2021 in Rulemaking 20-11-003 at page 7: <https://static1.squarespace.com/static/5dcde7af8ed96b403d8aeb70/t/6137a2f643f8bc74a42af9ac/1631036151186/2021-09-01+VGIC%27s+Opening+Testimony+on+Phase+2+Emergency+Reliability+Proposals+-+FINAL.pdf>

¹⁴ PG&E Prepared Testimony at 5-6.

¹⁵ PG&E Prepared Testimony at 5-5.

address in this proceeding the issue of how and when PG&E will conduct the rate analysis tool update, billing systems updates, and any other tasks needed to integrate bidirectionally-capable EVSE into EVC 2. VGIC offers that a clear, holistic roadmap and target dates for unlocking bidirectional use cases could be helpful for PG&E, the Commission, and other stakeholders.

In addition to the use of bidirectional equipment for backup power, customers could also use their bidirectional equipment to offset demand charges and/or arbitrage energy prices. However, these use cases are inaccessible to customers with separately metered load, an issue noted below in Section II.F of VGIC's Response.

F. Submetering as it relates to both Bidirectional Charging and Demand Response

The ability to leverage bidirectional equipment for customer bill management depends in large part on a customer's ability to leverage EV- or EVSE-based submetering, rather than operating with separate EV and building loads. Notably, participation of EVs in demand response would also be facilitated by submetering. PG&E proposes to conduct ME&O to disseminate information about PG&E's Automated Demand Response ("ADR") program.¹⁶ However, as VGIC understands it, the PG&E ADR program's 10-in-10 baseline methodology has not meaningfully supported participation of separately metered EV load to date. In reference to submetering, PG&E states in prepared testimony Chapter 3:

"EVC 2 will require all EV charging to be separately metered from other on-site load... PG&E may leverage non-residential submetering protocol to collect utilization data if a protocol is approved by the CPUC at the time of program implementation and once PG&E has updated its internal IT systems to enable protocol implementation. No non-residential submetering protocol is under development at the time of writing."¹⁷

¹⁶ PG&E Prepared Testimony Ch 5-4.

¹⁷ PG&E Prepared Testimony Ch 3-3.

It is unclear to VGIC why the submetering protocol pending approval in Rulemaking 18-12-006 would be wholly inapplicable to non-residential customers, or why extensive additional work would be necessary to advance submetering for non-residential customers. In Decision 21-11-017 authorizing the DAHRTP, the Commission states “this decision recognizes the role that submetering can play in resolving the issues faced by PG&E and customers that would otherwise be required to install a separate meter to enroll in the DAHRTP rate.”¹⁸ Given the importance of unlocking submetering pathways for all EV customers, including EVC 2 customers, VGIC believes that the Commission could consider how to leverage the pending submetering protocol for non-residential customers in EVC 2.

III. CATEGORIZATION, HEARINGS, AND SCHEDULE.

VGIC agrees that this Application should be categorized as a “ratesetting” proceeding. VGIC also agrees that evidentiary hearings are likely necessary.

IV. SERVICE.

Service of notices, orders, and other correspondence in this proceeding should be directed to VGIC at the address set forth below:

Edward Burgess
Vehicle-Grid Integration Council
2150 Allston Way, Suite 400
Berkeley, California 94704

¹⁸ Decision at 23.

Tel: (501) 665-7811

E-mail: vgicregulatory@vgicouncil.org

V. CONCLUSION.

VGIC appreciates the opportunity to submit this response to PG&E's EVC 2 program.

We look forward to further collaboration with the Commission and stakeholders on this initiative.

Respectfully submitted,

/s/ Edward Burgess

Edward Burgess

Senior Policy Director

Vehicle-Grid Integration Council

2150 Allston Way, Suite 400

Berkeley, California 94704

Tel: (510) 665-7811

Email: vgicregulatory@vgicouncil.org

Date: November 29, 2021