

Docket No.: A.20-10-011

Exhibit No.: _____

Date: April 13, 2022

Witness: Ed Burgess

**OPENING TESTIMONY OF ED BURGESS
ON BEHALF OF THE VEHICLE GRID INTEGRATION COUNCIL**

Table of Contents

I.	Introduction	1
II.	PG&E’s Proposal for Export Compensation for Non-NEM Customers does not adequately comply with direction of Assigned Commissioner Rechtschaffen and ALJ Sisto	3
III.	PG&E’s Proposal for Export Compensation for Non-NEM Customers – Analysis and Recommendations	9
	a. Overview	
	b. PG&E’s proposed wholesale market participation approach is infeasible given current challenges with direct participation in California’s wholesale market	
	c. VGIC recommends PG&E offer the DAH RTP pricing model as an export option to non-NEM customers	
IV.	Additional recommendations related to barriers to wholesale market participation that should be addressed in the appropriate policy arena	20
	Appendix A – Declaration of Ed Burgess in Support of Opening Testimony on Behalf of the Vehicle Grid Integration Council	A-1

1 **I. INTRODUCTION**

2 **Q. Please state your name, title, and business address.**

3 A. My name is Ed Burgess. I am a Senior Director at Strategen Consulting and the Senior
4 Policy Director for the Vehicle Grid Integration Council (“VGIC”). My business address
5 is 2150 Allston Way, Suite 400, Berkeley, California 94704.

6 **Q. On whose behalf are you testifying?**

7 A. I am testifying on behalf of the Vehicle Grid Integration Council.

8 **Q. What is VGIC?**

9 A. VGIC is a 501(c)6 membership-based trade association committed to advancing the role
10 of electric vehicles (“EV”) and vehicle-grid integration (“VGI”) through policy
11 development, education, outreach, and research. VGIC supports the transition to a
12 decarbonized transportation and electric sector by ensuring the value from EV
13 deployments and flexible EV charging and discharging is recognized and compensated in
14 support of achieving a more reliable, affordable, and efficient electric grid.

15 **Q. Who are VGIC’s current members?**

16 A. VGIC’s members include Enel X, Ford, General Motors, Honda, Nissan, Nuvve,
17 Stellantis (formerly Fiat-Chrysler), Toyota, dcbel, Engie, Fermata Energy, Flexcharging,
18 Flo/AddEnergie, Sunrun, The Mobility House, Wallbox, WeaveGrid, Veloce, and
19 Sacramento Municipal Utility District.¹

¹ The opinions expressed in this testimony reflect those of VGIC, and do not necessarily reflect the views of all of the individual VGIC member companies.

1 **Q. Please summarize your professional background and qualifications.**

2 A. I am a leader within Strategen’s consulting practice where one of my primary
3 responsibilities is managing the VGIC, which is one of Strategen’s primary clients. In
4 addition to VGIC, I oversee much of the firm’s practice for governmental clients, non-
5 governmental organizations, and trade associations. Strategen’s team is globally
6 recognized for its expertise in the electric power sector on issues relating to resource
7 planning, renewable energy, energy storage, electric vehicles, utility rate design and
8 program design, and utility business models and strategy. During my time at Strategen, I
9 have managed or supported projects for numerous client engagements related to these
10 issues. Before joining Strategen in 2015, I worked as an independent consultant in
11 Arizona for several years and regularly appeared before the Arizona Corporation
12 Commission. I also worked for Arizona State University where I helped launch their
13 Utility of the Future initiative as well as the Energy Policy Innovation Council. I have a
14 Professional Science Master’s degree in Solar Energy Engineering and
15 Commercialization from Arizona State University as well as a Master of Science in
16 Sustainability, also from Arizona State. I also have a Bachelor of Arts degree in
17 Chemistry from Princeton University.

18 **Q. Have you ever testified before the California Public Utilities Commission, or any**
19 **other state regulatory body?**

20 A. Yes. I testified before the California Public Utilities Commission in proceedings
21 Application (“A.”) 19-08-002 and A.20-08-002 both of which pertain to PacifiCorp’s
22 2020 and 2021 Energy Cost Adjustment Clause, as well as proceeding Rulemaking (“R.”)
23 20-11-003 pertaining to Emergency Reliability and proceeding A.21-10-010 related to

1 Pacific Gas and Electric Company’s (“PG&E”) Electric Vehicle Charge 2 proposal. I
2 have also provided expert testimony before the Massachusetts Department of Public
3 Utilities, the South Carolina Public Service Commission, the Indiana Utility Regulatory
4 Commission, the Nevada Public Utilities Commission, the Oregon Public Utilities
5 Commission, and the Washington Utilities and Transportation Commission.

6 **Q. What is the purpose of your testimony?**

7 A. The purpose of my testimony is to respond to PG&E’s proposal for export compensation
8 for non-Net Energy Metering (“NEM”) customers enrolled in its Commercial Day-Ahead
9 Hourly Real Time Pricing (“DAHRTP”) rate as filed in A.20-10-011. Specifically, I will
10 address deficiencies in PG&E’s proposal in complying with Issue 2 detailed in *Assigned*
11 *Commissioner’s Amended Scoping Memo and Ruling* (“Amended Scoping Memo”) issued by
12 Commissioner Rechtschaffen on December 17, 2021 and Questions 1-5 detailed in *E-Mail Ruling Granting Extension Requests and Amending Procedural*
13 *Schedule* issued by Administrative Law Judge (“ALJ”) Sisto on January 14, 2022. In
14 doing so, I propose an alternative export compensation mechanism for non-NEM
15 customers enrolled in DAHRTP and offer recommendations for advancing wholesale
16 market participation in other, more appropriate forums.

18 **II. PG&E’S PROPOSAL FOR EXPORT COMPENSATION FOR NON-NEM**
19 **CUSTOMERS DOES NOT ADEQUATELY COMPLY WITH THE DIRECTION**
20 **OF ASSIGNED COMMISSIONER RECHTSCHAFFEN AND ALJ SISTO.**

21 **Q. Generally speaking, does PG&E’s proposal fit within the overall scope of A.20-10-**
22 **011?**

1 A. No. A.20-10-011 was filed on October 23, 2020 in response to Ordering Paragraph
2 (“OP”) 9 of Decision (“D.”) 19-10-055, which required PG&E to “file an application for
3 a dynamic rate option for commercial electric vehicle customers no later than 12 months
4 after the effective date of this decision.”² Thus, the primary focus of this proceeding has
5 always been the establishment of dynamic retail rate options. The current phase of this
6 proceeding narrowly extends that focus to consider an incremental export rate and does
7 not contemplate a full wholesale market integration model nor the myriad additional
8 reforms required under that approach. This was underscored by ALJ Sisto’s January 14,
9 2022 ruling which included several questions pertaining to the development of a PG&E-
10 calculated export compensation rate. In contrast, PG&E’s proposal filed March 24, 2022
11 does not include an incremental dynamic rate to compensate exports from non-NEM
12 customers.

13 **Q. What did PG&E propose in lieu of an incremental export rate option?**

14 A. Instead, PG&E proposes to initiate a pilot to begin exploring the integration of vehicle-to-
15 grid (“V2G”) resources directly into the California Independent System Operator
16 (“CAISO”) wholesale market while simultaneously seeking valuation and compensation
17 for resource adequacy (“RA”). Notably, there is currently no established methodology to
18 value and compensate the RA value of exports from behind-the-meter resources (such as
19 EVs), and doing so currently faces multiple barriers,³ including opposition from PG&E

² D.19-10-055 OP 9.

³ D.21-06-029 at 53-55 and 71-72.

1 itself.⁴ PG&E’s proposal therefore does not align within the scope of A.20-10-011
2 because it is not a dynamic rate option. Additionally, by virtue of partially deferring the
3 proposal for an export compensation methodology to the RA proceeding, PG&E is also
4 essentially proposing no capacity-related compensation at all given the lack of a
5 qualifying capacity (“QC”) methodology for V2G exports at present. In summary, what
6 PG&E proposed amounts to an overly complicated and lengthy approach that appears
7 designed to stall creation of an appropriate export rate, potentially for years to come.

8 **Q. Do you believe there are more practical, near-term approaches that PG&E could**
9 **have considered instead for non-NEM customers?**

10 A. Yes. VGIC believes that PG&E’s proposal overlooks the relatively straightforward
11 export approach that it is already offering to a subset of its DAHRTP customers (i.e.,
12 NEM customers) in favor of a more complex approach that is infeasible at present and
13 does not fit within the scope of this proceeding.

14 **Q. Does PG&E’s proposal respond to all five questions posed in ALJ Sisto’s January**
15 **14, 2022 ruling?**

16 A. No. ALJ Sisto’s January 14, 2022 ruling asks PG&E the following five questions:⁵

17 (1) In Exhibit PG&E-1 at 2-15, PG&E indicates that, for NEM customers, exports to
18 the grid will be tracked by the hour and given generation compensation equal to
19 that hourly price.

⁴ *Comments of Pacific Gas and Electric Company (U 39 E) on Phase 2 Proposals and Workshop*. February 14, 2022. R.21-10-002. <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M450/K157/450157903.PDF>. Pages 2-8.
Reply Comments of Pacific Gas and Electric Company (U 39 E) on Phase 2 Proposals and Workshop. February 24, 2022. R.21-10-002. <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M453/K952/453952566.PDF>. Pages 1-2.

⁵ *E-Mail Ruling Granting Extension Requests and Amended Procedural Schedule* issued by ALJ Sisto on January 14, 2022 at 3.

- 1 (a) Does PG&E propose to use the same export compensation methodology to
2 calculate the export compensation amount for non-NEM customers as it was
3 authorized to offer NEM customers that participate in the DAHRTP rate?
- 4 (b) If not, PG&E should explain the methodology that would be used to calculate
5 the compensation rate for non-NEM customers on the DAHRTP rate that
6 provide exports to the grid and provide a detailed analysis on why the
7 compensation rate for non-NEM should differ from the export compensation
8 rate offered for NEM customers.
- 9 (2) For the generation component of the rate rider, will DAHRTP customers (NEM
10 and non-NEM) receive export compensation for the generation price that
11 includes: (1) the DA market energy price from California Independent System
12 Operator (CAISO), (2) the capacity adder based on forecasted adjusted net load
13 (ANL) in each hour, and (3) the revenue neutral adder?
- 14 (3) Will DAHRTP customers (NEM and non-NEM) receive export compensation for
15 any other components of the DAHRTP rate (i.e., distribution, transmission, and
16 non-bypassable charges that are part of the Total Energy Rates (\$ per kilowatt
17 hour) of the rate schedule)?
- 18 (4) Will PG&E be able to distinguish between exports from behind-the-meter solar
19 and exports from other distributed energy resources such as bi-directional electric
20 vehicles?
- 21 (a) If so, how will PG&E differentiate between the exporting resources?
- 22 (b) Will all exports, regardless of which distributed energy resource they are
23 from, be compensated at the same rate?
- 24 (5) Will the technical and billing system upgrades PG&E plans to conduct to
25 implement the DAHRTP rate authorized in D.21-11-017 support the potential for
26 export compensation for customers that are enrolled in the DAHRTP rate but do
27 not participate in NEM? If not, what additional investments and associated
28 ratepayer costs does PG&E propose would be necessary to provide export
29 compensation for DAHRTP customers that do not participate in NEM?

30 While PG&E's proposal responds to Question 1(a), it fails to respond to the ALJ's
31 request in Question 1(b) to "explain the methodology that would be used to calculate the
32 compensation rate for non-NEM customers on the DAHRTP rate that provide exports to
33 the grid." Similarly, PG&E is unable to respond directly to Questions 2 and 3, as it fails
34 to propose a "rate rider," "rate," or "rate schedule" as requested in the ALJ's ruling.

1 PG&E does not provide a “yes” or “no” answer to Question 4 or respond to sub-questions
2 4(a) or 4(b) regarding methodology. Instead, PG&E merely states that it wishes to
3 “institute an application and workshop process to discuss various topics of which this one
4 would be included”⁶, effectively deferring its proposal design indefinitely rather than
5 offering a solution at this time.

6 Overall, while Chapter 3 of PG&E’s Supplemental Testimony includes nominal
7 responses to the ALJ’s questions, the Company was largely unable to provide direct
8 answers to most of these questions and therefore did not adequately follow the guidance
9 in the ruling that “at a minimum, PG&E shall address these questions in its supplement to
10 A.20-10-011 related to export compensation.”⁷

11 **Q. Would considering PG&E’s proposal require relitigating key issues in A.20-10-011**
12 **that were recently ruled on in D.21-11-017?**

13 A. Yes. D.21-11-017 discusses whether to adopt PG&E’s previously proposed prohibition
14 on dual participation in both the DAHRTP rate option and other “load management
15 approaches,” including RA contracts.⁸ At that time, PG&E justified its proposal by
16 stating that DAHRTP customers “will be receiving hourly [day-ahead, real-time] rate
17 signals that include an accurate capacity component based on the CAISO market”⁹. After
18 considering PG&E’s arguments, as well as those from other parties, the Commission
19 ultimately directed PG&E to allow some limited dual participation, specifically allowing

⁶ *Commercial Electric Vehicle Dynamic Rate Option Proposal for Export Compensation Mechanism for Non-Net Energy Metering Business Electric Vehicles Supplemental Testimony* (“Supplemental Testimony”) at 3-2.

⁷ *E-Mail Ruling Granting Extension Requests and Amended Procedural Schedule* issued by ALJ Sisto on January 14, 2022 at 3.

⁸ D.21-11-017 at 27.

⁹ Exhibit PG&E-1 at 2-6.

1 “customers that participate in CAISO’s ancillary services markets to also enroll in the
2 DAHRTP if they are otherwise eligible to do so.”¹⁰ Notably, however, the Commission
3 did not permit DAHRTP customers to also participate in RA programs, CAISO market
4 products, or any other “in-market” program.¹¹ This puts the Commission’s prior decision
5 on dual participation at odds with PG&E’s proposal which would explicitly require
6 customers to participate in both the DAHRTP pricing model for charging, while also
7 participating in the CAISO market (and potentially RA framework) for export
8 compensation.¹² PG&E’s proposal therefore conflicts with the direction of D.21-11-017
9 and likely demands a costly and protracted relitigating of the DAHRTP dual participation
10 rules. VGIC is concerned this would further delay the development of an export
11 compensation offering for non-NEM customers and risks overshooting the approved
12 proceeding schedule’s Q3/Q4 2022 proposed decision target.¹³

13 **Q. Does PG&E’s proposal promote the efficient and fair resolution of the application**
14 **per the Amended Scoping Memo?**

15 A. No. VGIC is concerned that PG&E’s proposal is contingent on completing unnecessary
16 procedural steps when a simpler solution is at hand. PG&E proposes that “the
17 Commission order PG&E to implement an application and stakeholder workshop process
18 in the quarter following the final decision to further develop the pilot in coordination with
19 industry, CAISO, interested load serving entities, and other impacted stakeholders.”¹⁴

¹⁰ D.21-11-017 at 29.

¹¹ “In-market” programs include the Demand Response Auction Mechanism Pilot, bilateral RA contracts, and CAISO market products. In contrast, the Emergency Load Reduction Program is an “out-of-market” program.

¹² Supplemental Testimony at 1-2.

¹³ *E-Mail Ruling Granting Extension Requests and Amended Procedural Schedule* issued by ALJ Sisto on January 14, 2022 at 4.

¹⁴ Supplemental Testimony at 1-3.

1 Despite a targeted Q3/Q4 2022 Proposed Decision on Phase 2 of this proceeding,
2 PG&E’s requested subsequent application and workshop process would only *begin* in Q4
3 2022 at the earliest and would likely not be resolved until well into 2023 or 2024, with
4 implementation likely commencing in subsequent years. As discussed in Section IV
5 *infra*, the CAISO market participation and RA pathways likely require structural reforms,
6 market enhancements, and tariff revisions in no less than four policy forums (i.e., High
7 Distributed Energy Resources (“DER”) Future Rulemaking¹⁵, RA Reforms Proceeding¹⁶,
8 CAISO Energy Storage Enhancements¹⁷, Wholesale Distribution Tariff¹⁸) across at least
9 four different overseeing entities (i.e., CPUC, CAISO Board of Governors, WEIM
10 Governing Body¹⁹, and FERC), all demanding particularly close coordination during both
11 the design and implementation phases. As such, VGIC does not believe PG&E’s proposal
12 for a subsequent application and workshop process will result in timely resolution of
13 Issue 2 of the Amended Scoping Memo or a near- or mid-term export compensation
14 offering to non-NEM DAHRTP customers.

15 **III. PG&E’S PROPOSAL FOR EXPORT COMPENSATION FOR NON-NEM**
16 **CUSTOMERS – ANALYSIS AND RECOMMENDATIONS.**

17 **A. Overview of PG&E’s proposal**

¹⁵ R.21-06-017

¹⁶ R.19-11-009

¹⁷ CAISO energy storage enhancements initiative.

<https://stakeholdercenter.caiso.com/StakeholderInitiatives/Energy-storage-enhancements>

¹⁸ PG&E’s Wholesale Distribution Tariff. https://www.pge.com/pge_global/common/pdfs/about-pge/company-information/regulation/contracts-and-tariffs/wd-tariff.pdf.

¹⁹ The CAISO energy storage enhancements initiative falls under joint authority of the CAISO Board of Governors and the WEIM Governing Body.

1 **Q. Please summarize PG&E’s overall proposed approach to export compensations for**
2 **non-NEM customers.**

3 A. PG&E proposes to partner with DER/EV providers and CAISO to pilot compensating
4 V2G exports through the CAISO market. According to PG&E’s testimony, the Company
5 believes it can “play a pivotal role in overcoming some of the hurdles that currently
6 prevent [behind-the-meter] generation aggregators from participating in [the CAISO
7 market].”²⁰ However, PG&E makes only passing reference to these hurdles and does not
8 explain how it intends to overcome them. PG&E does identify some broad goals for the
9 pilot, each of which are generally commendable, but the proposal lacks any detail or
10 specificity on how these would be achieved.²¹ Instead, the overwhelming majority of
11 PG&E’s proposed pilot design is deferred to a later date as PG&E requests the
12 Commission direct PG&E to file a subsequent application and coordinate a series of
13 workshops to develop the pilot details.

14

15 ***B. PG&E’s proposed wholesale market participation approach is infeasible***
16 ***given current challenges with direct participation in the CAISO wholesale***
17 ***market***

18 **Q. PG&E argues that direct CAISO market participation offers the best value for EV**
19 **customers in the long-term. Do you agree?**

²⁰ Supplemental Testimony at 1-2.

²¹ PG&E’s pilot goals include the following: (1) Understand behavioral responses to export price signals given constraints such as commercial operations, (2) Explore and understand potential pathways for operational design regarding dispatch of energy into the CAISO wholesale market from non-net energy behind-the-meter (“BTM”) resources, (3) Continue to work with stakeholders to define standards and procedures for metering, submetering, telemetry and telematics of BEV integration as exporting resources.

1 A. Possibly. VGIC believes direct CAISO market participation may become an important
2 option for EV customers in the long-term. However, PG&E’s proposed market
3 integration pilot does not present a feasible near-term or mid-term approach based on
4 recent history and current challenges to DERs directly participating in the CAISO
5 market. Moreover, there is no reason why PG&E can’t offer a simpler export rate in the
6 near-term while also continuing to work in parallel with stakeholders towards
7 overcoming the hurdles to direct market participation. In essence, PG&E is making
8 “perfect the enemy of the good.”

9 **Q. Can you elaborate on some of the recent history and current challenges for DER/EV**
10 **direct participation in the CAISO wholesale market?**

11 A. Yes. The primary pathway that currently exists for DER/EV participation is the Non-
12 Generator Resource (“NGR”) model which was introduced by CAISO in 2012 and the
13 DER Provider Agreement (“DERPA”) framework which was approved in July, 2015.²²
14 Meanwhile, V2G products from Nissan²³, Mitsubishi²⁴, BlueBird²⁵, Thomas Built²⁶, Lion

²² California ISO. Energy Storage and Distributed Energy Resources (ESDER) Stakeholder Initiative. Draft Final Proposal. November 2, 2015. <http://www.caiso.com/Documents/DraftFinalProposal-EnergyStorageandDistributedEnergyResources.pdf>. Pages 14 and 43.

²³ Steve Hanley. Clean Technica. Nissan Using Vehicle to Grid Technology to Power US Operations. November 29, 2018. <https://cleantechnica.com/2018/11/29/nissan-using-vehicle-to-grid-technology-to-power-us-operations/>

²⁴ Roberto Baldwin. 2021 Mitsubishi Outlander PHEV Gets Bigger Motor and Battery at Same Price. Car and Driver. February 25, 2021. <https://www.caranddriver.com/news/a35605985/2021-mitsubishi-outlander-plug-in-hybrid-upgrade/>

²⁵ Nuvve Corporation. Blue Bird Delivers North America’s First-Ever Commercial Application of Vehicle-to-Grid Technology in Electric School Bus Partnership with Nuvve and Illinois School Districts. March 23, 2021. <https://nuvve.com/blue-bird-v2g-electric-bus-with-nuvve-and-illinois-school-districts/>

²⁶ Thomas Built Buses / Daimler Trucks North America LLC (2021). The Safe-T-Liner C2 Jouley Electric School Bus. <https://thomasbuiltbuses.com/school-buses/saf-t-liner-c2-jouley>

1 Electric²⁷, Nuvve²⁸, Fermata Energy²⁹, and Rhombus³⁰ have been available to customers
2 during this time (i.e., from 2012 to 2015). However, based on VGIC’s understanding of
3 the industry, none of these products participate directly in the CAISO market due to a
4 range of market and policy barriers. This is true for all DERs, not just EVs. PG&E’s
5 proposal does not adequately describe the barriers leading to this lack of participation nor
6 does it recommend any new approaches to overcoming these barriers. Based on VGIC’s
7 assessment, PG&E’s proposal would not lead to meaningful progress toward CAISO
8 market participation, and instead only defers the act of discussing barriers and solutions
9 to a requested workshop process that would be initiated in 2023.

10 **Q. What is PG&E’s rationale for its proposed approach of CAISO market integration**
11 **for export compensation, and what is your response?**

12 A. In its Supplemental Testimony, PG&E argues that “CAISO market participation best
13 supports long-term value for customers because dispatchable resources could be
14 compensated at high energy prices during real-time scarcity events.”³¹ However, since
15 the hourly prices computed by PG&E for the existing DAHRTP pricing model are
16 already informed by the CAISO market, they should already provide a price signal
17 comparable to direct market participation. Thus, if the existing DAHRTP pricing model
18 were used as the basis for export compensation, customers would inherently be

²⁷ Lion Electric. Lion Electric Announces Successful Electric School Bus Vehicle-to-Grid Deployment with Con Edison in New York. December 14, 2020.

https://thelionelectric.com/img/medias/LION_Press_Release_White%20Plains%20EN%20FINAL.pdf

²⁸ Nuvve Corporation (2020). Nuvve DC Heavy Duty Charging Station Specifications Sheet. <https://nuvve.com/wp-content/uploads/2020/04/nuvve-dc-heavy-duty-spec-sheet-1.0.pdf>

²⁹ Fermata Energy. Proven Results and Cost Savings with V2G Technology. October 14, 2020.

<https://www.fermataenergy.com/news-press/proven-results-and-cost-savings-with-v2g-technology>.

³⁰ Rhombus Energy Solutions. V2G Charging, Control, and Management 50-500 kW: Bidirectional.

<https://rhombusenergysolutions.com/products>

³¹ Supplemental Testimony at 1-6.

1 compensated at “high energy prices during ... scarcity events.”³² Moreover,
2 compensating V2G exports at high energy prices during scarcity events is already a
3 feature of the Emergency Load Reduction Program (“ELRP”), which is slated to run
4 through 2025 and could be another option for DAHRTP customers to receive export
5 compensation during scarcity events. In sum, achieving complete CAISO market
6 integration should not be viewed as a requirement for establishing a meaningful, market-
7 informed export compensation rate in the near-term because there are other options that
8 can provide similar value to EV customers.

9 **Q. While DAHRTP provides a price signal during scarcity events, you mentioned that**
10 **ELRP could be an alternative during those events. Can you elaborate?**

11 A. Yes. If an export compensation rate is adopted in this proceeding consistent with the
12 DAHRTP pricing model, then VGIC strongly recommends that dual participation in the
13 ELRP be permitted. Under this arrangement, dual-participating customers would be
14 compensated for exports at the ELRP rate during the 30 hours prescribed under the ELRP
15 customer group A.5. Meanwhile exports occurring during the remaining ~8730 hours
16 would be compensated under the DAHRTP rate schedule. Notably, the original Proposed
17 Decision to establish the EV/VGI aggregation customer group (A.5) within ELRP would
18 have prohibited dual participation in ELRP and dynamic rates such DAHRTP.³³

³² VGIC recognizes that the DAHRTP pricing model uses hourly day-ahead pricing, rather than 5-min real-time pricing. There may be incremental customer value to be gained from exposing EV customers to real-time price signals for exports (in addition to day-ahead). However, VGIC believes that a substantial amount of the customer value for exports will still be realized through the day-ahead pricing model. VGIC would be open to considering real-time pricing for exports in the future as a supplement to hourly pricing, but this consideration does not preclude implementation of the day-ahead hourly pricing model for exports in the near term.

³³ Proposed Phase 2 Decision Directing Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company to Take Actions to Prepare for Potential Extreme Weather in the Summer of 2022 and 2023. Mailed October 29, 2021. Attachment 2 at 6.

1 However, in reviewing the record and revising the Proposed Decision, the Commission
2 decided the correct path forward was to remove the proposed dual participation
3 prohibition in its Final Decision (D.21-12-015) and allow dual participation in ELRP and
4 dynamic rates.³⁴ To remain consistent with the Commission’s direction in D.21-12-015,
5 PG&E should permit dual participation in DAHRTP and ELRP. Moreover, this does not
6 constitute double-counting as ELRP is an “out-of-market program” intended to support
7 the grid during emergency reliability events.

8 **Q. PG&E’s testimony suggests that comprehensively resolving a variety of complex**
9 **issues related to grid operational control and planning are a prerequisite to**
10 **establishing an export rate for DAHRTP customers. Do you agree?**

11 A. No. While VGIC appreciates and supports long-term planning for DERs, we are
12 concerned PG&E may be overcomplicating the task at hand by trying to consider all the
13 implications of a high-DER future within the relatively narrow scope of this proceeding.
14 Namely, the current proceeding’s scope is to develop an export compensation rate for a
15 relatively small set of non-NEM DAHRTP customers. For example, PG&E’s
16 Supplemental Testimony at Chapter 1-8 focuses on coordination needed between the
17 Distribution System Operator (“DSO”) and aggregators in a high-DER future.³⁵ Issues
18 related to a high-DER future are central to High DER Future Rulemaking (R.21-06-017),
19 and VGIC does not believe they can or should be fully addressed in this proceeding,
20 which is specific to DAHRTP customers and does not necessarily pertain to the broader
21 set of DER customers that R.21-06-017 considers. Moreover, the number of customers

³⁴ D.21-12-015 Attachment 2 at 6.

³⁵ Supplemental Testimony at 1-8.

1 impacted by a DAHRTP export option is likely to be relatively modest. PG&E states “as
2 of March 4, 2022, there were 429 BEV service agreements which belong to 131 different
3 companies. Four-hundred and twenty-seven of the service agreements were non-NEM.”³⁶
4 VGIC anticipates, in the near-term, DAHRTP customers will be a subset of Business EV
5 (“BEV”) rate enrollment, as not all customers will wish to leverage more dynamic prices.
6 Additionally, a limited set of EVs and chargers are currently V2G-capable, meaning an
7 even smaller subset of eligible non-NEM customers will be participating in a DAHRTP
8 export rate in the near-term.

9 **Q. What operational and coordination requirements should be considered in this**
10 **proceeding?**

11 A. The operational and coordination requirements placed on dispatchable non-NEM
12 DAHRTP customers should be limited to those that are needed to ensure grid safety and
13 reliability (e.g., requiring the UL 1741 safety standard). However, this is already
14 addressed through the Commission’s Rule 21 interconnection procedures, which were
15 updated in D.20-09-035 to include a pathway for safe interconnection of V2G resources.
16 Adding onerous and unnecessary requirements for specific customer resource types (i.e.,
17 non-NEM DAHRTRP customers), other than those needed to ensure basic safety and
18 reliability, is at odds with PG&E’s proposed Principle 1: “Level Playing Field.”³⁷
19 Avoiding these unnecessary requirements also helps supports the growth of nascent V2X
20 technologies, programs, and customer adoption.

³⁶ Supplemental Testimony at 1-3.

³⁷ Supplemental Testimony at 1-4.

1 **Q. PG&E argues that its proposal provides an equal opportunity to bundled and**
2 **unbundled customers. Do you agree?**

3 A. I don't disagree. However, I would note that offering a retail bill-based approach to
4 PG&E's bundled customers does not preclude other suppliers from doing the same.
5 PG&E correctly notes that "under a retail bill-based approach, each Load Serving Entity
6 ("LSE") would procure energy through the retail bill from its customers."³⁸ Other LSEs
7 besides PG&E could similarly choose to procure energy through the retail bill from its
8 customers or establish other programmatic approaches to procure V2G exports from its
9 customers. In recent years, VGIC has had an ongoing dialog with Community Choice
10 Aggregators ("CCA") on innovative VGI strategies and believes that unbundled
11 customers may have similar retail bill-based V2G export compensation offerings
12 provided by their CCAs in the near-term. VGIC does not believe LSE coordination
13 should be viewed as a key barrier to implementing a retail bill-based approach.
14 Additionally, PG&E's proposed approach could result in customer confusion stemming
15 from overlapping offerings to unbundled customers. Implementing retail bill-based V2G
16 export compensation would therefore help avoid overlapping efforts between CCAs and
17 PG&E.

18 **C. VGIC recommends that PG&E offer the DAHRTP pricing model as an**
19 **export compensation option to non-NEM DAHRTP customers**

20 **Q. What does VGIC recommend as an alternative to PG&E's proposal?**

³⁸ *Ibid.*

1 A. VGIC recommends a simplified approach as an alternative to PG&E’s overly
2 complicated proposal that is unlikely to be implemented in the foreseeable future.
3 Specifically, PG&E should offer the same DAHRTP pricing model that it is using for
4 exports from NEM customers as the compensation rate for exports for non-NEM
5 customers. Specifically, this approach would allow non-NEM DAHRTP customers to
6 export energy from a Rule 21-interconnected system, resulting in PG&E’s interval meter
7 recording a negative value that is then applied to the hourly DAHRTP rate. This is
8 fundamentally the same way exports for NEM DAHRTP customers will be treated, and
9 thus is already technically feasible.³⁹ Moreover, the underlying economic principles of
10 DAHRTP exports for NEM customers are equally applicable to non-NEM customers.

11 **Q. Can you explain why the underlying economic principles for DAHRTP exports from**
12 **NEM customers are equally applicable to non-NEM customers?**

13 A. Yes. There is no fundamental reason why exports from non-NEM customers should be
14 treated differently from exports from NEM customers based on economic principles. In
15 PG&E’s Phase 1 Direct Testimony supporting its compensation for NEM exports, the
16 Company stated “the [DAHRTP] rate rider substitutes one set of generation rates for
17 another.”⁴⁰ Thus, it appears that PG&E views the “generation only” subcomponent of
18 rates as being somewhat interchangeable between tariff options. If this is the case, there is
19 no reason why PG&E’s proposal for exports should not be extended to include the
20 exports from non-NEM customers. Put another way, the wholesale energy and capacity

³⁹ A.20-10-011 Phase 1 Evidentiary Hearings Reporter’s Transcript at page 163 line 3 through page 164 line 9.

⁴⁰ A.20-10-011 Phase 1 Direct Testimony of Tysen Strieb at page 2-15 line 30 through 2-15 line 2.

1 value of exports from both NEM and non-NEM customers is equivalent and should not
2 command different compensation rates.

3 **Q. Would offering DAHRTP compensation for non-NEM exports result in potential**
4 **cross-subsidies that have been a recent concern for NEM compensation?**

5 A. No. VGIC recognizes that there is a long, complex, and contentious policy history
6 surrounding the full retail rate compensation for exports for NEM customers.⁴¹ As part of
7 this history, concerns have been raised about potential cross-subsidies embedded in this
8 form of compensation. However, these issues are not applicable when considering a
9 “generation only” subcomponent of retail rates⁴², which is what PG&E proposed for
10 export compensation in phase 1 of A.20-10-011. By linking the export compensation to
11 generation as PG&E has done, there is no risk of potential cross-subsidies associated with
12 the fixed delivery cost component of rates. Therefore, it would be equally appropriate to
13 apply this approach for any DAHRTP exports, regardless of whether they come from a
14 NEM customer or not. Notably, the export compensation rate that PG&E has offered for
15 NEM customers is not equivalent to the full retail compensation rate traditionally offered
16 to NEM customer exports. Thus, NEM eligibility requirements are not at issue if the
17 DAHRTP compensation rate is expanded to non-NEM customers. At a minimum,
18 offering DAHRTP compensation for exports, whether to non-NEM or NEM customers,
19 does not result in a cross-subsidy.

⁴¹ R.20-08-020. *Order Instituting Rulemaking to Revisit Net Energy Metering Tariffs Pursuant to Decision 16-01-044, and to Address Other Issues Related to Net Energy Metering*. Filed August 27, 2020. Legislative and procedural backgrounds detailed at page 3 and page 5, respectively.

⁴² Specifically, the Marginal Energy Cost and Marginal Generation Capacity Cost.

1 **Q. Are there technical barriers to applying the same treatment to exports from NEM**
2 **and non-NEM customers?**

3 A. Not to my knowledge. This appears straightforward to implement since during the
4 exporting interval PG&E's AMI meter would record a negative value and this negative
5 value could readily be applied to the hourly DAHRTP rate. This is fundamentally the
6 same way that exports for NEM customers would be treated, as explained by PG&E.⁴³
7 VGIC recognizes that DAHRTP customers in the near-term will be separately metered,
8 as the Commission has not yet adopted any submetering protocol. VGIC recommends the
9 Commission work with stakeholders, including PG&E and VGIC, to develop a
10 submetering protocol that does not foreclose the option for customers to receive
11 compensation for exports under DAHRTP – or any other export compensation pathway
12 that may be developed between now and the approval of a submetering protocol.

13 **Q. Should a distribution value be explored in the future as an additional component for**
14 **export compensation?**

15 A. Yes. VGIC believes a distribution component or distribution adder for DAHRTP
16 customer exports should be explored in the future. This would compensate customers for
17 any additional value provided from EV exports, such as the alleviation of load on
18 congested circuits. However, VGIC also recognizes that this adds a layer of complexity
19 that may not be resolved in the near term. As such, VGIC recommends that the
20 generation only export rate be approved in the current phase of this proceeding.
21 Meanwhile, the distribution component should be explored in a future phase of this
22 proceeding, or in another proceeding.

⁴³ A.20-10-011 Phase 1 Evidentiary Hearings Reporter's Transcript at page 163 line 3 through page 164 line 9.

1 **Q. Is there precedent for an export rate that includes a distribution component?**

2 Yes. Under OP 50 through OP 58 of D.21-12-015, PG&E must partner with Valley
3 Clean Energy (“VCE”) on a Dynamic Rate Pilot for Agricultural Pumping, which could
4 offer a model to support the development of a dynamic non-NEM DAHRTP export
5 distribution component.⁴⁴ VGIC also notes that the Massachusetts Department of Energy
6 Resources’ (“DOER”) recently issued a Straw Proposal for a Distribution Circuit
7 Multiplier (“DCM”) as part of their Clean Peak Standard rulemaking process. The Clean
8 Peak Standard program includes an option for V2G participation and could serve as a
9 model for the design of distribution adder for DAHRTP exports.⁴⁵ The DCM Straw
10 Proposal details a 2x multiplier for selected circuits and a formulaic methodology for
11 circuit identification. This approach is simple in both design and implementation,
12 promotes administrative efficiency, and provides certainty and predictability for
13 developers, aggregators, and fleet owners.

14 **IV. ADDITIONAL RECOMMENDATIONS RELATED TO BARRIERS TO DER**
15 **WHOLESALE MARKET PARTICIPATION SHOULD BE ADDRESSED IN THE**
16 **APPROPRIATE POLICY FORUMS AND NOT IN THIS PROCEEDING.**

17 **Q. Does VGIC have additional recommendations related to barriers to DER wholesale**
18 **market participation?**

⁴⁴ D.21-12-015 Phase 2 Decision Directing Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company to Take Actions to Prepare for Potential Extreme Weather in the Summers of 2022 and 2023, issued December 6, 2021 in Rulemaking 20-11-003. Ordering Paragraphs 50 through 58.

⁴⁵ Samantha Meserve. Massachusetts Department of Energy Resources. *Clean Peak Energy Standard Distribution Circuit Multiplier Working Group*. February 2022. <https://www.mass.gov/doc/cps-dcm-straw-proposal/download>

1 Yes. While VGIC opposes PG&E’s proposal in this proceeding and instead recommends
2 a retail bill-based approach, we believe barriers to wholesale market participation should
3 continue to be addressed separately. The stakeholder work needed to overcome barriers
4 to CAISO and RA market integration should occur in parallel to a near-term export
5 offering to non-NEM DAHRTP customers. This work should be conducted in the
6 appropriate venues (e.g., High DER Future Proceeding⁴⁶, RA Reforms Proceeding⁴⁷,
7 CAISO Energy Storage Enhancements⁴⁸, Wholesale Distribution Tariff⁴⁹, etc.). Since
8 these issues relate to all DERs, hosting a dedicated application and workshop process
9 focused on commercial BEV customers, as PG&E proposes, would be inefficient and
10 duplicative of ongoing policy progress and would impose an even greater burden on
11 stakeholders to participate in this additional technology-specific forum. The
12 Commissioner’s and ALJ’s narrowly tailored requests that an export compensation
13 mechanism be developed within this proceeding should not be viewed as an open-ended
14 opportunity to pursue longer-term issues spanning multiple policy forums when a near-
15 term, workable approach is readily available. Notably, neither workstream precludes the
16 other: addressing long-term barriers to market participation and RA valuation in no way
17 obstructs the DAHRTP rate from being implemented in its current form for non-NEM
18 exports. It is possible that a market-integrated model could ultimately complement the
19 retail-based V2G export mechanisms in the long-term, however VGIC does not believe
20 the market-integrated approach is feasible in the near-term. Meanwhile, customer interest

⁴⁶ R.21-06-017

⁴⁷ R.19-11-009

⁴⁸ CAISO energy storage enhancements initiative.

<https://stakeholdercenter.caiso.com/StakeholderInitiatives/Energy-storage-enhancements>

⁴⁹ PG&E’s Wholesale Distribution Tariff. https://www.pge.com/pge_global/common/pdfs/about-pge/company-information/regulation/contracts-and-tariffs/wd-tariff.pdf.

1 in V2G, recent product availability, and the opportunity to support the grid per Senate
2 Bill 676 all point towards a customer-centric approach to compensating V2G exports that
3 can be implemented in the near-term. Notably, the PG&E VGI Pilots draft resolution E-
4 5192⁵⁰ and San Diego Gas & Electric Company’s proposed V2G export rate both use
5 retail bill-based approaches to compensating V2G exports.⁵¹ This offers further evidence
6 that such an approach is viable and worth pursuing in the near-term.

7 **Q. Does VGIC have additional recommendations related to incorporating V2G exports**
8 **into California’s RA framework?**

9 A. Although VGIC is not a party in R.19-11-009, it understands that PG&E has been closely
10 engaged on the issue of BTM RA. If PG&E hopes to incorporate V2G into the RA
11 framework, VGIC recommends PG&E express its support for the BTM RA proposal
12 submitted by the Joint DER parties in that proceeding, which represent the interests of
13 several key V2G technology and service providers.⁵²

14 **Q. Does this conclude your testimony?**

15 A. Yes.

⁵⁰Resolution E-5192. Pacific Gas and Electric Company Advice Letter 6259-E requests approval of four vehicle-grid integration pilots pursuant to Decision 20-12-029. Scheduled for April 21, 2022 CPUC Voting Meeting. <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M464/K273/464273538.PDF>. Pages 20-22.

⁵¹ Application of San Diego Gas & Electric Company (U 902-E) for Approval of Commercial Electric Vehicle Dynamic Rate. A.21-12-008. Page 2.

⁵² See Joint DER Parties Implementation Track – Phase 2 Proposal. January 21, 2022. R.21-10-002. <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M444/K123/444123952.PDF>

Appendix A:

Declaration of Ed Burgess in Support of Opening Testimony on Behalf of the Vehicle Grid
Integration Council

**DECLARATION OF ED BURGESS IN SUPPORT OF OPENING TESTIMONY ON
BEHALF OF THE VEHICLE GRID INTEGRATION COUNCIL**

I, Ed Burgess, am the Senior Policy Director for the Vehicle Grid Integration Council (VGIC). Having worked for VGIC since its founding in 2020, I am currently managing policy and regulatory affairs for VGIC and its 19 members. My business address is 2150 Allston Way, Suite 400, Berkeley, CA 94704. I declare under penalty of perjury that the foregoing facts in this document are true and correct.

Executed on April 13, 2022 at Berkeley, California.

A handwritten signature in black ink that reads "Edward A. Burgess". The signature is written in a cursive style with a large, stylized initial "E".

Ed Burgess