Pacific Gas and Electric Company

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April 3, 2023

Advice 6546-E-A
(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

Subject: **Supplemental to Advice 6546-E Providing Additional Evidence to Support Request to Adjust the Approved Program Metrics Used to Determine *Per Se* Reasonableness Pursuant to Decision 18-05-040 Ordering Paragraph 2**

Purpose

Pacific Gas and Electric Company (PG&E) submits this Supplemental Tier 3 Advice Letter to provide additional evidence to Advice 6546-E to support the request to adjust the site goal used to determine per se reasonableness for its medium- and heavy-duty (MDHD) vehicle charging program, EV Fleet.

Background

On January 20, 2017, PG&E and Southern California Edison Company (SCE) (hereinafter referred to as the Joint Utilities) submitted applications requesting approval of their Transportation Electrification Proposals, pursuant to Senate Bill (SB) 350. SCE submitted Application (A.) 17-01-021 to request approval of its Priority Review and Standard Review programs, including its MDHD vehicle charging infrastructure program, now known as Charge Ready Transport (CRT). PG&E submitted A.17-01-022 requesting approval of its Priority Review and Standard Review programs, including its non-light-duty electric vehicle make-ready program, FleetReady, now known as EV Fleet.

On June 6, 2018, the California Public Utilities Commission (the Commission or CPUC) issued the Decision approving the Joint Utilities' applications with modifications. The Decision also established a set of criteria or per se reasonableness metrics for each program that would allow the utilities to record and recover program costs in rates prior to review for reasonableness, with the understanding that the Commission would conduct a reasonableness review of costs after the fact if a program's performance did not meet the criteria and therefore was not considered to be per se reasonable.[1]

[1] See Decision (D.) 18-05-040, p. 105 (June 6, 2018).

For PG&E, the Decision approved a total budget of $236,324,661 (for infrastructure and non-infrastructure) to support PG&E's EV Fleet Program. Pursuant to OP 31, PG&E's EV Fleet program will be considered per se reasonable provided that:

(1) A minimum of 700 make-ready installations are fully contracted for by 2024 and 6,500 additional vehicles are electrified that are directly attributable to the authorized program achieved by site hosts procuring at least two electric vehicles or converting at least two diesel fueled vehicles to electric;

(2) A minimum of 15 percent of the infrastructure budget serves transit agencies;

(3) A maximum of 10 percent of the infrastructure budget serves forklifts;

(4) A minimum of 25 percent of the infrastructure budget results in installations in disadvantaged communities (DACs);

(5) Rebate levels for beach head sectors and customers in disadvantaged communities should be established in consultation with each utility's respective Program Advisory Council;

(6) Rebate levels should not exceed 50 percent of the charger cost; and

(7) A maximum of 10 percent of the infrastructure budget is spent on program administration.[2]

The Decision further ordered in OP 2 that after consultation with the Energy Division and its Program Advisory Council (PAC), SCE and PG&E "may file a Tier 3 Advice Letter after two years of program implementation to adjust the approved program budgets and metrics used to determine per se reasonableness."[3] The Advice Letter is required to include at a minimum (1) a summary of program status to date; (2) a breakdown of utility-side, customer-side and other costs by sector; (3) a description of the major cost drivers for utility-side and customer-side infrastructure; and (4) an explanation of any site cost caps the utility used to determine customer eligibility for the program or other metrics the utility used to control program costs."

On April 1, 2022, SCE and PG&E jointly submitted Advice 6546-E[4] to request approval to adjust the approved program metrics used to determine per se reasonableness for their respective MDHD vehicle charging infrastructure programs. In this Tier 3 Advice Letter, the joint utilities proposed the following modifications:

[2] *Id.* at pp. 158-59.
[3] *Id*. at pp. 150, OP 2.
[4] SCE Advice 4761-E.

(1) Extend the timeframe for both programs to secure site commitments that are "fully contracted for by 2024"[5] out to 2026;

(2) Modify SCE's goal of "achieving a minimum of 870 sites" to include a range of acceptable site deployments, between 470 and 870 sites, that are fully contracted for by 2026;

(3) Eliminate PG&E's goal of a minimum of 700 make-ready installations while maintaining its goal of 6,500 vehicles electrified; and

(4) Modify the existing Decision metric requiring site hosts to "procure at least two electric vehicles or convert at least two diesel fueled vehicles to electric"[6] to include a provision that allows MDHD public charging site hosts to instead "support at least two electric vehicles".

In support of the proposal to eliminate its site goal, PG&E has opted to submit this supplemental advice letter providing additional evidence of the challenges in achieving the goal of 700 sites and balancing a site goal and vehicle goal while remaining within the program budget. Advice 6546-E provided cost data for fully-invoiced sites, painting an incomplete picture of EV Fleet project costs. Fully-invoiced sites reflect the earliest projects to enroll in the program, which were generally smaller and less costly than the projects being enrolled today. In order to illustrate the cost related challenges that EV Fleet is facing, this supplemental advice letter provides costs associated with all projects that have signed commitments with the program, which includes estimated costs for projects that have not yet been constructed or financially closed out.

Updated Summary of EV Fleet Program Status To-Date

As of February 28, 2023, PG&E has worked with 287 sites to potentially support over 6,900 MDHD EVs.[7] EV Fleet has executed contracts for 165 sites, 74 of which are located in DACs, which will result in the electrification of 3,440 MDHD EVs. This is equivalent to 24 percent of the Decision site goal and 53 percent of the vehicle goal, whereas the program timeline has less than 2 years remaining of its allotted 5-year duration. Construction of the make-ready infrastructure was complete at 47 sites, which will support charging of 559 MDHD EVs.

[5] D.18-05-040 at pp. 157-58, OPs 31, 32.
[6] D.18-05-040 at pp. 157-58, OPs 31, 32.
[7] Figures do not include EV Fleet applications that have been cancelled.

Comparison of Decision Assumptions to Program Data

Table 1: Comparison of EV Fleet Program Data to Decision Assumptions[8]

Segment	Avg Total Cost Per Site		Avg Total Cost Per Vehicle		Avg # of Vehicles Per Site	
	Decision Inputs	Program Data	Decision Inputs	Program Data	Decision Inputs	Program Data
Overall	$184,530	$284,582	$11,594	$13,650	15.9	20.8
Transit Bus	$341,071	$350,636	$28,423	$25,613	12.0	13.7
School Bus	$146,730	$229,723	$12,227	$21,956	12.0	10.5
Medium-Duty Vehicles	$148,097	$257,027	$12,341	$7,975	12.0	32.2
Other Heavy-Duty Vehicles	$341,071	$466,992	$8,768	$21,126	38.9	22.1

Table 1 compares the underlying budget assumptions utilized in D.18-05-040[9] with actual EV Fleet project data for sites with signed contracts. Some key differences can be noted:

- **Overall:** Projects are more expensive per site and per vehicle and are larger (more vehicles per site) than originally anticipated.
- **Transit Bus:** Actual projects have been comparable on average to what was expected in the decision. This may change as more large-scale transit projects become feasible.
- **School Bus:** Projects are comparable in size to initial expectations but are much more expensive on both a per-site and per-vehicle basis. Going forward, many schools may desire to deploy vehicle-to-grid (V2G) charging as well, which may increase the cost of the infrastructure required to support these sites.
- **Medium-Duty Vehicles:** Projects are nearly three times larger than anticipated in the decision and are therefore much more expensive on a per-site basis but less expensive on a per-vehicle basis. PG&E has seen medium-duty EV projects taking a growing share of the program over the past year as more models have become available.
- **Other Heavy-Duty Vehicles:** Projects are almost half the size of original expectations and are much more costly per site and per vehicle due to the high-powered chargers needed to support heavy duty vehicles.

[8] Cost data reflects forecasted costs at project completion for all sites with signed contracts as of February 28, 2023, excluding projects that have been cancelled. Costs include all infrastructure dollars, including the cost to construct and any infrastructure incentives issued. For sites that have not yet been fully invoiced, preliminary costs estimates developed during the evaluation or design phase of the project have been used. Some segments have been excluded due to not having enough underlying data (less than 15 sites).
[9] D.18-05-040 at Appendix C, pp. 2.

Additionally, these averages obscure the fact that the program only offers minimal Behind-the-Meter (BTM) support because of efforts to minimize per-site costs, which increases the total cost of ownership and makes it more difficult for customers to commit to fleet electrification. The program allows for either PG&E or the customer to construct, own, and pay for the BTM infrastructure, with customers receiving rebates of up to 80% of their BTM construction costs. During site evaluation, PG&E assesses the cost of both ownership models and offers to build and own the BTM for projects that meet program cost thresholds, which are based on the program budget and goals. Otherwise, the customer receives an offer for PG&E to build and own only the To-the-Meter (TTM) infrastructure, with the customer receiving BTM infrastructure rebates that are capped so that the total infrastructure costs are within program cost thresholds. So far, the program has only been able to offer to build and own the BTM infrastructure at 5 sites because a full build is generally much more expensive than the program budget allows for. PG&E has also received feedback from customers that the offered capped BTM rebates only cover a small fraction of their actual BTM construction costs. To-date, BTM incentives average $64,000 per site, but the cost for customers to construct their BTM is generally $200,000 or more. This has been especially disadvantageous for schools because they have limited funds to execute their vehicle electrification projects. If the program's site goal is eliminated, PG&E would have the ability to increase the financial support offered to sites like schools that need it most.

It is worth noting that although the Decision assumes an average cost per site of $184,530 for the EV Fleet Program, it allows for an average of $212,209 to be spent per site based on the authorized infrastructure budget and the goal of 700 sites. As of February 28, 2023, when accounting for dollars committed to sites with signed contracts, PG&E has seen an average total cost per site of $284,582.

Project Cost Trend Over Time

Table 2: Project Cost Trend Over Time[10]

	2019	2020	2021	2022
Cumulative # of Sites Enrolled	24	52	86	156
Cumulative Avg # of Vehicles Per Site	11.6	17.9	16.7	19.4
Cumulative Avg Total Cost Per Site	$253,340	$261,808	$246,812	$285,331
Cumulative Avg Total Cost Per Vehicle	$21,793	$14,607	$14,771	$14,705

As demonstrated in Table 2, the average cost per site for all projects enrolled in the program have increased over time. Between 2019 and 2022, per site costs have grown at a compound average growth rate of 3.0 percent per year. This is driven by both the growing number of vehicles per site and cost inflation. If this rate of increase continues

[10] Cost data is cumulative, including actual or estimated costs for all projects enrolled in the program as of December 31st of the listed year, excluding projects that have been cancelled. Costs include all infrastructure dollars, including the cost to construct and any infrastructure incentives issued. For sites that have not yet been fully invoiced, preliminary costs estimates developed during the evaluation or design phase of the project have been used.

and the EV Fleet Program is allowed to enroll projects through 2026, the forecasted cumulative average cost per site at that time would be $321,261.

Project Size Characteristics and Cost Tradeoffs

The EV Fleet Program has been very thoughtful about allowing for sites of all sizes to have a pathway into the program. For example, PG&E realized early on that having a simple per-vehicle cost threshold made it impossible for most small sites (low vehicle count) to qualify, so the program created a minimum per-site cost threshold to enable acceptance of these projects. This means that all projects below a certain dollar amount are approved, regardless of the number of vehicles committed. As a result, 46% of sites enrolled in the program are electrifying fewer than 10 vehicles. Despite these efforts, the program has struggled to develop criteria that can protect the financial health and goal attainment of the program while still enabling sites that are ready to electrify in the near-term.

There is an inherent trade-off that must be made when trying to achieve both a site goal and a vehicle goal while staying within the program budget. As an example, consider a small site with only four vehicles and a cost per vehicle of $50,000, and a large site with a hundred vehicles and a cost per site of $1,000,000. Because the small site is extremely costly on a per-vehicle basis, it should be rejected from the program, and likewise the large site should be rejected on a site cost basis. Looking at it another way however, one can see that enrolling the large site would bring down the overall per-vehicle cost average, enabling the program to enroll the small site as well. This is a risk however, due to the fact that the large site is very expensive in comparison to the small site, and there are not enough small sites applying to the program to offset the high per-site cost. These are the tradeoffs that the EV Fleet Program must consider every day when deciding which sites to enroll.

Table 3: Comparison of Small Sites versus Medium-to-Large Sites[11]

	Small Sites < 10 vehicles	Medium-to-Large Sites 10 vehicles or more
Share of Sites Enrolled	46%	54%
Avg Total Cost Per Site	$167,552	$389,506
Avg Total Cost Per Vehicle	$32,032	$11,176
Avg # of Vehicles Per Site	5.2	34.9

Table 3 shows a comparison of the costs for small sites (electrifying less than 10 vehicles) and medium-to-large sites (electrifying 10 vehicles or more). Based on the Decision goals

[11] Cost data reflects forecasted costs at project completion for all sites with signed contracts as of February 28, 2023, excluding projects that have been cancelled. Costs include all infrastructure dollars, including the cost to construct and any infrastructure incentives issued. For sites that have not yet been fully invoiced, preliminary costs estimates developed during the evaluation or design phase of the project have been used.

and budget, the program needs to achieve an average cost per site of no more than $212,209 and an average cost per vehicle of no more than $22,853. PG&E is seeing an average cost per site of $167,552 for small sites and $389,506 for medium-to-large sites, which means that the program would need to enroll at least four small sites for every medium-to-large site in order to balance out the per-site costs. This is a challenge because the program has seen no evidence that fleet electrification is viable for small sites at this volume. The program accepts the majority of small sites that apply, with only five small projects being declined based on cost to-date, so there does not appear to be an untapped market of small sites that can offset the per-site costs of medium-to-large sites.

Given that only a third of the program budget has been committed to-date, it does not seem prudent for PG&E to turn away customers that are ready to electrify in the near-term. Not only do early adopters of all size bring benefits by mitigating GHG emissions and air pollution sooner, they also help to accelerate market development by creating viable demand to justify the deployment of new MDHD EV technologies and business models. Furthermore, the value that these early adopters bring to the MDHD EV market diminishes over time. It is better to say yes to viable projects that are applying today rather than attempt to reserve funds for small sites that may not materialize before the end of the program.

As stated in Advice 6546-E, PG&E believes that eliminating its goal of a minimum of 700 make-ready installations while maintain its goal of 6,500 additional vehicles electrified will simplify decision-making for the EV Fleet Program while still enabling PG&E to deliver on the same GHG emissions and pollution reductions. Eliminating the site goal will give the program the freedom to accept all viable sites that are ready to electrify today and provide more comprehensive financial support to the customers that need it the most, while continuing to accelerate EV adoption and provide the environmental benefits that the program was designed to do.

Protests

Pursuant to GO 96-B, General Rule 7.5.1, PG&E requests to maintain the original protest and comment period designated in Advice 6546-E and not reopen the protest period.

Effective Date

PG&E requests that this **Tier 3** advice submittal become effective upon Commission approval.

Notice

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically to parties shown on the attached list and the parties on the service list for R.18-12-006, and R.19-10-005. Address changes to the General Order 96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to

any other service list, please contact the Commission's Process Office at (415) 703-2021 or at Process_Office@cpuc.ca.gov. Send all electronic approvals to PGETariffs@pge.com. Advice letter submittals can also be accessed electronically at: http://www.pge.com/tariffs/.

/S/

Sidney Bob Dietz II
Director, Regulatory Relations
CPUC Communications

cc: Service List R.18-12-006, and R.19-10-005

California Public Utilities Commission

ADVICE LETTER SUMMARY

ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.: Pacific Gas and Electric Company (U 39 E)

Utility type:
☑ ELC ☐ GAS ☐ WATER
☐ PLC ☐ HEAT

Contact Person: Stuart Rubio
Phone #: (951)965-8905
E-mail: PGETariffs@pge.com
E-mail Disposition Notice to: stuart.rubio@pge.com

EXPLANATION OF UTILITY TYPE
ELC = Electric GAS = Gas WATER = Water
PLC = Pipeline HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 6546-E-A

Tier Designation: 3

Subject of AL: Supplemental to Advice 6546-E Providing Additional Evidence to Support Request to Adjust the Approved Program Metrics Used to Determine Per Se Reasonableness Pursuant to Decision 18-05-040 Ordering Paragraph 2

Keywords (choose from CPUC listing): Compliance

AL Type: ☐ Monthly ☐ Quarterly ☐ Annual ☑ One-Time ☐ Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #: D.18-05-040

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No

Summarize differences between the AL and the prior withdrawn or rejected AL: N/A

Confidential treatment requested? ☐ Yes ☑ No

If yes, specification of confidential information:
Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information:

Resolution required? ☑ Yes ☐ No

Requested effective date: No. of tariff sheets: 0

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: N/A

Service affected and changes proposed[1]: N/A

Pending advice letters that revise the same tariff sheets: N/A

[1]Discuss in AL if more space is needed.

Clear Form

Protests and correspondence regarding this AL are to be sent via email and are due no later than 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:

California Public Utilities Commission
Energy Division Tariff Unit Email:
EDTariffUnit@cpuc.ca.gov

Contact Name: Sidney Bob Dietz II, c/o Megan Lawson
Title: Director, Regulatory Relations
Utility/Entity Name: Pacific Gas and Electric Company

Telephone (xxx) xxx-xxxx: (415)973-2093
Facsimile (xxx) xxx-xxxx:
Email: PGETariffs@pge.com

Contact Name:
Title:
Utility/Entity Name:

Telephone (xxx) xxx-xxxx:
Facsimile (xxx) xxx-xxxx:
Email:

CPUC
Energy Division Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102

Clear Form

PG&E Gas and Electric
Advice Submittal List
General Order 96-B, Section IV

AT&T
Albion Power Company

Alta Power Group, LLC
Anderson & Poole

Atlas ReFuel
BART

Barkovich & Yap, Inc.
Braun Blaising Smith Wynne, P.C.
California Cotton Ginners & Growers Assn
California Energy Commission

California Hub for Energy Efficiency Financing

California Alternative Energy and Advanced Transportation Financing Authority
California Public Utilities Commission
Calpine

Cameron-Daniel, P.C.
Casner, Steve
Center for Biological Diversity

Chevron Pipeline and Power
City of Palo Alto

City of San Jose
Clean Power Research
Coast Economic Consulting
Commercial Energy
Crossborder Energy
Crown Road Energy, LLC
Davis Wright Tremaine LLP
Day Carter Murphy

Dept of General Services
Don Pickett & Associates, Inc.
Douglass & Liddell
Downey Brand LLP
Dish Wireless L.L.C.

East Bay Community Energy Ellison Schneider & Harris LLP
Engineers and Scientists of California

GenOn Energy, Inc.
Green Power Institute
Hanna & Morton
ICF
iCommLaw
International Power Technology
Intertie

Intestate Gas Services, Inc.

Johnston, Kevin
Kelly Group
Ken Bohn Consulting
Keyes & Fox LLP
Leviton Manufacturing Co., Inc.

Los Angeles County Integrated Waste Management Task Force
MRW & Associates
Manatt Phelps Phillips
Marin Energy Authority
McClintock IP
McKenzie & Associates

Modesto Irrigation District
NLine Energy, Inc.
NRG Solar

OnGrid Solar
Pacific Gas and Electric Company
Peninsula Clean Energy

Pioneer Community Energy

Public Advocates Office

Redwood Coast Energy Authority
Regulatory & Cogeneration Service, Inc.

Resource Innovations

SCD Energy Solutions
San Diego Gas & Electric Company

SPURR
San Francisco Water Power and Sewer
Sempra Utilities

Sierra Telephone Company, Inc.
Southern California Edison Company
Southern California Gas Company
Spark Energy
Sun Light & Power
Sunshine Design
Stoel Rives LLP

Tecogen, Inc.
TerraVerde Renewable Partners
Tiger Natural Gas, Inc.

TransCanada
Utility Cost Management
Utility Power Solutions
Water and Energy Consulting Wellhead Electric Company
Western Manufactured Housing Communities Association (WMA)
Yep Energy