PUBLIC UTILITIES COMMISSION
505 Van Ness Avenue
San Francisco CA 94102-3298

Pacific Gas & Electric Company
ELC (Corp ID 39)
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As of May 8, 2023

Subject: Request for Approval of PG&E's Plan to Develop a Clean Substation Microgrid Project and Associated Procurement Contract with Energy Vault

Division Assigned: Energy

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CPUC Contact Information:

edtariffunit@cpuc.ca.gov

AL Certificate Contact Information:

Kimberly Loo
(415)973-4587
PGETariffs@pge.com

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San Francisco CA 94102-3298

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From: Energy Division PAL Coordinator

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Pacific Gas and Electric Company

Sidney Bob Dietz II
Director
Regulatory Relations

Pacific Gas and Electric Company
77 Beale St., Mail Code B13U
P.O. Box 770000
San Francisco, CA 94177

Fax: 415-973-3582

December 30, 2022

Advice 6808-E
(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

Subject: **Request for Approval of PG&E's Plan to Develop a Clean Substation Microgrid Project and Associated Procurement Contract with Energy Vault**

I. Purpose

Pursuant to Ordering Paragraph (OP) 2 of Resolution E-5164 regarding the requirements in Decision (D.) D.21-01-018, Pacific Gas and Electric Company (PG&E) submits this Tier 3 Advice Letter detailing specific plans to develop a Clean Substation Microgrid (CSM) pilot project and seeking approval of a 10.5-year procurement contract with Calistoga Resiliency Center, LLC, a wholly-owned subsidiary of Energy Vault, Inc. (collectively, "Energy Vault"), for a CSM to be located at PG&E's Calistoga distribution substation.

The Calistoga CSM will be a highly innovative, renewable energy microgrid to mitigate PSPS outages using green hydrogen fuel cells and batteries. Unlike the traditional use of mobile diesel generators to provide backup power at substations, this CSM is expected to have no emissions of criteria air pollutants from the generation of electricity to power the microgrid, while still meeting all operating and cost containment requirements for substation microgrids adopted by the California Public Utilities Commission (Commission or CPUC). The Calistoga CSM, if approved and successfully developed, would represent a major advance in microgrid development and a very significant step toward cleaner forms of microgrid generation.

This Advice Letter first describes the background and need for the Calistoga CSM. It then presents a summary of the third-party Distributed Generation-Enabled Microgrid Services (DGEMS) contract for the CSM and the solicitation process through which PG&E procured it. Next, it describes how the proposed CSM complies with applicable Commission requirements and guidance. The Advice Letter then describes the actions PG&E and Energy Vault have taken to engage local stakeholders, including the City of Calistoga and Marin Clean Energy (MCE). In a ratemaking section of the Advice Letter, PG&E summarizes PG&E's and Energy Vault's respective scope of work on the CSM, the associated cost forecasts and revenue requirements, and the proposed cost recovery

and revenue allocation associated with the project. Finally, the Advice Letter includes requested findings, a discussion regarding confidentiality of the related market-sensitive information, and information on submitting protests or responses. Several public and confidential appendices, listed in Section VIII of the Advice Letter, provide supporting information.

II. Background

In September 2019, the CPUC initiated Rulemaking (R.) 19-09-009 to develop a policy framework facilitating the commercialization of microgrids and related resiliency strategies in furtherance of Senate Bill (SB) 1339.[1] SB 1339 requires the Commission to take action to remove barriers for deploying microgrids across the large investor-owned utility (IOU) service areas. On January 14, 2021, as part of R.19-09-009, the CPUC issued D.21-01-018 (the "Decision"), which outlined an Interim Approach for utilities seeking to reserve temporary generation to mitigate PSPS events. This Interim Approach had the simultaneous guiding aims of keeping the lights on during broader grid outages while starting the transition towards clean temporary generation.

Section I.2 of Appendix A to the Decision aims to "start the transition towards clean generation," and requires that a utility reserving temporary generation under the Interim Approach to also pursue at least one CSM pilot project as an alternative to diesel backup generation and to document its plans to do so in a Tier 2 Advice Letter.[2] The actual request for cost recovery for one or more CSM projects, or, alternatively the documentation of the infeasibility of pursuing a CSM pilot, was to follow in a separate Tier 3 Advice Letter. Resolution E-5164 provided further direction for the CSM RFO and required the Tier 3 Advice Letter to be filed by April 2022 detailing the specific plans to develop a CSM pilot project. Resolution E-5164 requires that the Advice Letter include documentation of PG&E's CSM Request For Proposals (RFO), estimate the costs of the project, and request that the Commission approve the project funded through a balancing account according to D.21-01-018.[3]

As required by the Decision, on March 5, 2021, PG&E submitted Advice Letter 6105-E, which stated that PG&E had launched a RFO for clean substation microgrid projects to provide generation support to substations de-energized during PSPS (the "First CSM RFO"). PG&E received multiple proposals for a clean substation microgrid project. On June 9, 2021, PG&E submitted Advice Letter 6204-E to inform the Commission that PG&E would not be moving forward with any of the CSM bids from the First CSM RFO, as none of the projects met the cost-effectiveness criteria set forth in the Decision.

[1] SB 1339 (Stern, 2018).
[2] D.21-01-018, Appendix A, p. A-1.
[3] Resolution E-1564, p. 22 (Ordering Paragraph (OP) 2).

In Resolution E-5164, the Commission found that PG&E's First CSM RFO did not fulfill the requirements of D.21-01-018 and ordered PG&E to issue a new CSM RFO (the "Second CSM RFO"), no later than November 2021.[4] Furthermore, PG&E was ordered to file a Tier 3 Advice Letter no later than April 2022 detailing the specific plans to develop at least one CSM pilot project.[5]

By a letter dated April 11, 2022, the Commission extended the deadline to file this Advice Letter to July 31, 2022.[6] Due to the unique challenges of this project, PG&E was unable to execute a contract to submit with a complete Advice Letter by the July 31, 2022, deadline. On July 7, 2022, PGE submitted an additional extension request, outlining the reasons a further extension of time was required to determine the feasibility of the project before signing a contract. On August 1, 2022, the Commission by letter granted PG&E's extension of time, setting a new deadline of December 31, 2022.[7] PG&E submits this Advice Letter in compliance with that deadline, outlining the CSM pilot project.

III. Energy Vault Contract Summary

Table 1, below, summarizes the key characteristics of the contract for DGEMS signed between PG&E and Energy Vault's subsidiary. Confidential Appendix B provides a detailed summary of the contract's terms and conditions, and Confidential Appendix I provides the contract in its entirety.

Table 1. DGEMS Contract Summary

Name of Project	Calistoga Resiliency Center, LLC
Counterparty	Calistoga Resiliency Center, LLC
Capacity	8.5 megawatts (MW)
Expected Generation	293 megawatt-hours (MWhs) over a 48-hour period
Initial Delivery Date (Commercial On-line Date)	6/1/2024
Delivery Term	10.5 years
Generation Type	Permanent/Stationary Hydrogen Fuel Cells and Lithium-Ion Batteries

[4] Resolution E-5164, p. 21 (OP 1).
[5] *Id.*, p. 22 (OP 2).
[6] Letter from Rachel Peterson, Executive Director, CPUC to Sidney Dietz, PG&E, dated April 11, 2022.
[7] Letter from Rachel Peterson, Executive Director, CPUC to Sidney Dietz, PG&E, dated August 1, 2022. Please note that on July 29, 2022, PG&E submitted Advice Letter 6667-E, in which it provided a status update referencing the pending extension request and a summary regarding negotiations with the Second CSM RFO shortlist. With the grant of the extension issued on August 1, 2022, PG&E subsequently withdrew Advice Letter 6667-E, which was accepted by the Commission via a disposition letter issued on August 11, 2022.

A. General Deal Structure

Energy Vault will develop, construct, and operate consistent with PG&E's requirements and maintain a hybrid battery energy storage hydrogen fuel cell electrical power generation facility located in Calistoga, California. PG&E will dispatch the Calistoga CSM as needed and as available pursuant to the contract terms in order to mitigate the impacts of PSPS events. Between June 1 and November 30 of each contract year, PG&E will pay a monthly payment. If Project is dispatched, there will be a variable payment, further explained in Appendix I. PG&E will also have the option outside of the June 1 – November 30 contract period to a limited number of "courtesy dispatches" of the facility to support any needed planned work on the distribution system or to mitigate outages related to emergencies other than PSPS events. The delivery term is 10.5 years.

Energy Vault will provide DGEMS to energize and meet PG&E-established service requirements for PG&E-owned, operated, and maintained distribution circuits in Calistoga. PG&E will provide a microgrid controller, metering services, networking equipment, a pole and line extension, and will interconnect the Energy Vault facility in order to allow the facility to meet station power requirements during normal grid conditions.

The following figures show the general location of the Calistoga CSM and the specific safe-to-energize (STE) boundaries of the planned microgrid.

Figure 1. General Location of Calistoga CSM

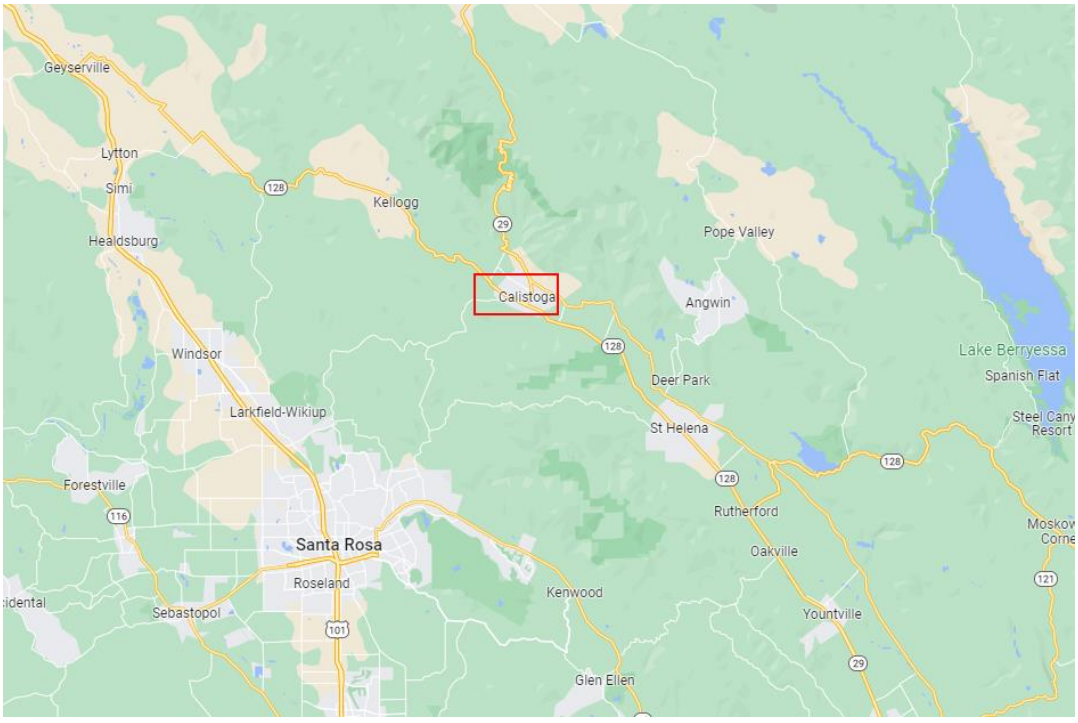
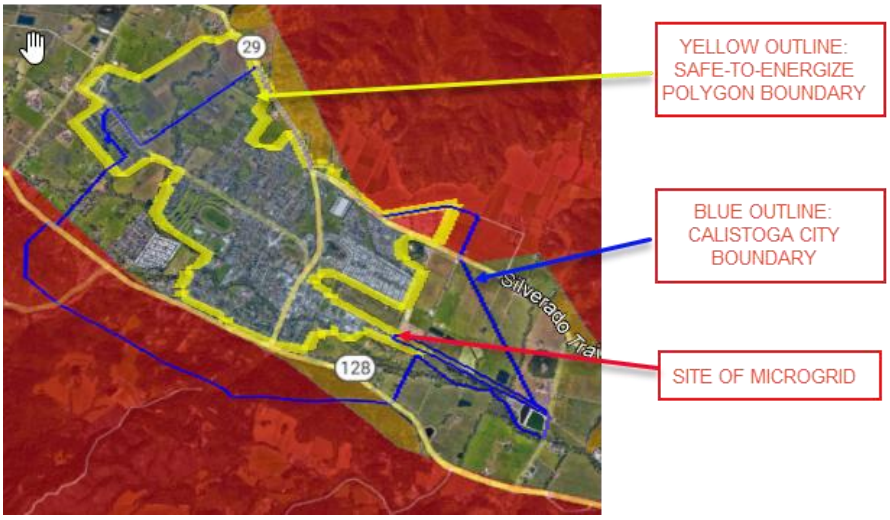


Figure 2. Expected Microgrid Boundary in Calistoga Substation Service Area



B. Description of Counterparty Energy Vault

Energy Vault develops sustainable, utility-scale, long- and short-duration energy storage systems for grid resiliency. Energy Vault Holding Inc. (Energy Vault's parent) is a public company (NYSE: NRGV as of 2/14/22).

Energy Vault's recent projects include: contract signing with Jupiter Power for 220 MWh and Wellhead Electric for 275 MWh with expected on-line dates in 2H 2023; awarded energy storage projects of 500 MWh with Meadow Creek Solar in Australia and 820 MWh with a global renewable developer in Europe; groundbreaking and test piling activity commenced in Texas for gravity-based EVx system with Enel Green Power; and continued construction with Atlas Renewable and China Tianying for a 25 MW, 100 MWh gravity-based EVx system in China with expected completion in the first half of 2023.

C. Relationship between PG&E and Energy Vault

PG&E is not aware of any other business relationship between it and Energy Vault or its subsidiaries.

D. Contracted Volumes/Deliveries

The Energy Vault project is expected to generate up to 293 MWh during any particular 48-hour period. Actual generation in each event will depend upon the length of a particular grid outage and the load requirements within the Calistoga safe-to-energize service area during that outage.

E. Description of Distributed Energy Resources (DERs) Powering CSM

The Project is hybrid battery energy storage and hydrogen fuel cell electrical power generation facility. The DERs are stationary and will be permanently sited on land leased from the City of Calistoga.

F. Procurement of Fuel for DERs

Fuel for the fuel cell will be electrolytic hydrogen derived from a non-fossil-based fuel or feedstock through a process powered by a California Renewables Portfolio Standard (RPS)-eligible energy resource.

During facility operations, the batteries will be charged by the fuel cells. During normal grid operations and standby periods, the facility is designed to recycle hydrogen boil-off through the fuel cells to power auxiliary loads such as station power and battery maintenance charging. However, the facility will have a load interconnection to utilize grid power when necessary.

The battery portion will mostly be charged by the fuel cells. However, the facility is expected to utilize grid-sourced electricity during normal grid conditions to charge the battery.

IV. Description of CSM Request for Offers (RFO)

A. Commission Requirements for CSM RFO

The Commission required as follows with regard to the CSM RFO:

> The [CSM RFO] must: (1) Describe at least one candidate substation, including its hourly load profile, the available substation land area, available land in other PG&E easements; (2) Request a system of energy resources, capable of being controlled by the utility or on its behalf, that could safely and reliably power the substation during a 48-hour transmission outage; and (3) Allow for projects that may progress in stages and may operate over the long-term, i.e. may be permanent projects. Draft [CSM RFO] bid documents, including bid evaluation criteria and a pro-forma contract, are to be reviewed by Energy Division staff in advance of the public issuance of the bid documents.[8]

[8] Resolution E-5164, p. 21 (OP 1).

B. Summary of Second CSM RFO

Pursuant to the Decision and Resolution E-5164, PG&E issued the Second CSM RFO on November 30, 2021. The RFO was published on PG&E's website at www.pge.com/clean-substation-microgrid-pilot for participants to access and download all RFO documents, announcements, and questions and answers. PG&E also sent out notices to market participants and stakeholders informing them about the RFO.

In the RFO, PG&E sought offers for a CSM pilot project to provide DGEMS at the Calistoga distribution substation during PSPS events, with capacity of up to 8.5 MW, for a duration of either 5 or 10 years. Projects were required to be partially operational by September 1, 2022, and fully operational by September 1, 2023. In addition, PG&E requested detailed project and technical information from participants.

Due to the very compressed timeline required by Resolution E-5164,[9] the RFO required participants to submit offer packages by January 20, 2022, and initially anticipated that PG&E's evaluation of offers and execution of contracts would be completed by late April 2022 (i.e. within three months).

On January 20, 2022, 4 entities submitted 8 unique offers. The resource types offered by bidders included:

- Hybrid (Battery and Hydrogen Fuel Cell)
- Reciprocating Natural Gas Engine with CNG
- Hybrid (Natural Gas engines and battery)
- Reciprocating Natural Gas Engine with LNG
- 40 Linear Generators with battery

PG&E evaluated the offers from a quantitative and qualitative perspective in accordance with solicitation materials. As part of the evaluation process, PG&E had meetings with bidders and requested additional information about their projects. Following the meetings with bidders, PG&E also requested bidders provide updated pricing for different delivery terms. See Confidential Appendix A – Solicitation Overview and Results for an overview of offers and the result of the solicitation.

As discussed in Section II of this Advice Letter and shown in Table 2, below, PG&E's evaluation of offers and the negotiation of the Energy Vault contract ultimately took longer than initially expected, thereby requiring the extension of the original deadlines set forth in Resolution E-5164.

[9] Resolution E-5164, p. 22 (OP 2) (requiring partial operation by September 1, 2022, and full operation by September 1, 2023).

C. Second CSM RFO Timeline

Table 2, below, provides the timeline of events related to the Second CSM RFO.

Table 2. PG&E Second CSM Pilot RFO Schedule

Event	Dates
Participants are invited to register online to receive notices regarding the RFO at www.pge.com/rfo	Ongoing
PG&E issues Second CSM RFO	November 30, 2021
Participants' Webinar	December 9, 2021
Deadline for PG&E to receive Offers by 5:00 P.M. PPT	January 20, 2022
PG&E notifies Shortlisted Participants	February 15, 2022
Deadline for Notified Shortlisted Participants to 1) Accept Shortlist Status 2) Acknowledge Acceptance of Confidentiality Agreement 3) Post Shortlist Offer Deposit, and 4) Begin ISNet Safety Process	February 22, 2022
All shortlisted Participants are required to have completed safety prequalification with ISNet	Early-March, 2022
Target Agreement Execution	Late-March 2022
Extension Request Submitted	March 11, 2022
Target Advice Letter Submission with CPUC	Late April 2022
Extension Request Approved	April 11, 2022
Extended Advice Letter Submission with CPUC	Late July 2022
Additional Extension Request Submitted	July 7, 2022
Additional Extension Request Approved	August 1, 2022
Extended/Final Submission Deadline for Advice Letter	December 31, 2022

D. Consultation with Procurement Review Group (PRG)

PG&E communicated details regarding the Second CSM RFO to the PRG on March 15, 2022, and December 7, 2022. PG&E presented the solicitation background and summary of offers to the PRG at the March 15, 2022, meeting.

On December 7, 2022, PG&E provided the PRG specific details regarding the final draft Energy Vault contract.

E. Independent Evaluator (IE)

The use of an IE is required by D.04-12-048, D.06-05-039, D.07-12-052, and D.09-06-050.

PG&E retained the services of IE Mark Smith of Merrimack Energy Group, Inc. beginning in August 2021 for this Second CSM RFO.

In performing his oversight and evaluation role, the IE participated in and undertook a number of activities in connection with the solicitation process, including reviewing the protocol documents, participating in evaluation methodology design, monitoring communications between PG&E and the Participants, organizing and summarizing the offers received, participating in meetings with the PRG, and reviewing the evaluation results. The IE also participated in selection communications, project status discussions with the shortlisted bidder, monitoring contract negotiations, monitoring safety operations and hazardous materials system design and operations, and development of the IE report.

The public and confidential versions of the IE's Report are attached to this Advice Letter as Appendix G and H, respectively.

V. Compliance with D.21-01-018 Requirements and Guidance for Clean Substation Microgrid Pilot Projects

A. Compliance with Requirements for Long-Term Microgrid Projects

1. Summary of Criteria for Long-Term CSM Projects

D.21-01-018 established a set of criteria for any CSM pilot projects pursued by a utility under the Interim Approach. As outlined in Section 2.2 of Appendix A to that Decision, the following conditions must be shown to apply to projects that involve stationary installation of generation at a substation for longer than 3 years:

- (A) Transmission lines serving the substation may be de-energized because of the fire risk, despite safe-to-energize load at the substation. The probability of transmission-level power loss affecting otherwise safe-to-energize load is relatively high and expected to persist; and

- (B) Either, the utility does not have ongoing, planned, or proposed grid hardening investments that would significantly reduce the risk of de-energization at this substation over the next 10 years; or

- (C) The cost of proposed grid hardening investments exceed $10 million multiplied by the peak substation load in MW, and a permanent microgrid would replace the need for grid hardening.

2. Consistency of Calistoga CSM Design with Long-Term Microgrid Project Requirements

   The Calistoga substation was identified as the top candidate based on the best available information at the time that PG&E launched the Second CSM RFO.

   Specifically, using the projected transmission PSPS risks (also known as the 10-Year Historical Lookback Analysis), PG&E examined substations with the highest frequency of modeled direct impacts with 100 or more Safe-to-Energize (STE) customers for each projected PSPS event. This represents substations with more certainty of exposure to elevated PSPS risks. PG&E then applied feasibility screening criteria that filtered out locations with significant implementation challenges (e.g., land availability), which resulted in the top five candidate substations listed in Table 3, below.

   Finally, PG&E assessed each of these candidates to determine whether there were alternative energy supply sources (*e.g.*, a secondary transmission line) that could serve as a potential mitigation option during a projected PSPS event. This assessment revealed potential mitigation options at 4 out of the 5 candidate locations, leaving the Calistoga Substation as the top candidate for the Second CSM RFO.

Table 3
Top CSM Pilot Project Candidates As of Second CSM RFO Launch in November 2021

Item	Substation	Number of Direct Impacts	Number of Impacts with 100+ STE Customers	Alternate Energy Supply as Mitigation Option
1	Bangor	12	12	Yes
2	Calistoga	10	10	No
3	Monticello	9	9	Yes
4	Bonnie Nook	9	9	Yes
5	Weimar	9	8	Yes

Based on the foregoing analysis, PG&E identified Calistoga as the best option for a CSM pilot project at the time of the Second CSM RFO launch. PG&E's efforts to procure a microgrid solution for Calistoga therefore complies with the Commission's finding in Resolution E-5164 that it was "reasonable and consistent with D. 21-01-018 for PG&E to pursue a permanent clean substation microgrid project at one or more substations."[10] However, PG&E cannot guarantee that Calistoga will continue to be subject to the same risk of outages due to transmission-level PSPS outages for the entire 10.5-year duration of the CSM, given the highly dynamic nature of asset conditions, emergent work, and uncertainty regarding future weather patterns. It is worth noting that the same uncertainties would be present in any substation selected for a long-term microgrid solution.

B. Compliance with Microgrid Operating Requirements to Mitigate PSPS Outages

1. Summary of Operating Requirements adopted by D.21-01-018

The Decision contains the following operating requirements for a CSM pilot project:

> Proposed projects must be judged technically feasible, safe, and financially competitive by the utility. At minimum, these solutions should meet the following requirements:
> - Design should be capable of islanding for 48 hours
> - Design should be able to black start the substation load
> - Design should meet cold load pickup requirements
> - Design must meet frequency and frequency response requirements
> - Design should meet protection requirements or include protection upgrades[11]

2. Consistency of Calistoga CSM Design with Operating Requirements

The project must have a capacity of 8.5 MW and generate 293 MWhs within a 48-hour time period without refueling, enabling the islanding of the STE load served by the Calistoga Substation. The Calistoga CSM is also designed to meet each of the other specific requirements listed in Section III.B.1, above. Confidential Appendix B (Contract Summary) identifies the specific contractual provisions meeting these requirements.

[10] Resolution E-5164, p. 13.
[11] D.21-01-018, App. A, Sec. 2.3(a)-(e).

C. Cost-Effectiveness and Compliance with Established Cost Cap

1. Summary of Cost-Effectiveness Criteria Established by D.21-01-018, App. A, Sec. 2.3(f) and Sec. 2.5.

Under the Decision, the cost of the project to ratepayers may not exceed twice the expected cost of utilizing backup diesel generation over the contract period.[12] In total, the cost may not exceed the expected cost of 20 years of diesel rental and operation.[13] Finally, the total cost of all CSM pilot projects over their expected useful lives may not exceed $350 million.[14]

2. Consistency of Calistoga CSM with Cost-Effectiveness Criteria

The CSM project cost over its 10.5-year life (including both the Energy Vault contract costs and the forecasted cost of PG&E's scope of work) does not exceed twice the expected cost of utilizing backup diesel generation over the contract period, as shown in Confidential Appendix E. The total forecasted CSM project cost is also less than the pro-rated portion of the total CSM pilot program cost cap of $350 million established by the Decision, as further discussed in Section VII of this Advice Letter and detailed in Confidential Appendix E.

D. Phasing and Schedule for Project Development

1. Permitted Phasing of Project Pursuant to D.21-01-018

The Decision provides that "[i]f safe to do so, it is permissible for a subset of the project generation and/or storage resources to enter operation before the entire project is completed, allowing the project to progress in stages.[15]

Resolution E-5164 further addressed phasing, noting: "D.21-01-018 allows permanent clean substation microgrid projects to progress in stages, and permanent projects need only demonstrate a fully renewable microgrid when complete."[16]

The Calistoga CSM pilot project is not intended to be developed in phases. The project is intended to demonstrate a fully renewable and complete

[12] D.21-01-018, App. A, Section 2.3(f).
[13] *Id.*
[14] D.21-01-018, App. A, Section 2.5.
[15] D.21-01-018, , App. A., Sec. 2.4(a). Please note that a typographical error is apparent in D.21-01-018, Appendix A, in which the numbering of subparagraphs in Section 2 goes from 2.3 to 1.1 and then to 2.5. (see pages A-4 and A-5). Throughout this Advice Letter, PG&E refers to that Section 1.1 as Section 2.4, which was the apparent intent.
[16] Resolution E-5164, p. 12.

microgrid when it initially comes online. Specific development milestones that are contractually guaranteed are described in Confidential Appendix B.

E. Emissions Performance Criteria

1. Summary of Emissions Performance Criteria Established by D.21-01-018

The Decision requires as follows with regard to the emissions performance of a CSM pilot project:

By the 2022 fire season, September 1, 2022, emission from islanding the substation during PSPS events should be significantly reduced, including:

- (A) At least a 90 percent reduction in particulate matter (PM) emissions and oxides of nitrogen (NOx) emissions compared to what would have been emitted if large Tier 2 Diesel Generators had been used instead of the project
- (B) Greenhouse gas (GHG) emissions roughly equivalent to, or less than, emissions from the current grid mix
- (C) Although only criteria (b) above need to be met by the 2022 fire season, as an interim milestone, completed permanent projects must demonstrate a fully renewable microgrid[17]

As described in Section II, above, the Commission subsequently extended the September 1, 2022 deadline to June 1, 2024.

In Resolution E-5164, the Commission further defined what it meant by fully renewable:

> PG&E requested that the Commission clarify that demonstrating a fully renewable microgrid in this context could mean that a microgrid is capable of running entirely on generation that would qualify as eligible under California's Renewable Portfolio Standard. We agree this would be one way of demonstrating a fully renewable microgrid. Alternatively, a clean substation microgrid project could depend in the short term on some amount of fossil temporary generation, but include a plan to evaluate and replace that generation with renewable and/or storage resources in 5 years. At that time, emerging technologies like long-duration storage may be further commercialized.[18]

[17] D.21-01-018, App. A, Sec. 2.5(b)(i)-(iii).
[18] Resolution E-5164, p. 14 (internal citation omitted).

2. Consistency of Calistoga CSM with Emissions Performance Criteria

The Calistoga CSM pilot project meets each of the emissions performance criteria set forth in the Decision, as detailed in Appendix F. Specifically, the CSM pilot will have no emissions of criteria air pollutants (NOx or PM) from the generation of electricity to power the microgrid and will meet requirements established by the California Energy Commission for RPS eligibility. The low emissions shown in Appendix F for this project are mainly due to transportation of the fuel.

F. Compliance with Online Date Requirements

1. Summary of Commission Requirements for CSM Pilot to Be Online

D.21-01-018 initially required that a CSM be partially online and reducing emissions during PSPS events by September 1, 2022.[19] Resolution E-5146 partially extended that deadline by one year, requiring that a CSM pilot project be online by September 1, 2022 ("partially operational deadline") and meet certain emissions performance criteria by September 1, 2023 ("fully operational deadline").[20] By a letter dated April 11, 2022 that addressed PG&E's March 11, 2022 extension request, the Commission granted PG&E's request and consolidated the partially operational deadline and the fully operational deadline on September 1, 2023.[21] By a further letter dated August 1, 2022, the Commission granted PG&E's request to extend the operational deadline to June 1, 2024.

2. Compliance with Online Date Requirements

The Agreement with the counterparty is structured with critical milestones prior to the Initial Delivery Date that the counterparty must meet. If the counterparty does not certain milestones, then either party may terminate contract. If the party does not meet the expected Initial Delivery Date of June 1, 2024, then the counterparty will incur delay damages, in the amounts described in Confidential Appendix B. As also further described in Confidential Appendix B, the contract also provides a termination right to PG&E if Energy Vault fails to come online after that further delay for reasons other than force majeure.

[19] D.21-01-018, App. A, p. A-5 (Section 2.4).
[20] Resolution E-5146, p. 14.
[21] Letter from Rachel Peterson, Executive Director, CPUC to Sidney Dietz, PG&E, dated April 11, 2022.

G. Operations During Normal Grid Conditions

1. Summary of Guidance in D.21-01-018

Under the Decision, a CSM pilot project "may be capable of export during normal conditions, but it is not required to do so."[22]

Resolution E-5146 also noted the potential for CSM pilot projects to address system reliability needs, stating that "pursuing a permanent clean substation pilot project may make additional energy resources available during potential extreme weather in summer 2022, mitigating the potential need for rotating outages and benefiting the grid at large."[23]

2. Planned Operation During Normal Grid Conditions

The Calistoga CSM is not currently intended to (nor is currently being studied to) export energy during normal grid conditions. The CSM pilot project is only intended to generate and island the substation circuits during grid outages. During normal grid conditions, the Energy Vault facility is designed such that the fuel cells will continuously serve auxiliary loads such as station power and battery maintenance charging. However, the facility will have a load interconnection to enable supplemental charging as necessary.

VI. Local Government and CCA Consultation

PG&E has been in continuous conversation with the City of Calistoga and Marin Clean Energy (MCE) since the launch of the RFO. Throughout these conversations, PG&E has updated the City and MCE on the progress of the CSM to ensure the project is meeting the needs of the community. Listed below are the dates that PG&E met with each party. PG&E has received a letter of support from the City of Calistoga for the Project, as shown in Appendix J.

[22] D.21-01-018, App. A, Sec. 2.4(b)(iv).
[23] Resolution E-5146, p. 12.

Table 4F. List of Meeting Dates with City of Calistoga and Marin Clean Energy

City of Calistoga	Marin Clean Energy
1. 12/15/21	10. 11/22/21
2. 3/4/22	11. 1/18/22
3. 5/18/22	12. 2/23/22
4. 6/1/22	13. 4/22/22
5. 7/13/22	14. 5/13/22
6. 8/19/22	15. 6/3/22
7. 9/13/22	16. 11/10/22
8. 10/27/22	
9. 11/15/22	

VII. Ratemaking Proposal for the Calistoga CSM

1. Guidance on Ratemaking from D.21-01-018

D.21-01-018 provided the following guidance regarding ratemaking for CSM projects:

> [The Decision's ratemaking framework allows] a utility to recover in rates the cost for clean substation microgrid projects, as specified in Section I.2 [of Appendix A]. This may include, but is not limited to, capital investment in permanent generation or, if the utility has contracted for power purchases, the resulting expenses for the power purchase agreement. The amount would be subject to a cap described in Section I [of Appendix A] above, and would be authorized upon approval of Tier 3 Advice Letter in 2021. The Advice Letter should be served on the Wildfire Mitigation Plan Proceeding, R.18-10-007, so that it can be considered in coordination with other PSPS mitigation programs being evaluated as part of the wildfire mitigation plans. The expenditures shall be recorded in a one-way balancing account for allocation to all applicable distribution customers, in a manner proposed within the Tier 3 advice letter.[24]

This section of the Advice Letter implements that guidance and provides PG&E's proposal with regard to ratemaking for the Calistoga CSM.

[24] D.21-01-018, App. A, p. A-9.

2. PG&E's Ratemaking Proposal

Consistent with D.21-01-018, OP 16, PG&E submitted a new preliminary statement, Electric Preliminary Statement Part IT, to establish the Microgrids Balancing Account ("MGBA") as required by the Decision.[25] The MGBA tracks and records actual incremental expenses and capital-related revenue requirements related to incremental capital costs incurred for several programs/elements approved by the Commission in D.21-01-018, including the Clean Substation Microgrid Program. The MGBA has three subaccounts, one of which, the Clean Substation Microgrid Program Subaccount, records actual incremental expenses and capital-related revenue requirements for incremental capital costs incurred to deploy alternatives to diesel substation microgrid projects. The alternative CSM projects are to pilot the use of non-diesel technologies to reduce the impacts of PSPS events.

PG&E proposes to record the actual costs of the Calistoga CSM Project associated with such PSPS mitigation use, which includes but is not limited to the fixed make-ready and other internal work, any temporary generation for contingencies, and the associated procurement contract with Energy Vault, in the Clean Substation Microgrid Program Subaccount of the MGBA in accordance with D.21-01-018. This will include the incremental costs incurred by PG&E following the establishment of the Clean Substation Microgrid Program Subaccount in February 2021, as detailed by year in Section VII.4, below.[26] Appendix K.2 provides redline updates to Electric Preliminary Statement Part IT specifying the method of revenue allocation and rate design for the Clean Substation Microgrid Program Subaccount.

A. Treatment of Non-PSPS-related Variable Costs

As described in Section II of this Advice Letter, the Energy Vault contract also allows the limited "courtesy dispatch" of the facility outside of the historic fire season months to island the Calistoga Substation's service area to facilitate distribution upgrade work requiring planned outages. This was an incidental benefit that PG&E was able to negotiate as part of the final agreement with Energy Vault, and it has the potential to save PG&E customers costs and to reduce environmental emissions if the Energy Vault facility can be utilized to serve customers during planned outages at a lower cost than using standard diesel mobile generators for the same purpose. Because the variable costs associated with these "courtesy dispatches" of the Energy Vault resources would not be for

[25] Electric Preliminary Statement Part IT, Microgrids Balancing Account, was submitted as part of a Tier 1 Advice Letter (AL), Advice 6099-E, on February 22, 2021, and approved with the same effective date.

[26] PG&E proposes to recover the incremental costs it incurred to solicit the DGEMS contract and to begin development of the Calistoga CSM in 2021-2022 via a true-up of rates through PG&E's Annual Electric True-Up filing for 2024.

the purpose of mitigating PSPS outages, PG&E does not propose to record those variable costs incurred under the Energy Vault contract to the Clean Substation Microgrid Program Subaccount. Rather, PG&E proposes to allocate the costs for any such "courtesy dispatches" to its separately-allocated funding in the General Rate Case (GRC) for emergent and standard distribution system work requiring planned outages and temporary generation. This may also include booking such costs to a catastrophic event memorandum account in the event that the "courtesy dispatches" are needed in order to restore service following non-PSPS-related catastrophic events. Because these "courtesy dispatch" variable costs would be accounted for separately, PG&E is not counting them toward the total cost cap and the diesel price benchmark established in this Advice Letter for the use of the Calistoga Clean Substation Microgrid to mitigate PSPS outages.

B. One-Way Balancing Account Cap

D.21-01-018 directed that the CSM Pilot Program costs would be capped at $350 million.[27] Appendix A of the Decision explains how the Commission determined this amount:

> Given the earlier proposed limit of no more than three projects with a cost cap of $500 per kw-year, and assuming substations of average size among those with safe-to-energize load (about 15 MW) and contracts of 15 years, the total expenditures could be as high as $350 million over the three projects' lifetimes. With the limit on the number of projects removed, it makes sense to cap total expenditures at $350 million.[28]

PG&E proposes to use the same methodology as that used by the Commission in D.21-01-018 in order to determine the cap for the Calistoga CSM Project as a proration of the adopted $350 million cap for the pilot program as a whole. However, PG&E used the specific variables relevant to this filing, *i.e.*, one project, a 10.5-year contract term, and a capacity of 8.5 MW. The result, which is shown in Table 5, is a prorated budget cap of $46.3 million.

[27] D.21-01-018, p. 94.
[28] D.21-01-018, Appendix A, page A-5, footnote 378.

Table 5 Calculation to Prorate $350 Million Budget Cap for Calistoga CSM Project

	Pilot Program Per D.21-01-018	Prorated for Calistoga
Number of Projects	3	1
Term (in years)	15	10.5
MW	15	8.5
$/MW-Year	$0.518519	$0.518519
Budget Cap	$350 million	$46.3 million

Accordingly, PG&E proposes that costs for the Calistoga CSM project may exceed the currently forecasted total project budget shown in Confidential Appendix E[29] up to the prorated $46.3 million cap without being subject to additional reasonableness review or a separate request for cost recovery. If costs exceed the forecasted budget, then upon completion of the initial construction of the Calistoga CSM project, PG&E will file a Tier 1 Advice Letter to present the forecasted costs at completion and a comparison to the established prorated cap.

C. Rate Recovery Proposal

To the extent the actual incurred costs are equal to or less than the prorated $46.3 million cap, PG&E requests it be authorized to recover, without further reasonableness review, the actual costs and associated revenue requirement.

As shown in Appendix D, PG&E has incurred $39,000 in 2021 and $306,000 in 2022[30] of incremental labor and contractor costs for the solicitation of the DGEMS contract and the initial feasibility studies of the Calistoga CSM. PG&E proposes that these incremental costs be subject to the prorated cap on the Calistoga CSM Project established in this Advice Letter, and upon approval of this Advice Letter that these costs, which have been recorded in the Clean Substation Microgrid Program Subaccount of the MGBA, be transferred to the Distribution Revenue Adjustment Mechanism (DRAM) in order to recover the actual costs and associated revenue requirement in distribution rates through the next Annual Electric True-up (AET) advice letter.[31] It is reasonable for PG&E to recover these incremental costs from 2021-2022 since these costs were incurred following the Commission's approval of the Clean Substation Microgrid Pilot Program in D.21-

[29] Confidential Appendix E compares the forecasted total budget for the Calistoga CSM Project with the cost-effectiveness benchmark established by D.21-01-018 and the prorated $46.3 million balancing account cap.
[30] Amount reflects actual costs incurred for the year as of November 30, 2022 and forecasted costs for December 2022, which are subject to change.
[31] PG&E anticipates that these costs would be recovered through the AET advice letter to set rates as of January 1, 2024, based on expected timely approval of this Advice Letter.

01-018 and its approval to establish the Clean Substation Microgrid Program Subaccount in the Microgrids Balancing Account via Advice Letter 6099-E.

For costs incurred during the period of 2023–2026, PG&E proposes that the balance of the Clean Substation Microgrid Program Subaccount of the MGBA be transferred annually to the DRAM in order to recover the actual costs and associated revenue requirement in distribution rates through the AET advice letter process. Beginning with the 2027 GRC cycle, PG&E proposes that the revenue requirement be included in the GRC application for recovery through distribution rates.

For expenses, the revenue requirement includes an adjustment for Revenue Fees and Uncollectibles (RF&U).[32] Capital-related revenue requirements, related to the actual incremental capital costs incurred, include depreciation expense, return on investment, federal and state income taxes, and property taxes associated with the costs of installed equipment. Certain forecast expenditures related to the Calistoga CSM project meet PG&E's capitalization policy,[33] however the forecast capital amounts are minimal. PG&E is proposing to recover all expenditures for the Calistoga CSM project as expense to simplify the revenue requirement request and therefore proposes not to earn a return on capital. However, PG&E does not intend to establish precedent with this limited and narrow exception and expressly reserves the right to seek a return on any capital costs incurred for other CSM projects that may be done in the future. This is especially important because the capital costs of other CSM projects may be more significant.

Table 6 calculates the forecasted total revenue requirement for the Calistoga CSM Project, using the prorated budget cap previously discussed.

Table 6. Revenue Requirement Calculation for Calistoga CSM Project

	Prorated Budget Cap
Budget	$46.3 million
RF&U[34]	$0.5 million
Revenue Requirement	$46.8 million

[32] The RF&U is determined through the GRC and updated on an annual basis through a Tier 1 advice letter filing.
[33] PG&E's accounting policies are utilized to determine if costs are expensed or capitalized. These policies apply to property, plant, and equipment as well as computer software. Lifespan, inclusion in the Retirement Unit Catalog, and exceeding a minimum material cost per unit, are among the main determining factors. However, some situations are very specific and require additional analysis and judgement in determining the cost categorization.
[34] The RF&U factor for the year 2022 is 0.010811 as determined in D.20-12-005 and Advice 4512-G/6373-E and is provided here for illustration purposes. The revenue requirement shall be

D. Revenue Allocation and Rate Design for Calistoga CSM

As directed in D.21-01-018, PG&E is proposing that the costs for the Calistoga CSM Project be recovered in distribution rates. PG&E more specifically proposes that the Commission approve for the Calistoga CSM Project the use of the special revenue allocation methodology that was originally approved in Phase II of PG&E's 2020 GRC, D.21-11-016, for costs associated with wildfire mitigation efforts. The same special revenue allocation methodology was recently approved in D.22-11-009 for PG&E's Long-Term Procurement Framework for Multi-Season Substation Microgrid Solutions to Mitigate PSPS, A.21-06-022, and so should be used in this very similar use case.

This special revenue allocation allocates costs among customer classes using the equal percentage of total revenues (EPT) rather than using distribution revenue allocation factors for the entirety of the costs.

As explained in D.21-11-016:

> Under the EPT method, costs are allocated proportionate to a class's total revenue allocation rather than simply their distribution revenue allocation. The amount of wildfire mitigation costs allocated using the EPT method is proposed to increase as the total aggregate amount of wildfire mitigation costs approved in other Commission proceedings increases.
>
> The effect of this change in allocation is to decrease the amount of wildfire mitigation costs paid by certain customer classes that are more expensive to serve on the distribution network (e.g., the residential class) and increase the amount of wildfire mitigation costs paid by customer classes that are less expensive to serve on the distribution network (e.g., large commercial customers).[35]

Given the Commission's approval of this hybrid revenue allocation for costs associated with wildfire mitigation efforts, PG&E is proposing that this same allocation methodology be applied to the Calistoga CSM.

3. Cost Forecasts

a. Cost Forecast for the Energy Vault DGEMS Contract

Please see Confidential Appendix C for a cost forecast of the Energy Vault DGEMS contract.

---

adjusted accordingly with the RF&U approved in future GRCs and annual advice filings applicable to the respective year.

[35] D.21-11-016, p.87.

b. Cost Forecast for PG&E Scope of Work

Appendix D.1 (Public) and D.2 (Confidential) detail PG&E's forecasted costs to carry out its incremental study, make-ready, and other distribution system scope of work for the Calistoga CSM Project. The total notional cost of PG&E's scope of work as shown in those Appendices is $6,007,917. The total project cost, including both the Energy Vault and PG&E Scopes of work, are provided in Confidential Appendix E, where they are compared against the applicable balancing account cap and cost-effectiveness benchmark.

VIII. Appendices

This Advice Letter has the Appendices shown in the following Table.

Table 8. Table of Appendices

Appendix	Description	Public or Confidential
A	Calistoga CSM RFO Overview and Results	Confidential
B	Energy Vault Procurement Contract Summary	Confidential
C	Cost Forecast Details for Energy Vault Contract	Confidential
D.1	PG&E Major Work Summary (Public Version)	Public
D.2	PG&E Major Work Summary (Confidential Version)	Confidential
E	Calculation of the Diesel Cost Benchmark and Comparison of Applicable Cost Metrics to Forecasted Project Cost	Confidential
F	Estimated Air Emissions from Calistoga CSM and Comparison to Performance Standard	Public
G	Independent Evaluator's Report on CSM RFO (Public Version)	Public
H	Independent Evaluator's Report on CSM RFO (Confidential Version)	Confidential

I	Executed Energy Vault Procurement Contract for Calistoga CSM	Confidential
J	City of Calistoga Letter	Public
K.1	Electric Preliminary Statement Part IT, Microgrids Balancing Account (Clean Version)	Public
K.2	Electric Preliminary Statement Part IT, Microgrids Balancing Account (Redlined Version)	Public
L	Model Protective Order and Nondisclosure Certificate	Public

IX. Requested Findings

For the foregoing reasons, and in furtherance of the Interim Approach adopted in D.21-01-018, PG&E requests that the Commission issue the following specific findings in its Resolution disposing of this Advice Letter:

1. PG&E has adequately documented its plan to develop at least one CSM Pilot Project pursuant to Section 2 of Appendix A to D.21-01-018.
2. The Calistoga CSM Project would demonstrate a novel combination of third-party-owned, clean generation technologies in combination with existing utility infrastructure, and it will further the transition to cleaner sources of substation microgrid generation.
3. As a permanent, stationary CSM project, the Calistoga CSM Project meets condition 2.1 of Section 2 of Appendix A to D.21-01-018.
4. As a permanent (ie., long-term) CSM project, PG&E has adequately demonstrated the probability for a long-term need for a CSM solution at the Calistoga Substation and has therefore met condition 2.2 of Section 2 of Appendix A to D.21-01-018.
5. The Calistoga CSM Project is technically feasible, safe, and financially competitive, including meeting the minimum technical criteria set forth in condition 2.3 of Section 2 of Appendix A to D.21-01-018.
6. The forecasted cost of the Calistoga CSM Project to ratepayers does not exceed twice the expected cost of utilizing backup diesel generation over the contract period, consistent with condition 2.3 of Section 2 of Appendix A to D.21-01-018.
7. In total, the forecasted cost of the Calistoga CSM Project does not exceed the expected cost of 20 years of diesel rental and operation, consistent with condition 2.3 of Section 2 of Appendix A to D.21-01-018.
8. The Calistoga CSM Project is expected to achieve at least a 90 percent reduction in PM emissions and NOx emissions compared to what would have been emitted if large Tier 2 Diesel Generators had been used instead of the project, consistent with Appendix A to D.21-01-018.

9. The Calistoga CSM Project is expected to achieve greenhouse gas emissions roughly equivalent to, or less than, emissions from the current grid mix, consistent with Appendix A to D.21-01-018.
10. The completed Calistoga CSM Project will demonstrate a fully renewable microgrid, consistent with Appendix A to D.21-01-018 as further elaborated by Resolution E-5164.
11. The Calistoga CSM Project is not expected to export during normal grid conditions.
12. PG&E has sought the input of local stakeholders, including the City of Calistoga and Marin Clean Energy, as part of its solicitation and initial study processes.
13. The Calistoga CSM Project has received support from local community stakeholders.
14. The total cost of the Calistoga CSM Project is not expected to exceed the total balancing account cap for the CSM Pilot Program of $350 million established in condition 2.5 of Section 2 of Appendix A to D.21-01-018.
15. The total cost of the Calistoga CSM Project is not expected to exceed PG&E's proposed prorated balancing account cap of $46.3 million.
16. To the extent the total actual expenses for the Calistoga CSM project are equal to or less than the prorated $46.3 million balancing account cap, PG&E is authorized to recover, without further reasonableness review, the actual costs and associated revenue requirement.
17. If costs exceed the forecasted total cost of the Calistoga CSM Project detailed in Confidential Appendix E of the Advice Letter, then upon completion of the initial construction of the Calistoga CSM Project, PG&E shall file a Tier 1 Advice Letter to present the forecasted costs at completion and a comparison to the established balancing account cap.
18. It is reasonable for PG&E to recover the incremental costs it has incurred in 2021-2022 to solicit the DGEMS contract and to begin development of the Calistoga CSM Project since these costs were incurred following approval by the Commission of the Clean Substation Microgrid Pilot Program in D.21-01-018 and the approval to establish a Clean Substation Microgrid Program Subaccount in the Microgrids Balancing Account in February 2021. These incremental incurred costs should be subject to the one-way cap on the Clean Substation Microgrid Program Subaccount established in this Advice Letter and should be recovered via a true-up of rates through PG&E's Annual Electric True-Up filing for 2024.
19. For costs incurred during the period of 2023–2026, the balance of the Clean Substation Microgrid Program Subaccount of the MGBA shall be transferred annually to the DRAM in order to recover the actual costs and associated revenue requirement in distribution rates through the AET advice letter process.
20. Beginning with the 2027 GRC cycle, PG&E shall include the revenue requirement for the Calistoga CSM Project in its GRC application for recovery through distribution rates.
21. It is reasonable, on a non-precedential basis, for PG&E to recover all expenditures for the Calistoga CSM project as expense to simplify the revenue requirement calculation and cost recovery.

22. The Calistoga CSM Project costs shall be allocated in distribution rates using the special revenue allocation methodology that was originally approved in Phase II of PG&E's 2020 GRC, D.21-11-016, for costs associated with wildfire mitigation efforts.
23. Given the parallel and coordinated development of the Calistoga CSM Project by PG&E and by Energy Vault, it is reasonable for PG&E to proceed immediately upon approval with its scope of work. PG&E may recover the then-incurred costs for its scope of work in the event that the Energy Vault scope of work is terminated or otherwise fails to function as anticipated, so long as PG&E reasonably mitigates the stranding of assets and other expense costs after the time, if any, at which it receives express notice that the Energy Vault scope of work will fail or terminate.
24. The contract between PG&E and Energy Vault provides for an Initial Delivery Date of June 1, 2024, which is consistent with the partially and fully operational timelines set forth in Resolution E-5164 as those deadlines were most recently extended by letter from the Commission's Executive Director on August 1, 2022.
25. Contract terms that allow day-for-day extensions to the Initial Delivery Date under certain circumstances described in the contract terms, or for the payment of daily damages by Energy Vault in the event of certain other circumstances described in the contract terms, are reasonable given the complexity and novelty of the pilot project and the relatively limited additional time that may be allowed under these provisions.

X. Confidentiality

In support of this Advice Letter, PG&E provides the confidential appendices listed in Table 8, above. This information includes the Energy Vault contract and other information that more specifically describes the rights and obligations of the parties involved. This information is being submitted in the manner directed by D.08-04-023 and the August 22, 2006, Administrative Law Judge's Ruling Clarifying Interim Procedures for Complying with D.06-06-066 to demonstrate the confidentiality of the material and to invoke the protection of confidential utility information provided under either the terms of the Investor-Owned Utility Matrix, Appendix 1 of D.06-06-066 and Appendix C of D.08-04-023, as revised by D.21-11-029 (collectively, the "IOU Matrix") or Public Utilities Code section 454.5(g). PG&E is further seeking confidential treatment of certain information contained in Appendix D that does not fall within the scope of the IOU Matrix pursuant to the Commission's General Order 66-D. Separate Declarations Seeking Confidential Treatment under these respective authorities are being submitted concurrently with this Advice Letter.

In accordance with GO 96-B, a copy of PG&E's Proposed Protective Order is attached as Appendix L. The confidential version of this Advice Letter will be made available to appropriate parties upon execution of a standard non-disclosure agreement, or, to the extent the Commission adopts the Proposed Protective Order, the execution of the non-disclosure certificate attached to the Proposed Protective Order. Parties wishing to obtain

access to the confidential version of this Advice Letter may contact Amanda Sweetman at a3pm@pge.com to obtain the relevant agreement.

Protests

Anyone wishing to protest this submittal may do so by letter sent electronically via E-mail, no later than January 19, 2023, which is 20 days after the date of this submittal. Protests must be submitted to:

CPUC Energy Division
ED Tariff Unit
E-mail: EDTariffUnit@cpuc.ca.gov

The protest shall also be electronically sent to PG&E via E-mail at the address shown below on the same date it is electronically delivered to the Commission:

Sidney Bob Dietz II
Director, Regulatory Relations
c/o Megan Lawson
E-mail: PGETariffs@pge.com

Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order 96-B, Section 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name and e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Section 3.11).

Effective Date

Pursuant to General Order (GO) 96-B, Rule 5.3, and OP 2 of Resolution E-5164, this Advice Letter is submitted with a Tier 3 designation. PG&E requests that the Commission issue a final Resolution making this Tier 3 advice submittal effective no later than May 15, 2023, in order to facilitate the ability of the parties to meet the Initial Delivery Date of June 1, 2024.

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 lists for R.19-09-009 and R.18-10-007. 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

Attachments

cc: Service List R.19-09-009
Service List for R.18-10-007
Daniel Tutt, Energy Division

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 (ID U39 E)

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

Contact Person: Kimberly Loo
Phone #: (415)973-4587
E-mail: PGETariffs@pge.com
E-mail Disposition Notice to: KELM@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) #: 6808-E

Tier Designation: 3

Subject of AL: Request for Approval of PG&E's Plan to Develop a Clean Substation Microgrid Project and Associated Procurement Contract with Energy Vault

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 #: Resolution E-5164

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:

Confidential treatment requested? ☑ Yes ☐ No

If yes, specification of confidential information: See Confidentiality Declaration and Matrix
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: Jeremy Donnell, Jeremy.Donnell@pge.com

Resolution required? ☑ Yes ☐ No

Requested effective date: No. of tariff sheets: 7

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: See Appendix K.1

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:
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

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY
PACIFIC GAS AND ELECTRIC COMPANY ADVICE LETTER 6808-E

DECLARATION OF JEREMY DONNELL SEEKING CONFIDENTIAL TREATMENT FOR CERTAIN DATA AND INFORMATION CONTAINED IN ADVICE LETTER SEEKING APPROVAL OF CALISTOGA CLEAN SUBSTATION MICROGRID PILOT PROJECT AND CONTRACT WITH ENERGY VAULT, LLC

I, Jeremy Donnell, declare:

1. I am the Senior Manager of Microgrid Strategy Implementation within the Utility Partnerships & Innovation organization at Pacific Gas and Electric Company (PG&E). In this position, my responsibilities include overseeing PG&E's participation in the Microgrid OIR (R.19-09-009) as well as related microgrid projects. This declaration is based on my personal knowledge of PG&E's practices and my understanding of the Commission's decisions protecting the confidentiality of market-sensitive procurement information.

2. Based on my knowledge and experience, and in accordance with the Decisions 06-06-066, 08-04-023, and relevant Commission rules, I make this declaration seeking confidential treatment for certain procurement data and information contained in Advice Letter 6808-E.

3. Attached to this declaration is a matrix identifying the data and information for which PG&E is seeking confidential treatment. The matrix specifies that the material PG&E is seeking to protect constitutes confidential market sensitive procurement data and information covered by Public Utilities Code section 454.5(g), D.06-06-066, D.08-04-023, D.21-11-029, and/or relevant Commission rules. The matrix also specifies why confidential protection is justified. Further, the data and information: (1) is not already public; and (2) cannot be aggregated, redacted, summarized or otherwise protected in a way that allows partial disclosure. I note that while some non-confidential information is provided in the Confidential Appendices

of the Advice Letter for purposes of context, this same public information is provided in the public portion of the Advice Letter. By this reference, I am incorporating into this declaration all of the explanatory text that is pertinent to my testimony in the attached matrix.

I declare under penalty of perjury, under the laws of the State of California, that the foregoing is true and correct. Executed on December 20, 2022, at Oakland, California.

Jeremy Donnell

PACIFIC GAS AND ELECTRIC COMPANY

Calistoga Clean Substation Microgrid (CSM) Pilot Project
Advice Letter 6808-E
December 20, 2022

IDENTIFICATION OF CONFIDENTIAL INFORMATION

Redaction Reference	Category from D.21-11-029, Attachment 2, or Separate Confidentiality Statute or Order That Data Corresponds To	Justification for Confidential Treatment	Length of Time Data To Be Kept Confidential
Appendix A, Calistoga CSM RFO Overview and Results	Line VII(G) - Renewable Resource Contracts under RPS program - Score sheets, analyses, evaluations of proposed RPS projects; Line VIII(B) - Specific quantitative analysis involved in scoring and evaluation of participating bids	This appendix contains confidential bid information and specific bid evaluations from PG&E's CSM RFO. If released publicly, this information would provide valuable market sensitive information to market participants; therefore, this information should remain confidential.	Line VII(G): Score sheets, analyses, evaluations of proposed RPS projects are confidential for three years after winning bidders selected; Line VIII(B): Confidential for three years after winning bidders selected.
Appendix B, Energy Vault Procurement Contract Summary	Line VII(F): Renewable Resource Contracts under RPS Program Line VII(G) - Renewable Resource Contracts under RPS	This appendix summarizes and analyzes the PPA and contains bid information. If released publicly, this information would provide valuable market sensitive information to market participants and could be damaging to PG&E's future negotiations with other counterparties for similar products. Therefore, this information should remain confidential.	Line VII(F): The contract is public 30 days after commercial operation date (energy deliveries begin) or 18 months from Commission approval, whichever comes first.

PACIFIC GAS AND ELECTRIC COMPANY

Calistoga Clean Substation Microgrid (CSM) Pilot Project
Advice Letter 6808-E
December 20, 2022

IDENTIFICATION OF CONFIDENTIAL INFORMATION

Redaction Reference	Category from D.21-11-029, Attachment 2, or Separate Confidentiality Statute or Order That Data Corresponds To	Justification for Confidential Treatment	Length of Time Data To Be Kept Confidential
	program - Score sheets, analyses, evaluations of proposed RPS projects		Line VII(G): Score sheets, analyses, evaluations of proposed RPS projects are confidential for three years after winning bidders selected
Appendix C, Cost Forecast Details for Energy Vault Contract	Line VII(F): Renewable Resource Contracts under RPS Program Line VII(G) - Renewable Resource Contracts under RPS program - Score sheets, analyses, evaluations of proposed RPS projects	This appendix analyzes the PPA and contains bid information. If released publicly, this information would provide valuable market sensitive information to market participants and could be damaging to PG&E's future negotiations with other counterparties for similar products. Therefore, this information should remain confidential.	Line VII(F): The contract is public 30 days after commercial operation date (energy deliveries begin) or 18 months from Commission approval, whichever comes first. Line VII(G): Score sheets, analyses, evaluations of proposed RPS projects are confidential for three years after winning bidders selected
Appendix E, Calculation of the Diesel Cost Benchmark and Comparison of Applicable	Line VII(F): Renewable Resource Contracts under RPS Program; Line VIII(B) - Specific quantitative	This appendix explains how PG&E calculated the Diesel Cost Benchmark and compares that Benchmark against the confidential pricing in the DGEMS contract. The Benchmark relies upon confidential and proprietary third-party vendor bids for providing diesel mobile generators. Please note that PG&E provides the prorated cost cap in this Appendix for context, but it also provides the same information in the public portion of the Advice Letter. If released publicly, this information would provide valuable market sensitive information to market participants and could be damaging to PG&E's future negotiations with other counterparties for similar products. Therefore, this information should remain confidential.	Line VII(F): The contract is public 30 days after commercial operation date (energy deliveries begin) or 18 months from Commission approval, whichever comes first.

PACIFIC GAS AND ELECTRIC COMPANY

Calistoga Clean Substation Microgrid (CSM) Pilot Project
Advice Letter 6808-E
December 20, 2022

IDENTIFICATION OF CONFIDENTIAL INFORMATION

Redaction Reference	Category from D.21-11-029, Attachment 2, or Separate Confidentiality Statute or Order That Data Corresponds To	Justification for Confidential Treatment	Length of Time Data To Be Kept Confidential
Cost Metrics to Forecasted Project Cost	analysis involved in scoring and evaluation of participating bids		Line VIII(B): Confidential for three years after winning bidders selected.
Appendix H, Independent Evaluator's Report on CSM RFO (Confidential Version)	Line VII(F): Renewable Resource Contracts under RPS Program; Line VII(G) - Renewable Resource Contracts under RPS program - Score sheets, analyses, evaluations of proposed RPS projects Line VIII(B) - Specific quantitative analysis involved in scoring and evaluation of participating bids	This appendix contains the IE report, which includes confidential bid information and bid evaluations from the solicitation. The confidential IE report also discusses, analyzes and/or evaluates the terms of the contract. If released publicly, this information would provide valuable market sensitive information to market participants, could be damaging to future PG&E contract negotiations and ultimately detrimental to PG&E's customers, and could create a disincentive to do business with PG&E and other regulated utilities. Therefore, this information should remain confidential.	Line VII(F): The contract is public 30 days after commercial operation date (energy deliveries begin) or 18 months from Commission approval, whichever comes first. Line VII(G): Score sheets, analyses, evaluations of proposed RPS projects are confidential for three years after winning bidders selected Line VIII(B): Confidential for three years after winning bidders selected.

PACIFIC GAS AND ELECTRIC COMPANY

Calistoga Clean Substation Microgrid (CSM) Pilot Project
Advice Letter 6808-E
December 20, 2022

IDENTIFICATION OF CONFIDENTIAL INFORMATION

Redaction Reference	Category from D.21-11-029, Attachment 2, or Separate Confidentiality Statute or Order That Data Corresponds To	Justification for Confidential Treatment	Length of Time Data To Be Kept Confidential
Appendix I, Executed Energy Vault Procurement Contract for Calistoga CSM	Line VII(F): Renewable Resource Contracts under RPS **P**rogram	This appendix provides the executed PPA. If released publicly, this information would provide valuable market sensitive information to market participants and could be damaging to PG&E's future negotiations with other counterparties for similar products. Therefore, this information should remain confidential.	Line VII(F): The contract is public 30 days after commercial operation date (energy deliveries begin) or 18 months from Commission approval, whichever comes first.

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY

DECLARATION OF JEREMY DONNELL
SEEKING CONFIDENTIAL TREATMENT
FOR CERTAIN DATA AND INFORMATION CONTAINED
IN ADVICE LETTER 6808-E

I, Jeremy Donnell, declare:

1. I am the Senior Manager of Microgrid Strategy Implementation within the Utility Partnerships & Innovation organization of Pacific Gas and Electric Company ("PG&E"), a California corporation. In this position, my responsibilities include overseeing the development of the Microgrid OIR as well as related microgrid projects. This declaration is based on my personal knowledge of PG&E's practices and understanding of the Commission's decisions protecting the confidentiality of market-sensitive information. My business office is located at:

Pacific Gas and Electric Company
77 Beale Street, Mail Code xxx
San Francisco, CA 94105

2. PG&E will produce the information identified in Paragraph 3 of this Declaration to the California Public Utilities Commission ("CPUC") or departments within or contractors retained by the CPUC in response to a CPUC audit, data request, proceeding, or other CPUC request.
3. Title and description of document(s): Appendix D.2 PG&E Major Work Summary (Confidential Version).
4. These documents contain confidential information that, based on my information and belief, has not been publicly disclosed. These documents have been marked as confidential, and the basis for confidential treatment and where the confidential information is located on the documents are identified on the following chart.

Check	Basis for Confidential Treatment	Where Confidential Information is Located on the Documents
☐	Customer-specific data, which may include demand, loads, names, addresses, and billing data. (Protected under PUC § 8380; Civ. Code §§ 1798 *et seq.*; Govt. Code § 6254; Public Util. Code § 8380; Decisions (D.) 14-05-016, 04-08-055, 06-12-029)	
☐	Personal information that identifies or describes an individual (including employees), which may include home address or phone number; SSN, driver's license, or passport numbers; education; financial matters; medical or employment history (not including PG&E job titles); and statements attributed to the individual. (Protected under Civ. Code §§ 1798 *et seq.;* Govt. Code § 6254; 42 U.S.C. § 1320d-6; and General Order (G.O.) 77-M)	
☐	Physical facility, cyber-security sensitive, or critical infrastructure data, including without limitation critical energy infrastructure information (CEII) as defined by the regulations of the Federal Energy Regulatory Commission at 18 C.F.R. § 388.113 and/or General Order 66-D ("The subject information: (1) is not customarily in the public domain by providing a declaration in compliance with Section 3.2(c) stating that the subject information is not related to the location of a physical structure that is visible with the naked eye or is available publicly online or in print; **and** (2) the subject information either: could allow a bad actor to attack, compromise or incapacitate physically or electronically a facility providing critical utility service; or discusses vulnerabilities of a facility providing critical utility service"). (Protected under Govt. Code § 6254(k), (ab); 6 U.S.C. § 131; 6 CFR § 29.2)	
☒	Proprietary and trade secret information or other intellectual property and protected market sensitive/competitive data. (Protected under Civ. Code §§3426 *et seq.*;Govt. Code §§ 6254, *et seq*., e.g., 6254(e), 6254(k), 6254.15; Govt. Code § 6276.44; Evid. Code §1060; D.11-01-036)	Appendix D.2 – PG&E Major Work Summary (gray-shaded information)
☐	Corporate financial records.	

	(Protected under Govt. Code §§ 6254(k), 6254.15)	
☐	Third-Party information subject to non-disclosure or confidentiality agreements or obligations. (Protected under Govt. Code § 6254(k); see, e.g., CPUC D.11-01-036)	
☐	Other categories where disclosure would be against the public interest (Govt. Code § 6255(a)): _____	

5. The importance of maintaining the confidentiality of this information outweighs any public interest in disclosure of this information. This information should be exempt from the public disclosure requirements under the Public Records Act and should be withheld from disclosure.
6. I declare under penalty of perjury that the foregoing is true, correct, and complete to the best of my knowledge.
7. Executed on December 20, 2022, at Oakland, California.

Jeremy Donnell
Sr. Manager of Microgrid Implementation Strategy
Pacific Gas and Electric Company

PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)

Advice Letter 6808-E
ATTACHMENT TO DECLARATION
December 20, 2022

ATTACHMENT NAME	DOCUMENT NAME	CATEGORY OF CONFIDENTIALITY	LOCATION
Appendix D.2 PG&E Major Work Summary	Appendix D.2 PG&E Major Work Summary	Proprietary and trade secret information or other intellectual property and protected market sensitive/competitive data.	Appendix D.2 (Gray-shaded information)

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Appendix A

Calistoga CSM RFO Overview and Results

(Confidential)

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Appendix B

Energy Vault Procurement Contract Summary

(Confidential)

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Appendix C

Cost Forecast Details for Energy Vault Contract

(Confidential)

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Appendix D.1

PG&E Major Work Summary

(Public)

Confidential Appendix D:
Calistoga CSM PG&E Major Work Project Cost Forecast

Project Line Item	Amount*	Comment
Project Studies:		
Inverter Feasibility Study	[redacted]	
Safety Study		
Microgrid Island Study	$ 200,000	Forecasted from Redwood Coast Airport Microgrid (RCAM) effort
Major Project Expense:		
Environmental and Permitting	$ 150,000	Forecast from PG&E Projects
Pole & Line Ext	$ 220,000	Forecast from PG&E Projects
Networking Equipment	$ 350,000	Forecasted from Redwood Coast Airport Microgrid (RCAM) effort
Metering	$ 40,000	Forecast from Metering
Labor:		
2021 Incremental Labor Expense	$ 38,677	Actual Costs
2022 Incremental Labor Expense	$ 261,020	2022 Actual Costs through Nov 30, 2022
2022 Incremental Labor Accrued	$ 45,178	Forecasted Dec 2022 Costs
External Transactor	[redacted]	
2023 - 2024 Project Development	$ 750,000	Forecast based upon RCAM effort
Project Development Testing:		
Factory Acceptance Test**	$ 25,000	Forecasted from PG&E Projects
User Acceptance Test***	[redacted]	
Project Execution:		
Annual User Acceptance Test	[redacted]	
Contract Administration	$ 120,000	Admin costs over 10.5 years
Field Support	$ 350,000	Estimate for 1 dispatch event per year over 10.5 years
Total Expense	$ 4,621,475	
Project Contingency (30%)	$ 1,386,442	Project contingency was developed using the Association for the Advancement of Cost Engineering (AACE) classification model to map project phases and cost estimating with project scope. For this project, the project was classified as a Class 4 project as it had preliminary costs estimates without a design but with a scope.
Total Project Expense	$ 6,007,917	

* PG&E represents these costs conservatively. Costs are notional value. If these costs are converted to present value it is expected to be lower.
**The Factory Acceptance Test (FAT) is used to verify the performance of the generation technology within a controlled operational environment.
The goal of the FAT is to ensure the equipment functions as designed and helps the project team uncover any deficiencies or corrective actions prior to construction.
***The User Acceptance Test (UAT) is a full scope field test at the conclusion of construction to demonstrate the Project's ability to meet the operational safety
and performance requirements during real-world planned and unplanned events. This test will evaluate the complete generation technology and fuel delivery system with load banks simulating the full distribution load

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Appendix D.2

PG&E Major Work Summary

(Confidential)

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Appendix E

Calculation of the Diesel Cost Benchmark and Comparison of Applicable Cost Metrics to Forecasted Project Cost

(Confidential)

PACIFIC GAS AND ELECTRIC COMPANY

Appendix F

Estimated Air Emissions from Calistoga CSM and Comparison to Performance Standard

(Public)

Appendix F: Estimated Air Emissions from Calistoga CSM and Comparison to Performance Standard

Operation GHG Emission for CSM project assuming 1 PSPS event per year:			
Scope 1			
	1. Refrigerant	23.48	Lb CO2e/MWh
	2. Transportation	55.83	Lb CO2e/MWh
	Scope 1 GHG Emission Rate:	79.30	Lb CO2e/MWh
Scope 2			
	Electricity Usage	114.93	Lb CO2e/MWh
	Scope 1 +2 GHG Emission Rate:	194.23	Lb CO2e/MWh
California grid average carbon intensity:		75.93	g CO2e/MJ-electricity
Converted CA grid average carbon intensity:		599	Lb CO2e/MWh
CSM GHG Emission Rate:		194.23	Lb CO2e/MWh
CSM GHG rate below CA grid average:		TRUE	

CARB 2021 Carbon Intensity Values for California Average Grid Electricity Used as a Transportation Fuel in California and Electricity Supplied Under the Smart Charging or Smart Electrolysis Provision, p. 7, Table 1-2.

Criteria Pollutant:	**NOx (lb / MWh)**	**PM10 (lb/MWh)**
CSM Project Emission Rate	0.10	0.0016
90% reduction from Tier 2 CI (Diesel) level	1.3328	0.0295
CSM criteria pollutant below 90% Tier 2 Diesel emission	TRUE	TRUE

1 EPA Estimating Particulate Matter Emissions for eGrid, p.8, Table 1, available at https://www.epa.gov/sites/default/files/2020-07/documents/draft_egrid_pm_white_paper_7-20-20.pdf. NOx emission from EIA California Electricity Profile 2019, available at https://www.eia.gov/electricity/state/california/.

Appendix F: Estimated Air Emissions from Calistoga CSM and Comparison to Performance Standard

CSM Energy Vault GHG Emission Estimate

Scope 1

Refrigerant

Refrigerant loss due to leakage: R134a in chillers. Total refrigerant across 32 BESS chillers/HVAC units is based on vendor provided Chinese standard (GB/T 18430.2-2008).

Leak Emission Factor [1] :	0.24	Kg/Year (all units)	Leak rate equivalent :	0.19%
AR5 GWP:	13,000			
Estimated Fugitive Annual emissions:	3,120	Kg CO2e/Year		
	23.48	Lb CO2e/MWH		

Note:

1. Leak emission factor of 0.19% or 7.5g/year/unit is based on vendor provided factor for Chillers/HVAC.
2. Vendor provided assumption for operation is 1 PSPS event a year at 293 MWh.

Hydrogen Transportation

Hydrogen operational annual usage: 68,000 gallons for operation and 41,600 gallons for boil-off replenishment.

Annual transportation estimate: 8 Hydrogen Trailers at 14,000 gallons capacity

EF-Ground (lbCO2/ton*mile)[1]:	0.163	at 56,000 lbs per Vehicle (28 ton/vehicle)
Mileage[1]:	448	Round trip Mileage
Estimated Transportation Annual emissions:	16,357	Lb CO2e/Year
	55.83	Lb CO2e/MWh

Note:

1.Vendor provided emission factor and mileage based on Heavy Duty Truck Emissions Factor CLIMATIQ – 2021 – Diesel HGV – GHG Protocol.

EMFAC 2021 HHDV RUNex factors – (https://arb.ca.gov/emfac/emissions-inventory/7152ce3128c424f10f5cd2a0e3c7fe78c503edeb)

Criteria Pollutants	**NOx**	**PM2.5**	**PM10**	**CO**
g/mile	3.69	0.05	0.06	0.43
Total Pollutant (g)	13,225	179	215	1,541
Total Pollutant (lb)	29.00	0.39	0.47	3.38
Criteria Pollutant Emission Rate (lb/MWH)	0.10	0.0013	0.0016	0.01

Scope 2

Electricity Purchase

Grid Electricity Use to Refrigerate/Compress Hydrogen on Site and Maintain Battery State of Charge (ie., station power)

Based on vendor provided information, the project is assumed to have 20 KW average power draw all year round with PG&E mix factor

Projected Annual Electricity Usage:	175.2	MWh/year
Electricity Emission factor[1]:	192.2	lbCO2e/MWh
Estimated Annual emissions:	33,673	Lb CO2e/Year
	114.93	Lb CO2e/MWH

Note:

1.Vendor provided electricity emission factor and electricity usage.

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Appendix G

Independent Evaluator's Report on CSM RFO

(Public)

PACIFIC GAS & ELECTRIC COMPANY

December 21, 2022

2021 CLEAN SUBSTATION MICROGRID PILOT REQUEST FOR OFFERS

Independent Evaluator Report

Prepared By

MERRIMACK
ENERGY GROUP, INC.

Table of Contents

1 INTRODUCTION

1.1 OVERVIEW & BACKGROUND

On November 30, 2021, Pacific Gas & Electric Company ("PG&E" or "Company") issued its 2021 Clean Substation Microgrid Pilot Request for Offers ("2021 CSM Pilot RFO" or "CSM RFO") seeking offers from Participants for a third-party owned clean substation microgrid project to provide Distributed Generation Enabled Microgrid Services ("DGEMS") at a specified location that will serve customer demand during Public Safety Power Shutoff ("PSPS") events, pursuant to California Public Utility Commission ("CPUC") Decision D.21-01-018 and Resolution E-5164 ("Resolution").

Decision D.21-01-018 authorizes PG&E to create a new Clean Substation Microgrid Program to pursue microgrid projects and can allocate program expenditures for the clean substation microgrid projects to all distribution customers. The Investor-Owned Utilities ("IOUs") initiate Public Safety Power Shutoff ("PSPS") events to reduce the risk of wildfires igniting during certain extreme temperature and high wind events. These events have caused unexpected customer disruptions to electric service due to pre-emptive curtailment of transmission service. PSPS events have increased in number over the last several years. In order mitigate potential disruptions and to power the load of safe-to-energize substations, the IOUs are authorized to reserve temporary generation in advance.

In this CSM Pilot RFO, PG&E sought to procure DGEMS capable of safely and reliably serving a variable load up to 8.5 MW throughout the Calistoga Substation safe-to-energize area, as described in Appendix F1, during a 48-hour transmission outage. PG&E sought an agreement for a permanent[1] project with a delivery term of five or ten years and an initial delivery date ("IDD") of September 1, 2023. Per the CSM Pilot RFO, the project must be partially operational[2] by September 1, 2022 and fully operational by the IDD of September 1, 2023.

[1] The Resolution refers to "permanent" microgrids. PG&E defines this term consistent with D.21-01-018, which categorized projects as either "temporary" or "permanent," and further defined "temporary" projects as those with durations of 3 or fewer years. See D.21-01-018, App. A., p.A-3.

[2] The Resolution refers to partially operational projects to mean they reduce the use of diesel temporary generation during PSPS events.

1.2 2021 CSM PILOT RFO REQUIREMENTS AND PREFERENCES

In the 2021 CSM Pilot RFO Protocol document, PG&E listed a number of requirements and preferences to inform prospective Participants of the requirements for competing in the procurement process. A summary of the minimum technical requirements of the CSM Pilot RFO Instructions is provided in Table 1.

Table 1: Provisions of the 2021 CSM Pilot RFO

2021 CSM Pilot RFO Eligibility Requirements	**General Project Requirements - CPUC**
Load Requirements	Meet a variable load of up to 8.5 MW instantaneous peak loading with no transmission energy supply for at least two consecutive days (48 hours) without any customer load drop.
Black Start Requirements	The project must provide black start capability and must be able re-energize previously de-energized distribution feeders with no additional energy sources (distribution or transmission sources).
Cold Load Pick-Up Requirements	The project must be able to provide cold load pick-up the capability of adding dead load segments of distribution grid and maintain electrical properties, while in island operation.
Frequency Requirements	Maintain nominal frequency at 60Hz as specified within PG&E Electric Rule 2.
Protection Requirements	Protective relaying scheme that protects the system from abnormal voltage and frequency conditions. Generators must have ability to generate short circuit fault duty and have a characteristic for various fault types to allow traditional overcurrent protection to be used to successfully detect and clear utility primary faults.
Project Cost	The cost of the project may not exceed twice the expected cost of utilizing backup diesel generation over the contract period.
Voltage Regulation	Maintain steady voltage within 1% of the setpoint for the setpoints within PG&E specified range between 120V-126V. Generator voltage output will need to comply with Rule 21 requirements. Step-up transformers should be rated appropriately in KVA to handle the peak load of 8.5 MW during normal and N-1 conditions.
Siting Requirements	Generation resources may be located anywhere in the Substation Area but cannot be sited at the substation due to limited space. The project must be interconnected within the Substation Area in a fashion that allows for safe power that is not subject to de-energization delivery as a result of PSPS.
Emissions	Per the Decision and Resolution, the solution must reduce particulate matter (PM) and oxides of nitrogen (NOx) emissions by at least 90% compared to Tier 2 diesel and achieve grid equivalent or lower GHG emissions by September 1, 2023.

This RFO sought cost-effective offers that met the entire capacity and energy needs for the Calistoga CSM project to serve customer load during a PSPS event.

On November 30, 2021 PG&E launched the 2021 Clean Substation Microgrid RFO and posted the Solicitation Protocol document and other associated documents on its website. The RFO original schedule is outlined in Table 2.

Table 2: RFO Schedule[3]

Event	Date
RFO Launch	November 30, 2021
Participants Webinar	December 9, 2021
Offer Submittal Deadline	January 14, 2022
Shortlist Selection Notification	February 15, 2022
Deadline to Accept Shortlisted Selection	February 22, 2022
Deadline for Shortlisted Participants to Complete ISNet Qualification	Early March 2022
Execute Final Agreements	Late March 2022
Advice Letter Filing for CPUC Approval	Late April 2022

As noted in the RFO Instructions, PG&E reserves the right to add, remove, or revise any RFO event date. The schedule was revised during the process, which is described later in this report.

1.3 ISSUES ADDRESSED IN THIS REPORT

This report addresses Merrimack Energy's assessment and conclusions regarding the following issues identified in the CPUC's IE Report Template:

1. Describe the role of the IE throughout the solicitation process;

2. How did the IOU conduct outreach to bidders? Was the solicitation robust?

3. Evaluate the administration of the solicitation process including the fairness of the investor-owned utility's ("IOU's") bid evaluation and selection process (i.e. quantitative and qualitative methodology used to

[3] As described later in the report, the RFO schedule was updated to accommodate extended offer conformance and negotiations review.

evaluate and select offers, and consistency of evaluation and selection methods with criteria specified in bid documents, etc.);

4. Describe PG&E's Least Cost Best Fit ("LCBF") methodology for evaluating offers. Was the LCBF process fairly administered? Evaluate the strengths and weaknesses of the IOU's methodology;

5. Describe the applicable project specific negotiations. Highlight any areas of concern including unique terms and conditions;

6. If applicable, describe safeguards, code of conduct and methodologies employed by the IOU to compare affiliate bids or utility-owned generation ownership offers. If a utility selected an offer from an affiliate or an offer that would result in utility asset ownership, explain whether the IOU's selection of such offer was appropriate;

7. Do the contract(s) merit CPUC approval? Is the contract reasonably priced and does it reflect a functioning market?

8. Based on the complete bid process, was the RFO acceptable?

9. Contract negotiations with selected bidder.

1.4 SITING AND OPERATING REQUIREMENTS

The 2021 CSM Pilot RFO includes Siting and Operating requirements. PG&E may screen project proposals to assess whether the project would be interconnected within the Substation Area in a fashion that allows for safe power that is not subject to de-energization delivery as a result of Public Safety Power Shutoff ("PSPS") events. PG&E will also evaluate whether the project adheres to relevant local, state and federal fire protection clearance standards.

In addition to Operational Requirements outlined above in Table 1, several key siting provisions were specified as outlined in Table 3 below:

Table 3: Siting Provisions of the 2021 CSM Pilot RFO

Siting Provisions	General Project Eligibility
Site Control	PG&E may screen project proposals to assess Participants have site control for the project at the time of Offer submission. The evaluation will consider whether participants have site control for the project's generation location, electric and gas lines and interconnections.

Land Use and Environmental Approval	Participants are responsible for obtaining all land use and environmental permits and discretionary approvals required from local, state, federal, and/or tribal authorities for the project including the electrical and gas interconnection components of the project.
Electric Interconnection	PG&E may evaluate the project's plan to be interconnected to meet the September 1, 2023 online date. Projects must be connected to: (a) Sections of the Calistoga 1101 and 1102 feeders that are within the safe to energize polygon as described in Appendix F1, Substation Information; and/or (b) The Pre-installed Interconnection Hub for the Substation.
Gas Interconnection (if applicable)	If a project will require delivery of natural gas via a new gas interconnection with PG&E, PG&E may evaluate the project's plan to be to be interconnected to meet the September 1, 2023 online date.
Safety	Participants will be required to meet certain safety standards, provide safety information related to the technology for the project, and provide information regarding safety history, including for the entities that will construct, operate, or maintain the project. Per Appendix B of this Solicitation, Participants are required to identify in their Offers known safety-related hazards and risks associated with their technology and Participant's ability to mitigate safety risks and comply with applicable safety-related codes and standards identified by the Participant.

Additional qualitative operating attributes of Project Viability were to be evaluated. The evaluation protocol specified how Project Viability would be evaluated for the 2021 CSM Pilot RFO as outlined below.

Project Viability is defined at the likelihood that any resource associated with an Offer can:

1. Be successfully developed
2. Provide the product and services required for the duration under the contract

This assessment is based on a review of the status and plans for key project activities (e. g., experience, site access, permitting, procurement, construction, interconnection, environmental impact, Participant's experience and track record, project schedule, etc.).

PG&E may use any of the general project eligibility requirements listed in Table 3 above, in addition to Land Use and Environmental Characteristics, and Safety as qualitative assessment criteria.

2 DESCRIPTION OF THE ROLE OF THE IE

2.1 REGULATORY REQUIREMENTS FOR THE IE

The requirements for participation by an IE in utility solicitations are outlined in CPUC Decisions ("D").04-12-048 (Findings of Fact 94-95, Ordering Paragraph 28), D.06-05-039 (Finding of Fact 20, Conclusion of Law 3, Ordering Paragraph 8) of the CPUC, D.09-06-050 and D.10-07-042.

The role of IEs in California IOU procurement processes has evolved over the past eighteen years. In D.04-12-048 (December 16, 2004), the CPUC required the use of an IE by investor-owned utilities (IOUs) in resource solicitations where there is an affiliated bidder or bidders, or where the utility proposed to build a project or where a bidder proposed to sell a project or build a project under a turnkey contract that would ultimately be owned by a utility. The CPUC generally endorsed the guidelines issued by the Federal Energy Regulatory Commission ("FERC") for independent evaluation where an affiliate of the purchaser is a bidder in a competitive solicitation but stated that the role of the IE would not be to make binding decisions on behalf of the utilities or administer the entire process[4]. Instead, the IE would be consulted by the IOU, along with the Procurement Review Group ("PRG") on the design, administration, and evaluation aspects of the Request for Proposals ("RFP"). The Decision identifies the technical expertise and experience of the IE with regard to industry contracts, quantitative evaluation methodologies, power market derivatives, and other aspects of power project development. From a process standpoint, the IOU could contract directly with the IE, in consultation with its PRG, but the IE would coordinate with the Energy Division.

In D.06-05-039 (May 25, 2006), the CPUC required each IOU to employ an IE regarding all RFPs issued pursuant to the RPS, regardless of whether there are any utility-owned or affiliate-owned projects under consideration. This was extended to any long-term contract for new generation in D.06-07-029 (July 21, 2006). In addition, the CPUC directed the IE for each RFP to provide separate reports (a preliminary report with the shortlist and final reports with IOU advice letters to approve contracts) on the entire bid, solicitation, evaluation and selection process, with the reports submitted to the utility, PRG, and CPUC and made available to the public (subject to confidential treatment of protected information). The IE would also make periodic presentations regarding its findings to the utility and the utility's PRG consistent with preserving the independence of

[4] Decision 04-12-048 at 129-37. The FERC guidelines are set forth in Ameren Energy Generating Company, 108 FERC ¶ 61,081 (June 29, 2004).

the IE by ensuring free and unfettered communication between the IE and the CPUC's Energy Division, and an open, fair, and transparent process that the PRG could confirm.

In 2007, the use of an IE was required for any competitive solicitation seeking products for a term of more than three months in D.07-12-052 (December 21, 2007). Also, the process for retaining IEs was modified substantially, with IOUs developing a pool of qualified IEs, subject to feedback and any recommendations from the IOU's PRG and the Energy Division, an internal review process for IE candidates, and final approval of IEs by the Energy Division.

In 2008, in D.08-11-008, the CPUC changed the minimum term requirement from three months to two years and reiterated that an IE must be utilized whenever an affiliate or utility bidder participates in the RFO, regardless of contract duration.

In D.09-06-050 issued on June 18, 2009 in Rulemaking 08-08-009, Order Instituting Rulemaking to Continue Implementation and Administration of California Renewable Portfolio Standard Program, the CPUC required that bilateral contracts should be reviewed according to the same processes and standards as contracts that come through a solicitation. This includes review by the utility's PRG and its IE, including a report filed by the IE.

In D.10-07-042 issued on July 29, 2010, the Commission reaffirmed the role of the IE and required the Energy Division to revise the IE Template to ensure that the IEs focus on their core responsibility of evaluating whether an IOU conducted a well-designed, fair, and transparent RFO for the purpose of obtaining the lowest market prices for ratepayers, taking into account many factors (e.g. project viability, transmission access, etc.).

This IE report is submitted in conformance with the above requirements.

2.2 DESCRIPTION OF KEY IE ROLES

In compliance with the above requirements, PG&E selected Merrimack Energy to serve as IE for the 2021 Clean Substation Microgrid Pilot RFO in June 2021. PG&E initially contacted Merrimack Energy in March, shortly after the Decision was issued, to begin discussing the design of the CSM Pilot RFO; however, the IE wasn't involved in the Technology Neutral Pro Forma ("TNPF") update process, as it wasn't clear that the CSM Pilot required an Independent Evaluator. Once PG&E determined an IE would be utilized in the CSM Pilot RFO, PG&E re-engaged Merrimack in the pre-launch process to develop the solicitation documents and evaluation methodology.

The overall objective of the role of the IE is to ensure that the solicitation process is undertaken in a fair, consistent, unbiased, and objective manner and that the best resources are selected and acquired for the benefit of customers consistent with the solicitation requirements. This role generally involves a detailed review and assessment of the evaluation process and the results of the quantitative and qualitative analysis.

In addition to the requirements identified in CPUC Orders, the Scope of Work included in the Contract Work Authorization ("CWA") between Merrimack Energy and PG&E clearly identifies the tasks to be performed by the IE. These include the following tasks:

- Advise on the consistency of solicitation activities with the CPUC's procurement-related rules and procedures and PG&E's Commission-approved procurement authority;
- Assist in the development, design, and review of the Solicitation. Promptly submit any recommendations to PG&E and/or CPUC, consistent with the objective of ensuring a competitive, open and transparent process, and to ensure that the overall scope of the solicitation process is not unnecessarily broad or too narrow;
- Monitor all communications and/or negotiations between PG&E and counterparties, as required by the solicitation's objectives as outlined in the solicitation Protocol and approved by the CPUC;
- Provide recommendations and reports, if required by PG&E and/or the CPUC, concerning the definition of products sought, including price and non-price evaluation criteria; so that all aspects of the products are clearly understood, and all bidders may effectively respond to the solicitation, as applicable;
- Review the comprehensive quantitative and qualitative bid evaluation criteria and methodologies applied to any Solicitation and assess whether these are applied to all bids in a fair and non-discriminatory manner. The Consultant will be provided access to PG&E's personnel, modeling tools, and meeting documentation in order to credibly evaluate the bid evaluation and selection processes;
- Report on the outcome of a solicitation using the appropriate CPUC-approved Independent Evaluator Report Template, which may be amended from time to time, for inclusion in any Advice Letter, Application, and/or Quarterly Compliance Report filings;
- Monitor the solicitation, bilateral negotiation and/or contract amendment processes and promptly submit recommendations to PG&E's management to ensure that no bidder has an information advantage and that all bidders or counterparties, if applicable, receive access to relevant communications in a non-discriminatory manner. This task may include

monitoring contract negotiations and/or keeping apprised of negotiation status and major issues;
- Provide presentations to PG&E's management, the Procurement Review Group (PRG), and the CPUC Energy Division (ED), if requested, regarding the Consultant's findings or status. Communicate periodically with the Energy Division ("ED") as a check on the solicitation process;
- Provide a written assessment as to whether the solicitation process was open, transparent and fair, and whether any bidder received material information that gave them a competitive advantage or disadvantage relative to other bidders;
- Provide a final written assessment as to whether or not PG&E's evaluation criteria and methodologies were reasonable and appropriate and were applied in a fair and non-discriminatory manner for all offers received;
- Prepare or assist in the preparation of direct and/or rebuttal testimony, and participate as a witness or in an advisory capacity during administrative hearings, as required, before the CPUC and/or FERC in any associated proceedings;
- Perform other duties as may be further defined in subsequent relevant regulatory proceedings or required by PG&E's senior management.

The ALJ Ruling Modifying the Distribution Investment Deferral Framework Process issued on May 11, 2020, and modified June 12, 2020, detailed specific tasks to be included in the IE Scope of Work. Attachment C of the ruling described the IE Scope of Work. However, Decision D.21-02-006 did not identify any changes or additional requirements for the Independent Evaluator. Specifically, the Decision did not describe whether retaining an Independent Evaluator for the CSM Pilot RFO would be required. Despite somewhat unclear guidance in this regard, PG&E engaged with Merrimack shortly after the Decision's issuance prior to the TNPF drafting process. PG&E sought guidance from the ED on requirements for the IE in the CSM Pilot RFO and after receiving feedback, PG&E re-engaged Merrimack in early August when the Pilot design process was being initiated.

2.3 DESCRIPTION OF IE OVERSIGHT ACTIVITIES

As noted, Merrimack Energy was retained as the IE by PG&E in August 2021. In performing its oversight and evaluation role, the IE participated in and undertook a number of activities in connection with the solicitation process including reviewing the protocol documents, participating in evaluation methodology design, monitoring communications between PG&E and the Participants, organizing and summarizing the offers received, participating in meetings with the PRG, and reviewing the evaluation results. The IE also participated in selection communications, project status discussions with chosen vendor, monitoring

contract negotiations, monitoring safety operations and hazardous materials system design and operations, and development of the IE report.

This report provides an assessment and review of PG&E's 2021 CSM Pilot RFO procurement process from development of the RFO through close of the RFO which includes the execution of the final Commercial Agreement. The role of the IE is also discussed as it pertains to specific activities in Section 4 of this report.

3 DESCRIPTION OF OUTREACH ACTIVITIES AND ROBUSTNESS OF SOLICITATION

3.1 DESCRIPTION OF IOU OUTREACH TO POTENTIAL BIDDERS

Outreach activities are important to the success of a competitive solicitation process. PG&E's outreach efforts targeted a large number of potential Participants based on PG&E's contact lists of energy companies and individuals. These efforts likely played a role in the reasonably robust response to the RFO in terms of number of Participants and specific offers or projects.

PG&E maintains a detailed list of potential Participants with approximately 2,500 contacts that serves as the database for Seller contact and outreach. PG&E sent emails to all potential Participants on this list informing them of the 2021 CSM Pilot RFO process and the issuance of the RFO. The list includes Diverse Suppliers. PG&E notified contacts on the mailing list of the issuance of the 2021 CSM Piot RFO and also provided several email notifications and updates to the email list during the solicitation process. With the RFO launch date on September 15, 2021 and offers being due on November 15, 2021. Participants had ample time to prepare offers.

PG&E initiated a comprehensive process for communicating with bidders for the 2021 CSM Pilot RFO process. PG&E utilized the PowerAdvocate Platform as the means for Participants to submit their offers.[5] In addition, PG&E also established a section on its public website for distribution of information to prospective Participants and other interested parties early on to notify Participants of the RFO. The public website also included contact information for PG&E should prospective Participants wish to ask any questions or request follow-up information.

There was only one question that was submitted via PowerAdvocate from a potential participant. The IE found the website easy to access and navigate. All documents associated with the 2021 CSM Pilot RFO were uploaded to PowerAdvocate and were easy to identify, access, and download.

3.2 WAS THE OUTREACH ADEQUATE?

[5] Participants would need to register with PowerAdvocate using the links included on the public website to gain access to the data room and applicable RFO documents and back-up information which would allow a participant to submit a bid into this solicitation.

There are several criteria generally applied for assessing the performance of the utility in its outreach and marketing activities:

- Did the utility contact a large number of prospective Participants?
- Were the utility's outreach efforts active or passive?
- Did the utility adequately market the solicitation?
- Could prospective bidders easily access information about the RFP?
- Did any prospective bidders complain about the process or access to information?

As noted above, PG&E contacted a large number of prospective Participants to inform them of the issuance of the RFO. The outreach activities of PG&E can be classified as "active" given that emails about the solicitation process were directly sent to prospective Participants. In addition, PG&E held a Participant's Webinar to provide information on the solicitation process, and to allow the Participants to ask questions and seek information about the solicitation process. The IE feels that all potential Participants were able to easily access solicitation materials and communicate directly with the PG&E Origination team to answer any questions.

3.3 WAS THE SOLICITATION ROBUST?

The overall result of this outreach activity resulted in a good response to the RFO from the market, given the unique nature of the project and condensed timeline. The solicitation schedule allowed ample time to develop offers from the launch date to the offer submission deadline, and the solicitation was competitive.

PG&E received [redacted]. Based on the number of offers submitted, the IE found the response from the market to be sufficient and competitive.

In conclusion, and especially in light of the unique nature of the microgrid service requested, the response of the market to PG&E's 2021 CSM Pilot RFO provides evidence that the outreach and Participant engagement activities of PG&E did result in a competitive solicitation.

4 DESCRIPTIION OF BID EVALUATION AND SELECTION METHODOLOGY

4.1 IDENTIFICATION OF PRINCIPLES FOR BID EVALUATION METHODOLOGY

This section of the report addresses the principles and framework underlying the IE's review of PG&E's evaluation and selection methodology for the 2021 CSM Pilot RFO solicitation process. One of the important questions in this regard is whether the bid evaluation and selection methodology was fair and appropriate for this type of solicitation. Key areas of inquiry by the IE and the underlying principles used by the IE to evaluate the methodology include the following:

- Were the procurement needs, products solicited, principles and objectives clearly defined in PG&E's 2021 CSM Pilot RFO Solicitation Protocol and other materials?
- Is the IOU bid evaluation based on those criteria specified in the bid documents? In cases where bid evaluation goes beyond the criteria specified in the bid documents, the IE should note the criteria and comment on the evaluation process.
- Do the IOU bid documents clearly define the type and characteristics of products desired and what information the bidder should provide to ensure that the utility can conduct its evaluation?
- Does the methodology identify how qualitative and quantitative measures were considered and were consistent with an overall metric?
- Are there differences in the evaluation method for different technologies that cannot be explained in a technology-neutral manner?
- Was the bid evaluation and selection process and criteria reasonably transparent such that Participants would have a reasonable indication as to how they would be evaluated and selected?
- Was the bid evaluation methodology consistent with CPUC direction?
- Was PG&E's bid evaluation based on and consistent with the information requested in the RFO to be submitted by Participants in their proposal documents?
- Were the bid evaluation criteria consistently applied to all offers?

- Does the quantitative evaluation methodology allow for consistent evaluation of bids of different sizes and in-service dates? Are there differences in the evaluation method for different technologies that cannot be explained in a technology-neutral manner?

- Did the bid evaluation criteria and evaluation process contain any undue or unreasonable bias that might influence project ranking and selection results or in any way favor affiliate bids?

- Was the 2021 CSM Pilot RFO clear and concise to ensure that the information required by PG&E to conduct its evaluation was provided by project sponsors?

- Did the IOU bid evaluation criteria change after the bids were received? Explain the rationale for the changes.

In the view of the IE, the 2021 CSM Pilot RFO Instructions and related solicitation documents provide an ample amount of information on which Participants could develop their bid packages. The documents contain detailed information on the products sought, the information required of Participants for offer submission, contract provisions, proposal documents and offer forms, and information about the Clean Substation Microgrid Pilot project for which PG&E sought offers.

PG&E included a high-level overview of the "least-cost, best-fit" ("LCGF") principles in the Solicitation Protocols, including details on the application of qualitative and quantitative aspects. Overall, the IE concludes that the products solicited, procurement needs, protocol information and documents required to be provided with the offer were clearly defined and applied.

PG&E also involved the IE in internal discussions on the development of the evaluation methodology based on the CPUC's Decision. PG&E provided Merrimack with the internal qualitative and quantitative protocols on January 20, 2022. Merrimack submitted several questions to PG&E, all of which PG&E addressed shortly thereafter. While the responses were provided by PG&E after the receipt of offers, Merrimack feels that the questions and responses did not have an impact on the application of the evaluation protocols or the eventual selection decisions. PG&E made some minor updates to the Internal Evaluation Protocols based on the IE's questions.

The IE will first present a detailed description of the bid evaluation methodology and process implemented by PG&E to undertake the evaluation. This includes both the quantitative and qualitative criteria used in the evaluation.

Subsequently, the IE then discusses the strengths and weaknesses of the methodology relative to the issues identified above.

4.2 DETAILED DESCRIPTION OF EVALUATION PROCESS

In general, the methodology selected is designed to generally conform to the LCBF procedures applied in other solicitations that may include the analysis of qualitative attributes as well as a quantitative valuation. Per Appendix A of the Decision, the cost of the project cannot exceed twice the expected cost of utilizing backup diesel generation over the contract period.

The following section of the report provides a more in-depth discussion of the components of the quantitative evaluation methodology and process used by PG&E and describes in general how the various offers were evaluated. In addition, this section includes a description of the input assumptions utilized for evaluation purposes.

4.2.1 QUANTITATIVE EVALUATION SUMMARY

In this 2021 CSM Pilot RFO solicitation process, participants submit Offers, which detail the costs and operational characteristics of their respective resources. PG&E's evaluation will apply LCBF principles using quantitative and qualitative criteria.

PG&E's evaluation protocol specifies how the Valuation criterion will be applied to the individual offers received in the 2021 CSM Pilot RFO. Since market products (e.g. capacity, energy, and/or ancillary services) are not being solicited in this RFO, Net Market Value calculations do not apply. As a result, PG&E will calculate each offer's costs that will be compared directly to the diesel cost cap. In the solicitation process, a Participant submits an offer detailing the costs and operational characteristics of the energy generation facility. This resource will be designed to energize with no transmission energy supply, and it is expected that minimal, incremental transmission costs will be incurred.

In calculating the amount of the diesel cost cap, the following assumptions were made:

- PG&E utilized a 6.5 MW diesel temporary generation for the Calistoga Distribution Microgrid ("DMG") in 2021. To calculate the cost cap, PG&E took the actual costs from this site and prorated the costs for this project.

- The actual costs were based on rental plus activation for 1 PSPS event in August 2021
- The fuel used for the DMG was renewable diesel (RD-99)
- For the Clean Substation Pilot, an assumption was made there will be 1 PSPS event/year, with a duration of 48 hours

As such, calculation of net market value (NMV) is not required because market products—capacity, energy and/or ancillary services—are not being solicited in this RFO.

PG&E will not calculate a value for each offer, since there is no distribution deferral benefit unless the full distribution need is met, and the distribution investment deferred. Instead, PG&E will focus only on the costs of each offer and will seek to create the least cost portfolio that satisfies the requirement.

Each component is quantified and expressed in terms of dollars over the term of the contract. The present values are calculated by discounting the nominal amounts to April 1, 2022 using PG&E's approved after-tax weighted average cost of capital, which is currently 6.78%.

PG&E will seek to find the least cost portfolio, to include Fixed and Variables costs of each offer:

Fixed Cost of Offer ($/kw-month)

- The Fixed Cost for an Offer will be calculated as the sum of the projected monthly fixed payments specified in the Offer, in $/MW-month. Monthly discounting will be used.

Variable Cost of Offer ($/kWh)

- Participants may propose a variable cost for dispatchable offers. Variable cost will be calculated as the sum of the projected monthly variable payments, based on the number of times PG&E anticipates needing distribution services for a month and the variable O&M price in $/kWh specified in the Offer. Monthly discounting will be used.

Station Service

- If any, would be borne by the project.

4.2.2 QUALITATIVE EVALUATION SUMMARY

This evaluation protocol specifies how Project Viability will be evaluated for the 2021 CSM Pilot RFO. Project Viability is defined as the likelihood that any resource associated with an Offer can 1) be successfully developed and 2)

provide the product and services required for the duration under the contract. This assessment is based on a review of the status and plans for key project activities (e.g., experience, site access, permitting, procurement, construction, interconnection, environmental impact, Participant's experience and track record, project schedule, etc.).

In the Solicitation Protocol document, PG&E identified several criteria that may be included in the qualitative assessment of Project Viability:

- Project Viability
- Interconnection Status
- Site Control/Siting Requirements
- Environmental Impacts
- Credit
- Safety History
- Agreement Modifications
- Ability to meet IDD
- Supply Chain Responsibility Status
- Completeness of Offer

In Qualitative Evaluation Protocols, PG&E identified additional assessment criteria that would be evaluated to develop a rating for Project Viability:

- Protection Requirements
- Load Requirements
- Frequency Requirements
- Voltage Regulation
- Black Start Requirements
- Cold Load Pick-Up Requirements
- Siting Requirements
- Emissions
- Land Use and Environmental Characteristics
- Safety
- Site Control
- Electric Interconnection
- Gas Interconnection (if applicable)

Participants will be scored according to the following criteria: (qualitative scoring methodology)

(+) Project appears to be a viable project and has a reasonably high probability of being successfully developed, completed and operated safely as scheduled.

(0) Project appears to meet the majority of the requirements for classification of a viable project, but the review has identified one or more major areas of concern that may negatively impact the ability of the Participant to successfully develop, complete and safely operate the project as scheduled.

(-) Project appears unlikely to meet the requirements of being classified as a viable project. Low expectation that the project will be completed on time and/or operated safely; unsatisfactory plans to resolve any outstanding issues, or the inputs are unclear or insufficiently detailed to support an expectation that the project is viable.

Inputs to determine scoring are taken from the Offer Form (Appendix A) and Supplemental Project Information (Appendix B).

Participants must complete the table and note how the project offer meets all of the eligibility requirements set forth in the Clean Substation Microgrid Pilot RFO.

4.2.3 VALUATION SUMMARY BY RESOURCE TYPE

PG&E prepared its evaluation methodology to be consistent with the product requested. The Solicitation accepted Offers from all resource types that could meet the minimum technical requirements listed in Section III.B, per the Decision, and completed permanent projects must have demonstrated a fully renewable microgrid.

All resources were intended to follow the same valuation process and subject to the 2X diesel cost cap.

4.3 REVISIONS TO BID EVALUATION CRITERIA

The CPUC IE Report Template requests the IE to address whether the bid evaluation criteria changed after the bids were received and to explain the rationale for the changes. In general, PG&E maintained a similar methodology as described in the 2021 CSM Pilot RFO Instructions. There was one change made to the evaluation methodology and/or assumptions after the receipt of offers. The change made after offers were received was that PG&E had not calculated the Diesel Cost Cap until later in the process. The offers were submitted per the revised schedule on January 20, 2022 and the Diesel Cost Cap was finalized on January 26, 2022.

4.4 EVALUATION OF STRENGTHS AND WEAKNESSES OF METHODOLOGY

PG&E has implemented a methodology for evaluating the eligible offers received in response to the 2021 CSM Pilot RFO that includes a combination of existing methodologies used in previous solicitations as well as revisions to traditional methodologies to address the requirements of this solicitation.

4.4.1 STRENGTHS OF EVALUATION AND RANKING METHODOLOGY

The following represents the IE's perspective regarding the strengths associated with the evaluation and ranking methodology implemented by PG&E for the 2021 CSM Pilot RFO. These include:

- The methodology used by PG&E takes into consideration all reasonable costs associated with the proposed types of resources. The IE does not view the methodology as having a direct bias toward any product solicited in this RFO with respect to contract structure;

- PG&E included a lengthy Complete and Conforming process in the RFO process that allowed the PG&E evaluation team to fully review and assess the offers submitted and to ask relevant questions so that each offer could be appropriately evaluated. As described later in the report, the RFO scheduled was extended twice to accommodate Complete & Conforming considerations;

- PG&E's proposed methodology is generally consistent with Least Cost Best Fit principles by incorporating quantitative and qualitative factors to determine a shortlist of projects;

- PG&E developed a straight-forward Offer Form that was very transparent and included detailed calculations so that Participants could compare the project costs to the deferral costs;

- PG&E included stated preferences in the RFO Instructions, which provides important direction to participants on how to best structure their offers. Such preferences include the ability to mitigate PSPS events and the ability to meet each project's entire needs throughout the deferral term;

4.4.2 WEAKNESSES OF EVALUATION AND RANKING METHODOLOGY

Merrimack identified the following weaknesses or inconsistencies in the evaluation methodology and process:

- Generally, Merrimack recommends that all evaluation inputs and assumptions are locked down prior to bid submittal so that the evaluation of offers can't be impacted later in the process. PG&E did not calculate the Diesel Cost Cap until about one week after the offers were received. This change wouldn't impact the relative ranking of offers, but it is generally best practice to have all assumptions and inputs locked down prior to offer submittals.

- PG&E utilized internal subject matter experts to ask questions of the bidders and identify any major issues with the proposals as part of the qualitative evaluation. Through these meetings, PG&E was able to identify critical issues with the projects from a technical and operational perspective. While PG&E applied the qualitative evaluation procedure as designed in the qualitative evaluation protocols by giving a +/0/- score to each offer, PG&E did not send these results to the IE during the evaluation phase prior to selection, so the IE was not able to review the comprehensiveness and results of the evaluation. Generally, as part of the IE's responsibilities, the IE typically has the opportunity to review all quantitative and qualitative evaluation results and opine on the scoring prior to selection.

5 ADMINISTRATIION OF THE CSM PILOT SOLICITATION PROCESS

In performing its oversight role, the IE participated in and undertook a number of activities in connection with the 2021 CSM Pilot RFO including reviewing the RFO documents, participating in frequent conference calls with the PG&E project teams, participating in the Bidder's Conference, participating in discussions on the offer evaluation methodology and selection process, organizing and summarizing the offers received, reviewing and commenting on the evaluation and selection process, participating in calls with bidders throughout the process, and monitoring the negotiation process.

A list of the key milestone events which occurred during the solicitation process as well as the activities of the IE during the procurement process consistent with the important activities and milestones for the process are described below.

5.1 ISSUANCE OF 2021 CSM PILOT RFO

PG&E launched its 2021 CSM Pilot RFO on November 30, 2021. PG&E announced issuance of the RFO via an email blast to its contact list. The email distributed identified the web address for PG&E's website[6] for the RFO and also provided information on the basis for and requirements of the RFO, schedule for the upcoming Participant's Webinar on December 9, 2021, and deadline for Participants to submit offers by January 14, 2022.

Prior to issuance of the RFO, PG&E provided a draft of the RFO to the IE for review and comment. The IE had several questions and comments on the RFO Protocol and Appendices associated with the Offer Form and Supplemental Project information.

The Solicitation Protocol provided an overview of the RFO including the solicitation goals, project types/agreements, eligibility requirements, and submission requirements. The RFO documents also contained the Offer Form that needed to be submitted with each proposal. PG&E also provided technical info about the specific location including substation info and City of Calistoga load data.

PG&E used two websites for the RFO. PG&E maintained a webpage on its website, PG&E.com, devoted to the CSM Pilot RFO. The website contained information to

[6] The website address for the solicitation is https://www.pge.com/en_US/for-our-business-partners/energy-supply/electric-rfo/wholesale-electric-power-procurement/clean-substation-microgrid-pilot.page?WT.mc_id=Vanity_clean-substation-microgrid-pilot

assist bidders on the front-end of the solicitation process including the schedule and details on how to register in PowerAdvocate. PG&E also utilized the PowerAdvocate Platform, which was used as a repository for the solicitation documents and bidders to submit their proposals. The following documents were uploaded to PowerAdvocate and posted to the website:

- CSM Pilot Solicitation Protocol
- Appendix A Offer Form
- Appendix B Supplemental Project Information
- Appendix C FERC Order 717
- Appendix D Confidentiality Agreement
- Appendix E Term Sheet
- Appendix F1 Substation Information
- Appendix F2 Calistoga Load 2020
- Appendix G Letter of Credit
- Decision D.21-01-018 & Resolution E-5164

5.2 PARTICIPANT'S WEBINAR

PG&E held its Participant's Webinar on December 9, 2021. The IE called into and monitored the Webinar. Topics addressed at the Webinar included:

- Overview of the RFO
  - Substation Overview
  - Eligibility Requirements
  - Transaction Structure
  - Credit
  - Shortlist Offer Deposit
- Submittal Instructions
- Overview of Offer Form
- Q&A Session

A total of 53 individuals attended the Bidder's Conference, representing an estimated 35 companies.

5.3 REVIEW OF EVALUATION PROTOCOLS

The IE had the opportunity to review and comment on the internal quantitative and qualitative evaluation protocols. PG&E provided Merrimack with the quantitative and qualitative evaluation protocols the day the offers were due.

Merrimack provided a couple of comments and questions, which PG&E addressed within the following two weeks.

5.4 RECEIPT OF OFFERS

The original deadline for PG&E to receive offers was January 14, 2022. On January 13, 2022 PG&E notified bid teams in PowerAdvocate that the offer submission deadline was extended to January 20, 2022. In this notice, PG&E also provided an updated Solicitation Protocol document and Offer Form. Participants were required to submit all required forms and documents to the PowerAdvocate platform. Upon receipt of offers on PowerAdvocate, the IE reviewed the offers and prepared a summary table which contained pricing, project details, operational information, and other pertinent information associated with each offer. Table 4 below, provides a high-level summary of offers received:

Table 4: Overview of Offers Submitted in the 2021CSM Pilot RFO

No. of Unique Offers	[redacted]
No. of Participants	[redacted]
% of Offers for Gas & Storage	[redacted]
% 3rd Party Owned	[redacted]

The IE and PG&E team also reviewed the offers for conformance with eligibility requirements and completeness.

The Offer Form contains the calculations to determine if the offer meets the project needs and if the project costs are below the 2X diesel project cost cap. The resource types which bidders offered included:

- Hybrid (Battery and Hydrogen Fuel Cell)
- Reciprocating Natural Gas Engine with CNG
- Hybrid (Natural Gas engines and battery)
- Reciprocating Natural Gas Engine with LNG
- 40 Linear Generators with battery

Appendix A to this report contains a summary of all offers submitted into the PG&E CSM Pilot RFO.

5.5 COMPLETE & CONFORMING PROCESS

Upon receipt of the offers, the PG&E CSM Pilot RFO initiated the offer review process to identify any missing information from the offer, determine errors in the submission, ensure the offer meets the solicitation's eligibility requirements, and seek clarification regarding information included in the offers. The initial round of communications to conform offer requirements took place within a week of initial offer submission. The goal of the conformance process was to ensure that PG&E obtained all relevant project information and clarify offer details to ensure that all offers could be evaluated and that offer specifics were conforming to the eligibility requirements of the solicitation.

PG&E worked diligently on the initial offer review and communicated actively and consistently with all counterparties. All bidders were able to cure all data requests in order to be evaluated properly.

Shortly thereafter, PG&E scheduled meetings with each bidder to discuss operational and technical aspects of the offers, as well as permitting, siting, and interconnection details. PG&E held these meetings with internal subject matter experts so that a comprehensive qualitative evaluation could be performed. The meetings with four bidders were held during the week of January 31, 2022 through February 4, 2022.

One of the main issues identified in the complete and conforming process as identified by counterparties during discussions was related to site control requirements. One of the requirements of the solicitation as outlined in the Instructions was for the counterparties to demonstrate site control through four potential avenues (1) recorded exclusive easement, 2) purchase option agreement, 3) lease covering the entire term of the agreement, 4) lease option (for a lease term covering the entire term of the Agreement-revocable), and 5) fee title. [redacted] and instead of issuing LOIs to all potential participants and stated that they'd offer LOIs to the shortlisted counterparties when PG&E got to that point. This obviously caused some challenges and confusion on how to move forward. PG&E began to engage the City of Calistoga; however, due to RFO timelines not matching up with the City's internal processes, PG&E had to make a decision on how to handle this issue. After discussing extensively with the IE, it was determined that in order to maintain a competitive process and not deem all projects without the LOI to be non-conforming, it was determined that PG&E would not strictly apply this requirement outlined in the RFO Instructions. As a result, all offers submitted were evaluated with the assumption that the shortlisted offers would be granted the LOI later in the process.

5.6 EVALUATION OF OFFERS SUBMITTED

Subsequent to the initial conformance review, PG&E began to evaluate the offers from a quantitative and qualitative perspective and prepare evaluation files with the offer evaluation results. PG&E completed the initial quantitative evaluation of the offers submitted on February 3, 2022 and sent the results to Merrimack for review.

Following the meetings with bidders, PG&E communicated with bidders via email requesting additional information about several of the projects and offer variants. PG&E requested details about technical aspects of the offers that would assist in the qualitative evaluation. In addition, PG&E requested that some bidders provide updated pricing for different delivery terms.

As a result of updates made to offers, PG&E re-ran the quantitative evaluation and presented the results to Merrimack on March 7, 2022. The evaluation results are provided in Table 5.

Table 5: Initial Evaluation Results

Counterparty	Delivery Term (yrs)	Initial Delivery Date	Contract Price Year 1 ($/kW-month)	VOM Rate Year 1	Total PV Costs ($)	Less than 2X Diesel?
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Merrimack thoroughly reviewed the evaluation models and results to ensure that all inputs were correct. Merrimack asked PG&E several follow-up questions about the results, all of which PG&E responded to.

The quantitative evaluation results showed that [redacted]

After PG&E held meetings with each of the bidders to discuss characteristics of each offer, PG&E continued communicating with bidders via email. In several cases, PG&E requested that bidders update their offers based on requests revolving around different delivery terms or other operational and technical characteristics. After revised offers were submitted, prior to shortlist selection, PG&E re-ran the quantitative evaluation, the results of which are provided in Table 7 later in this report.

5.7 UPDATE TO RFO SCHEDULE

The initial RFO schedule included the milestone date to notify bidders of shortlisting on February 15, 2022. In order to allow adequate time to fully evaluate all of the projects submits, PG&E notified bidders on February 14, 2022 via PowerAdvocate of a schedule update:

- PG&E notifies Participants of Shortlisted Offers: To Be Determined
- Target Agreement Execution: Late-March 2022
- Target Advice Letter Filing with CPUC: Late - April 2022

Following this initial schedule update, in late February PG&E determined that more time was needed to complete the solicitation process. Due to extended discussions with bidders and several offer updates, PG&E proposed an updated solicitation schedule that would extend the target contract execution date and CPUC Advice Letter filing date. On March 11, 2022 PG&E submitted a letter to the CPUC requesting an extension to submit the Advice Letter in compliance with Resolution E-5164 from April 30, 2022 to July 31, 2022 and to extend the partially operational date of September 2022 to coincide with the fully operational date of September 2023. In addition, PG&E noted that an additional several months would be needed to complete negotiations due to the complex technical issues that would need to be resolved. The proposed updated schedule is provided in Table 6.

Table 6: Updated Solicitation Schedule

Event	Original Date	Proposed Date
PRG Meeting	February 23, 2022	March 15, 2022
PG&E Notifies Shortlisted Participants	February 24, 2022	March 16, 2022
Contract Negotiation	Late Feb. – Late March 2022	Mid-March – Late June 2022
Target Date for Contract Execution	Late March 2022	Early June 2022
Target Advice Letter Filing	Late April 2022	Late July 2022
Target Date for CPUC Approval	Late Aug. – Late Oct. 2022	Late Nov. 2022 – Late Jan. 2023
Partial Operation Date	September 2022	Late September 2022
Initial Delivery Date	Late September 2023	Late September 2023

The updated schedule was presented at the PRG Meeting on March 15, 2022 and was later accepted by the CPUC on April 11, 2022.

5.8 PRG MEETING ON SHORTLIST SELECTION

On March 15, 2022, a PRG meeting was held with the PG&E to review the Clean Substation Microgrid – Pilot RFO. PG&E presented project background, a summary of Offers received and the proposed shortlist.

When selecting the Shortlist of Projects, five considerations were applied:

- Reviewed projects under the cost cap
- Verified projects met NOx and PM requirements
- Assessed viability of offers and checked for fatal flaws
- Interviewed and reviewed responses to follow-up questions
- Conducted technical working sessions with Engineering SMEs

In addition, CPUC Project Requirements were highlighted:

- Project should be capable of islanding for 48 hours
- Project should be able to black start the substation load
- Project should meet cold load pickup requirements
- Project must meet frequency and frequency response requirements
- Project should meet protection requirements or include protection upgrades
- The cost of the project may not exceed twice the expected cost of utilizing backup diesel generation over the contract period

- The solution must reduce particulate matter (PM) and oxides of nitrogen (NOx) emissions by at least 90% compared to Tier 2 diesel and achieve grid equivalent or lower GHG emissions

PG&E reviewed each offer's characteristics and the quantitative evaluation results, as detailed in Table 7.

Table 7: Evaluation Summary of Updated Offers

Counter Party	Technology	Storage	Capacity (MW)	Location	10-Year Costs* (PV)	5-Year Costs** (PV)	Emissions	Storage Duration (Hours)	Additional Information	Recommendation
[redacted]										

The proposed Shortlist included [redacted].

The Rationale for the shortlisting included qualifications and contingencies:

[redacted]

In a background slide, PG&E provided the relative rankings of each viable offer based on several characteristics, which are illustrated in Table 8.

Table 8: Ranking of Viable Offers

Offer	Cost	Emissions	Noise	Technology	Viability
[redacted]					
[redacted]					
[redacted]					
[redacted]					

PG&E provided a summary of each viable offer's resource characteristics, as well as the Pros and Cons for each offer. [redacted] offer characteristics are provided in Table 9, below.

Table 9: Summary of Energy Vault Project

Counter Party	Technology	Storage	MW	Location	10-Year Costs* (PV)	5-Year Costs** (PV)	Emissions	Storage Duration (Hours)	Additional Information	Recommendation
[redacted]										

PG&E also outlined the Pros and Cons of the shortlisted [redacted] offer, as detailed in Table 10.

Table 10: Pros and Cons of Energy Vault Project

Pros	Cons
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	
[redacted]	

As the quantitative model calculated, the offer submitted by [redacted].

5.9 IE COMMENTS ON SHORTLIST

The IE had the opportunity to review and comment on the internal quantitative evaluation results, including the shortlist selections. As noted in Table 10, each of the shortlisted offer costs [redacted]. As Merrimack commented during the PRG call, the quantitative evaluation was fairly straight forward, and it was clear that [redacted].

Due to the nature of this solicitation, the qualitative aspects of the evaluation are also very important relating to technological maturity, developer experience, and other criteria. In order to better understand each project's operational characteristics, PG&E worked very actively with each counterparty through email and on conference calls to answer various questions about the proposals. While the IE wasn't provided the formal qualitative evaluation results as outlined in the qualitative evaluation protocols, PG&E did discuss viability issues identified with each of the projects with the IE. The main concern with [redacted] However, given that this a pilot program, PG&E felt that utilizing a new technology type and pairing would be fitting.

5.10 NOTIFICATION OF BIDDERS

On March 16, 2022, each of the shortlisted bidders were notified via Electronic Mail of their selection to the RFO selections shortlist. Shortlist Requirements were provided, including, a Shortlist Offer Deposit. Continued participation in the Solicitation required the submission of a Shortlist Offer Deposit of either cash or a Letter of Credit in the amount of $3/kW of the Contract Capacity, per the Protocol Section V.D, Shortlist Offer Deposit. The required Shortlist Offer Deposit for each of your projects that have been shortlisted is based on PG&E's preferred variation of each project. The required deposit was to be received by March 21, 2022.

All shortlisted RFO participants were required to complete PG&E's safety registration and prequalification process with ISNetworld, PG&E's primary contractor safety management system. In order to be eligible for execution of an Agreement in the Clean Substation Microgrid Pilot RFO, all requested company data was to be submitted by April 29, 2022 in order to be considered during the RFO selection process.

5.11 NEGOTIATIONS AND SECOND UPDATE TO RFO SCHEDULE

After notification of shortlisted bidders, [redacted]

During negotiations, it was identified that several studies would need to be completed in order to begin the project development:

- An Independent Safety Analysis (3 month timeline)
- An Inverter Specifications Study (1-2 month timeline)
- A Microgrid Islanding Study (to be completed by December 31, 2022)

Originally, the completion of the studies would be included as conditions precedent in the contract; however, PG&E determined that it would be best to complete the studies prior to executing a contract. As a result of this decision and extended discussions relating to project details, on July 7, 2022, PG&E requested an extension to December 31, 2022, to submit the Tier 3 Advice Letter required by OP 2 of E-5164, and an extension of the partially and fully operational date until June 1, 2024.

With good cause having been shown, PG&E's request was granted, and all parties were informed.

5.12 BEST AND FINAL OFFER & EVALUATION

During the extended negotiation period, Energy Vault provided a pricing update on October 28, 2022. [redacted]

[redacted]

[redacted]

Table 11: Administrative and Project Management Cost Breakdown

Project Line Item	Amount	Comment
Project Studies:		
Inverter Feasibility Study	[redacted]	[redacted]
Safety Study	[redacted]	[redacted]
Microgrid Island Study	$ 200,000	Forecasted from Redwood Coast Airport Microgrid ("RCAM") effort
Major Project Expense:		
Environmental and Permitting	$ 150,000	Forecast from PG&E Projects
Pole & Line Ext	$ 220,000	Forecast from PG&E Projects
Networking Equipment	$ 350,000	Forecasted from RCAM effort
Metering	$ 40,000	Forecast from Metering
Labor:		
2021 Incremental Labor Expense	$ 38,677	Actual Costs
2022 Incremental Labor Expense	$ 261,020	2022 Actual Costs till Nov 30, 2022
2022 Incremental Labor Accrued	$ 45,178	Forecasted Dec 2022 Costs
External Transactor	[redacted]	[redacted]

2023 - 2024 Project Development	$	750,000	Forecasted from RCAM effort
Project Development Testing:			
Factory Acceptance Test	$	25,000	
User Acceptance Test	[redacted]		[redacted]
Project Execution:			
Annual User Acceptance Test	[redacted]		[redacted]
Contract Administration	$	120,000	Admin costs over 10.5 years
Field Support	$	350,000	Estimate for 1 dispatch event over 10.5 years
Total Expense	**$**	**4,621,475**	
Project Contingency (30%)	**$**	**1,386,442**	Use AACE Cost Estimate[7]
Total Project Expense	**$**	**6,007,917**	

[redacted]

[7] For this project, the project was classified as a Class 4 project as it had preliminary costs estimates without a design but with a scope.

6 FAIRNESS OF SOLICITATION PROCESS

6.1 PRINCIPLES AND GUIDELINES USED TO DETERMINE FAIRNESS

In evaluating PG&E's performance in implementing the 2021 CSM Pilot RFO solicitation process, the IE has applied a number of principles and factors, which incorporate those suggested by the Commission's Energy Division in previous Templates as well as additional principles that the IE has used in its oversight of other competitive bidding processes. These include:

- What qualitative and quantitative factors were used to evaluate offers?
- If applicable, were affiliate offers treated the same as non-affiliate offers?
- Were economic evaluations consistent across offers?
- Was there a reasonable justification for any fixed parameters that enter into the methodology?
- Were all Participants treated the same regardless of the identity of the Participants?
- Were Participants questions answered fairly and consistently and the answers made available to all?
- Did the utility ask for "clarifications" from Participants, and what was the effect, if any, of these clarifications?

As described in detail in the previous sections of this report, PG&E evaluated the offers received based on both quantitative and qualitative factors. Given the 2X backup diesel generation cost cap guideline over the contract period, the quantitative evaluation was generally straight forward.

As previously noted, PG&E used reasonable methodologies for assessing offers received. The development of the Offer Form allowed for a very transparent evaluation methodology that aligns with the requirements outlined in the Decision. PG&E worked actively with the bidders during the Complete and Conforming process so that offer the offers could be appropriately evaluated.

PG&E's project team was very actively engaged in the process from the very beginning. This included responding to bidder questions and seeking clarification from Participants when required. With regard to Bidder questions, PG&E responded to questions from Participants about the solicitation process. The IE was

copied on all Questions and Responses to Participants. We found no cases where PG&E favored a specific Participant over another. PG&E responded consistently to all Participants throughout the process.

6.2 DESCRIPTION OF IE METHODOLOGY USED TO EVALUATE PROCESS

As previously discussed, the IE was actively involved in all phases of the process. The IE was copied on all emails exchanged between PG&E and Participants. The IE was also invited to and attended most of the calls with Participants wherein PG&E sought to clarify any uncertainties about the offers or inconsistencies associated with submission of offer information.

The IE also compiled a summary of the offers and was fully engaged in the process throughout the solicitation. In addition, the IE and PG&E evaluation and transaction teams held several conference calls to discuss the progress of the solicitation and any issues that arose during the process.

Based on the IE's active involvement throughout the solicitation process, the IE concluded that PG&E reasonably followed the criteria outlined in the 2021 CSM Pilot RFO.

6.3 TREATMENT OF OFFERS IN COMPLETE & CONFORMING PROCESS

After the offers were received, the initial task undertaken by PG&E's project team was to review the offers to assess if the offers conformed to the eligibility provisions listed in the Protocol. There were no inherent unfairness issues between bidders regarding the Complete & Conforming process

6.4 CONCLUSIONS REGARDING ADMINISTRATION OF BID EVALUATION PROCESS

The IE has concluded that the bid evaluation process was fairly administered. The IE felt that PG&E's project team performed their function in communicating with Participants throughout the process in an exemplary manner, including responses to Participant questions prior to offer submission to assist Participants with questions about submission requirements, follow-up communications with Participants to clarify offer forms and information about the offer after submission, and with regard to follow-up conference calls with Participants to clarify offer

information. PG&E generally provided thorough and informative responses to Participant questions and did so in a timely manner.

As described earlier, the main issue encountered relative to fairness issues revolved around the site LOI issue. [redacted] PG&E determined that all offers submitted should be considered. While this did not align with the original eligibility requirements, Merrimack felt that this decision was a prudent decision to maintain the competitiveness of the process and allow the best project to be selected.

The IE felt that PG&E's evaluation methodology was effective in evaluating the potential products eligible for the solicitation and agreement structure in a fair, and transparent manner.

7 CONTRACT NEGOTIATION PROCESS

On March 16, 2022, Shortlisted Participants were notified of their individual status. Shortly thereafter, on March 17, 2022, contract negotiations began [redacted] Contract negotiations were expected to conclude with final execution in June; however, as discussed in the report, the negotiation process was extended.

[redacted]

Table 12: Microgrid Island Study Components

Load Flow	Equipment Capacity Voltage Balance
System Protection	EOL Protection Settings for Generator LR Setting for distribution grid LR
Transient Study	Black Start Transformer in-rush
Operating Procedures	As needed

Meetings have also been conducted with the City of Calistoga to address additional concerns:

- Fuel storage and safety
    - Independent safety analysis of hydrogen fuel system to be performed by DNV
- Conditional Use Permit
- Potential siting conflicts including a dog park and an adjacent bike path
- Impact to adjacent properties
- Potential soil contamination on the selected and an adjacent site

The City also expressed an interest in the project's ability to operate on a more regular basis, beyond just during possible PSPS events.

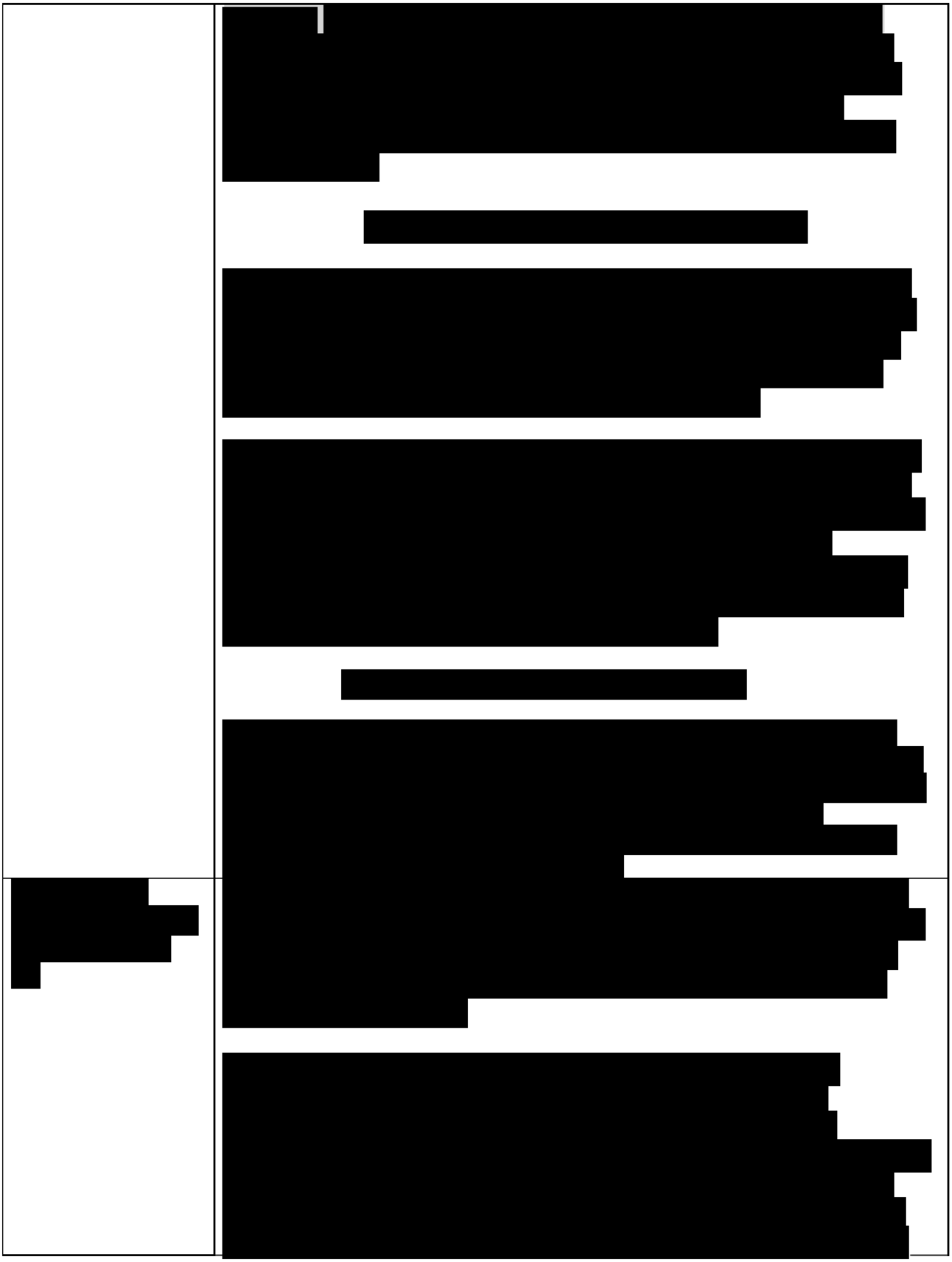
In regard to the safety analyses, the third-party safety consultant (DNV) includes the following critical reviews. Plans, and expected inputs from Energy Vault for the independent safety analysis include:

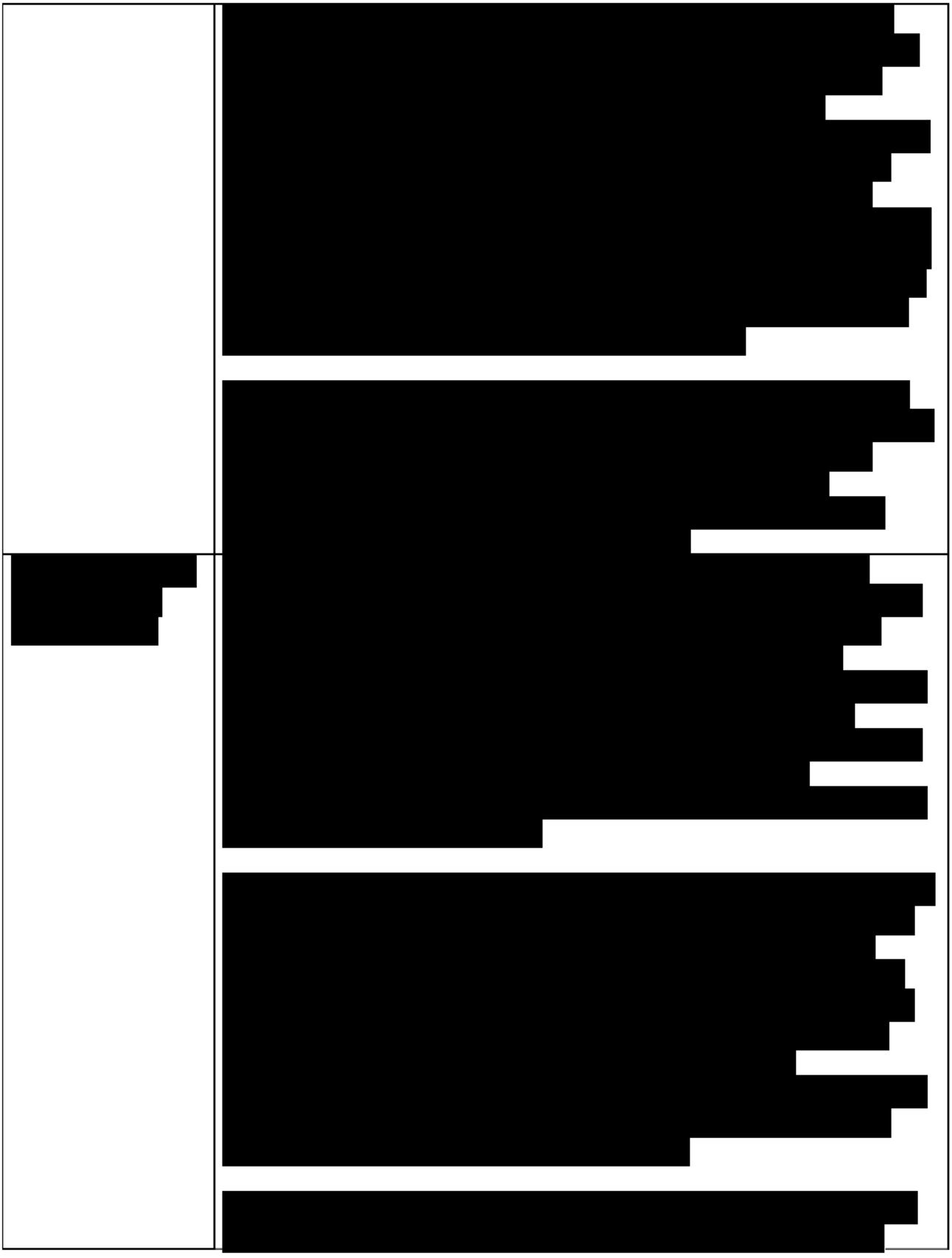
- Hazard Identification (HAZID)
- Hazard and Operability Analysis (HAZOPS)
- Energy Vault documentation review

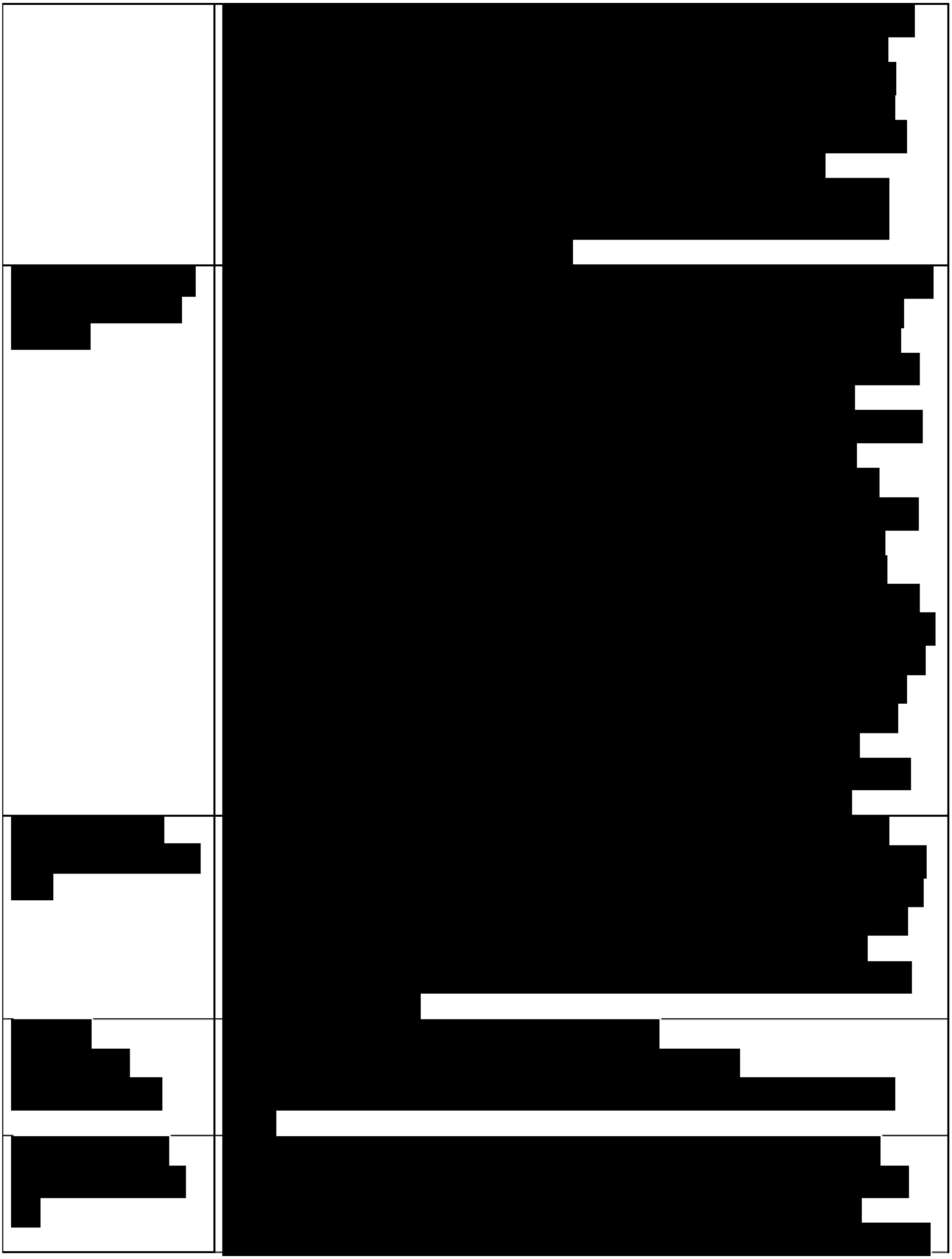
PG&E utilized its DGEMS agreement as the base pro forma to begin negotiations. During the negotiation period, there were several updates made to various commercial terms and conditions. Table 13 below provides a summary of key contract provisions.

Table 53: DGEMS Key Contract Provisions Summary

Contract Provisions	Key Contract Terms and Conditions
Agreement	Distributed Generation Enabled Microgrid Services Agreement (DGEMS)
[redacted]	[redacted]







The final contract with PG&E and Energy Vault was executed on December 20, 2022.

8 SAFEGUARDS ON AFFILIATE BIDS OR UTILITY-OWNED OPTIONS

No affiliate bids for Utility-Owned Generation ("UOG") bids were submitted in the 2021 CSM Pilot RFO. PG&E did not contemplate UOG options for this solicitation and only solicited third party ownership offers. Therefore, standard safeguards to ensure a fair evaluation process across different ownership options were not necessary.

9 WAS THE RFO ACCEPTABLE?

1. Overall was the RFO conducted in a fair and competitive process, free of real or perceived conflict of interest?
2. Based on the complete bid process, should some component(s) be changed to ensure future RFOs are fairer or provide a more efficient, lower cost option?
3. Any other relevant information.

The IE concludes that PG&E has implemented the 2021 CSM Pilot RFO in a fair and consistent manner, marked by an overall objective to maintain a reasonably transparent and competitive solicitation process designed to be inclusive for all Participants. PG&E worked closely with the Participants to ensure they fully understood the requirements of the process and were able to submit all the necessary information to allow for a thorough and consistent evaluation process given the short time available to conduct the solicitation.

As noted in this report, PG&E's outreach activities were designed to encourage a wide range of participants.

10 CONCLUSIONS & RECOMMENDATIONS

10.1 CONCLUSIONS AND OBSERVATIONS

Merrimack Energy has the following conclusions and observations regarding the 2021 CSM Pilot RFO solicitation process based on its role of IE in this process:

1. PG&E generally implemented the 2021 CSM Pilot RFO solicitation process consistent with CPUC Decision D.21-01-018, which requires PG&E to design and implement Rates, Tariffs, and Rules facilitating the commercialization of Microgrids pursuant to Senate Bill 1339 and Resiliency Strategies.

2. PG&E's outreach activities and interaction with Participants prior to and after submission of offers was designed to provide a significant base of information for Participants. This included holding a Bidder's Webinar for potential Participants. PG&E engaged in discussions and email exchanges to ensure the Participants were in line with the schedule and process. In addition, PG&E sent emails to all contacts on its email list for solicitations, which totals approximately 2,500 contacts. Overall, PG&E's outreach activities were satisfactory;

3. PG&E's 2021 CSM Pilot RFO resulted in an adequate response from the market in terms of the number of offers;

4. PG&E developed the evaluation methodologies and process to reflect the products being solicited, similar to the "Least Cost Best Fit" methodology used for other recent similar RFOs. In addition, PG&E prepared an Offer Workbook that included the calculations necessary to determine an offer's cost effectiveness relative to the deferral project;

5. The IE found the solicitation documents to be very transparent and well-structured to allow potential Participants to effectively decide whether and how they wished to compete. The 2021 CSM Pilot RFO Solicitation documents clearly defined the procurement targets, products solicited, eligibility requirements, evaluation process and criteria, information required of Participants and company objectives;

6. The IE found no evidence of any preference toward any bidder or type of project;

7. The IE concludes that the process was undertaken in a fair and equitable manner and all Participants were treated equally.

10.2 RECOMMENDATIONS FOR FUTURE CSM/MICROGRID RFOS

The 2021 CSM Pilot RFO was a fairly unique process and product being solicited with several moving parts and a number of unforeseen hurdles encountered during the process. For potential future CSM or microgrid RFOs, there are several challenges PG&E could consider to help streamline microgrid project planning, design, development and construction, which could provide additional project efficiencies for customers:

1. Coordinating the effort more closely with the city, town or local area officials in advance of the solicitation for which the project will be installed. This could improve the process if PG&E could coordinate with the local government bodies and AHJs to ensure that the solicitation documents and protocols align with the local plans and requirements. This type of planning and collaboration can help eliminate the issues that arose with the site control LOI requirement.
2. Extending the solicitation schedule
    i. Provide additional time for qualitative evaluations. Due to the diversity in technologies of the RFO responses and technical nuances of the projects, PG&E should look to allot adequate time to conduct evaluations with all required SMEs
    ii. Provide additional opportunities for bidders to review resource viability options for siting considerations
        1. Consider allowing bidders to determine locations, subject to interconnection requirements for functional microgrid functionality and efficiency
3. Consider additional resiliency metrics beyond PSPS events, as changes to operational characteristics and/or technical requirements can have a major impact on pricing and therefore economic viability. Ideally these considerations are determined prior to solicitation launch
    i. Longer duration of outages
    ii. Transmission and/or distribution maintenance
    iii. Economic benefit to local community
        1. project development
        2. lost opportunity costs of outages
        3. value of local energy resource
    iv. Natural hazards
4. Consider community investment opportunities
    i. Similar to Community Solar programs
    ii. Provide microgrid and/or potential microgrid customers the opportunity to invest in microgrid projects in exchange for carbon free energy and capacity credits

5. Consider separate solicitations for components within the microgrid
    i. Capacity and Energy Resources
    ii. Interconnection facilities
    iii. Controls
    iv. Fuel supply
6. Consider utility-ownership options for microgrid resources and infrastructure
    i. Maintain utility control and remote dispatchability
    ii. Safety, Reliability of continuous load service
    iii. NERC Communications standards
    iv. NERC Critical Infrastructure Protection
7. Consider solutions that provide energy and grid resiliency benefits to customers during normal operating conditions, in addition to low probability events such as PSPS to enhance project value
8. Consider adding a final shortlist/selection phase with Best and Final Offer pricing so back-up options are readily available
9. Considering engaging all jurisdictional permitting agencies prior to site selection to better understand mitigation requirement impacts to design, procurement timelines, construction timelines, pricing and Advice Letter filing deadlines

Grid resiliency, grid reliability and energy supply concerns are priorities in many organized markets across the United States, including California. While it's currently unclear what role microgrid developments can play to help mitigate those concerns longer term, with careful considerations for costs and seamless operational controls, microgrids could play an integral role to ensure reliable energy supply (including carbon free) and cost-effective electric service to customers with certain operating constraints and system configurations that make them more vulnerable to service interruptions.

PACIFIC GAS AND ELECTRIC COMPANY

Appendix H

Independent Evaluator's Report on CSM RFO

(Confidential)

PACIFIC GAS AND ELECTRIC COMPANY

Appendix I

Executed Energy Vault Procurement Contract for Calistoga CSM

(Confidential)

PACIFIC GAS AND ELECTRIC COMPANY

Appendix J

City of Calistoga Documents

(Public)

CITY OF CALISTOGA

1232 Washington Street • Calistoga, CA 94515
Telephone 707-942-2800
Fax 707-942-0732
www.ci.calistoga.ca.us

December 14, 2022

Arti Davé
Structured Energy Transactions
Energy Policy and Procurement
Pacific Gas and Electric Company
300 Lakeside Drive
Oakland, CA 94612
Delivered to: arti.dave@pge.com

Dear Ms. Davé:

The City of Calistoga has been a long-term advocate for more reliable power. Situated in an area prone to high winds, wildfires, and extreme temperatures, and home to many seniors and low-income residents, our community is severely impacted by any power loss, including those from PSPS events, down lines, EPSS events, and the like. Power is crucial to ensure diabetics can keep their insulin cool, medically compromised individuals can maintain their oxygen flow and heating and cooling needs, and families can keep their food at safe temperatures. Reliable power is a critical input to our local economy. A significant part of our economic engine, including the city's revenues, relies on visitors. When our hotels, restaurants, and other visitor-serving facilities cannot remain open, our reputation is tarnished impacting our ability to fund and provide critical city services. Lastly, since the pandemic with more people than ever relying on power to work from home, the possibility of avoiding regular outages as have been experience in past years is a critical success factor for our local economy.

We are very pleased that Pacific Gas and Electric Company is investing significant effort to address Calistoga's challenges in obtaining reliable power and we support these efforts. One such effort is the Clean Energy Microgrid Pilot Project. We look forward to a continued partnership on this project.

The City looks forward to the day when a reliable power system will cover multiple types of power outages as well as power our entire city, including those residents "across the river."

Sincerely,

Laura Snideman
City Manager

Cc: Calistoga Mayor and City Council

PACIFIC GAS AND ELECTRIC COMPANY

Appendix K.1

Electric Preliminary Statement Part IT, Microgrids Balancing Account - Clean Version

(Public)

Cal P.U.C. Sheet No.	Title of Sheet	Cancelling Cal P.U.C. Sheet No.
55053-E	ELECTRIC PRELIMINARY STATEMENT PART IT MICROGRIDS BALANCING ACCOUNT (MGBA) Sheet 1	54802-E
55054-E	ELECTRIC PRELIMINARY STATEMENT PART IT MICROGRIDS BALANCING ACCOUNT (MGBA) Sheet 2	
55055-E	ELECTRIC PRELIMINARY STATEMENT PART IT MICROGRIDS BALANCING ACCOUNT (MGBA) Sheet 3	54803-E
55056-E	ELECTRIC PRELIMINARY STATEMENT PART IT MICROGRIDS BALANCING ACCOUNT (MGBA) Sheet 4	54804-E
55057-E	ELECTRIC PRELIMINARY STATEMENT PART IT MICROGRIDS BALANCING ACCOUNT (MGBA) Sheet 5	54805-E
55058-E	ELECTRIC TABLE OF CONTENTS Sheet 1	54827-E
55059-E	ELECTRIC TABLE OF CONTENTS Sheet 18	54832-E

ELECTRIC PRELIMINARY STATEMENT PART IT Sheet 1
MICROGRIDS BALANCING ACCOUNT (MGBA)

IT. MICROGRIDS BALANCING ACCOUNT (MGBA)

1. PURPOSE: The purpose of the Microgrids Balancing Account (MGBA) is to record actual incremental incurred expenses and capital-related revenue requirement related to the actual incremental capital costs incurred associated with the Electrical Isolation Technology Evaluation, the Microgrids Evaluation, and the Clean Substation Microgrid Program to be implemented pursuant to Decision D.21-01-018 and with Make-Ready, Utility-Owned Generation, and Third-Party contracts for Distributed Generation-Enabled Microgrid Services (DGEMS) implemented pursuant to D.22-11-009. The account consists of five one-way subaccounts, which separately track the Electrical Isolation Technology Evaluation, the Microgrids Evaluation, the Clean Substation Microgrid Program, Make-Ready investments, and Utility-Owned Generation; and one two-way subaccount, which tracks Third-Party DGEMS Contracts.

2. APPLICABILITY: The MGBA shall apply to all electric customer classes, except for those specifically excluded by the Commission.

3. REVISION DATE: Disposition of the balances of the Electrical Isolation Technology Evaluation Subaccount, the Microgrids Evaluation subaccount, Make-Ready subaccount, and Utility-Owned Generation subaccount will be in the distribution component of electric rates through the Distribution Revenue Adjustment Mechanism (DRAM) as part of PG&E's Annual Electric True-up (AET) advice letter filing at the end of the related project work. Disposition of the balance of the Third-Party DGEMS Contracts subaccount will be in the distribution component of electric rates through the DRAM as part of PG&E's AET advice letter filing on an annual basis. Additionally, for the Make-Ready subaccount, Utility-Owned Generation subaccount, and Third-Party DGEMS Contracts subaccount the costs will be recovered based on the allocation of wildfire mitigation costs adopted in D.21-11-016. Disposition of the balances of the Clean Substation Microgrid Program Subaccount for the period of 2021-2026 will be in the distribution component of rates through the DRAM as part of PG&E's AET advice letter filing and for the period beginning 2027 the revenue requirement will be included in the General Rate Case (GRC) application for recovery through distribution rates. Specifically, recovery through distribution rates will utilize the special revenue allocation that was originally approved in Phase II of PG&E's 2020 GRC, D.21-11-016, for costs associated with wildfire efforts. (N)

4. RATES: The MGBA does not have a rate component. (L)

(Continued)

ELECTRIC PRELIMINARY STATEMENT PART IT Sheet 2
MICROGRIDS BALANCING ACCOUNT (MGBA)

5. ACCOUNTING PROCEDURE: The MGBA consists of the following subaccounts: (L)

The Electrical Isolation Technology Evaluation Subaccount (one-way subaccount) records actual incurred expenses and capital-related revenue requirement related to the actual capital costs incurred for the Electrical Isolation Technology Evaluation as described in D.21-01-018.

The Microgrids Evaluation Subaccount (one-way subaccount) records actual incurred expenses for the Microgrids Evaluation as described in D.21-01-018.

The Clean Substation Microgrid Program Subaccount (one-way subaccount) records actual incurred expenses and capital-related revenue requirement related to the actual capital (L)
costs incurred for the Clean Substation Microgrid Program[1] as described in D.21-01-018. (T)/(L)

The Make-Ready Subaccount (one-way subaccount) tracks the difference between actual incurred expenses and capital-related revenue requirement related to the actual capital costs incurred against total adopted revenue requirement for the Make-Ready investments related to multi-season substation microgrids as described in D.22-11-009. (L)

The Utility-Owned Generation Subaccount (one-way subaccount) tracks the difference between actual incurred expenses and capital-related revenue requirement related to the actual capital costs incurred against the total adopted revenue requirement for the Utility-Owned Generation related to multi-season substation microgrids, net of market revenues for blue-sky products[2], if any, as described in D.22-11-009.

The Third-Party DGEMS Contracts subaccount (two-way subaccount) records actual incurred expenses for Third-Party DGEMS contracts, net of market revenues for blue-sky products, if any as described in D.22-11-009. (L)

[1] For the Calistoga Clean Substation Microgrid (CSM) Project, Non-PSPS-related variable costs associated with courtesy dispatches under the Energy Vault resources would not be recorded in the Clean Substation Microgrid Program Subaccount of the MGBA. These costs will be recovered through GRC funding or, if it is for a non-PSPS-related catastrophic event, the Catastrophic Event Memorandum Account (CEMA). (N)
[2] In this context, PG&E refers to “blue sky products” as those that the distributed energy resources (DER) that power a substation microgrid may be able to provide to the wholesale market during normal (“blue sky”) grid operations. They may include, for example, energy, ancillary services, and capacity. (N)

(Continued)

ELECTRIC PRELIMINARY STATEMENT PART IT Sheet 3
MICROGRIDS BALANCING ACCOUNT (MGBA)

5. ACCOUNTING PROCEDURE (Cont'd)

(L)
(L)

A. The Electrical Isolation Technology Evaluation Subaccount (L)

The following entries will be made each month, or as applicable, net of Revenue Fees and uncollectibles (RF&U):

1. A debit equal to the actual incremental incurred expenses;

2. A debit or credit entry equal to the capital-related revenue requirement related to the actual incremental capital costs incurred. Capital-related revenue requirements include depreciation expense, return on investment, federal and state income taxes, and property taxes associated with the costs of installed equipment;

3. A credit to transfer the balance or amounts to the DRAM for true-up in rates; and

4. A debit or credit entry equal to the interest on the average of the balance in this subaccount at the beginning of the month and the balance in this subaccount after the above entries, at a rate equal to one-twelfth the interest rate on three month commercial paper for the previous month, as reported in the Federal Reserve Statistical Release, H.15, or its successor.

B. The Microgrids Evaluation Subaccount

The following entries will be made each month, or as applicable, net of RF&U:

1. A debit equal to the actual incremental incurred expenses;

2. A credit to transfer the balance or amounts to the DRAM for true-up in rates; and

3. A debit or credit entry equal to the interest on the average of the balance in this subaccount at the beginning of the month and the balance in this subaccount after the above entries, at a rate equal to one-twelfth the interest rate on three month commercial paper for the previous month, as reported in the Federal Reserve Statistical Release, H.15, or its successor.

4. A debit or credit entry equal to the interest on the average of the balance in this subaccount at the beginning of the month and the balance in this subaccount after the above entries, at a rate equal to one-twelfth the interest rate on three month commercial paper for the previous month, as reported in the Federal Reserve Statistical Release, H.15, or its successor.

(L)

ELECTRIC PRELIMINARY STATEMENT PART IT Sheet 4
MICROGRIDS BALANCING ACCOUNT (MGBA)

5. ACCOUNTING PROCEDURE (Cont'd) (L)

C. The Clean Substation Microgrid Program

The following entries will be made each month, or as applicable, net of RF&U:

1. A debit equal to the actual incremental incurred expenses;

2. A debit or credit entry equal to the capital-related revenue requirement related to the actual incremental capital costs incurred. Capital-related revenue requirements include depreciation expense, return on investment, federal and state income taxes, and property taxes associated with the costs of installed equipment; (L)

3. A credit to transfer the balance or amounts in this subaccount, to the DRAM for future rate recovery; and (T)/(L) (T)/(L)

4. A debit or credit entry equal to the interest on the average of the balance in this subaccount at the beginning of the month and the balance in this subaccount after the above entries, at a rate equal to one-twelfth the interest rate on three month commercial paper for the previous month, as reported in the Federal Reserve Statistical Release, H.15, or its successor. (L)

D. Make-Ready

The following entries will be made each month, or as applicable, net of RF&U:

1. A credit equal to one-twelfth the adopted annual revenue requirement. A corresponding entry is included in DRAM, inclusive of RF&U;

2. A debit equal to the actual incremental incurred expenses;

3. A debit or credit entry equal to the capital-related revenue requirement related to the actual incremental capital costs incurred. Capital-related revenue requirements include depreciation expense, return on investment, federal and state income taxes, and property taxes associated with the costs of installed equipment;

4. A debit or credit to transfer the balance or amounts to the DRAM for true-up in rates; and

   A debit or credit entry equal to the interest on the average of the balance in this subaccount at the beginning of the month and the balance in this subaccount after the above entries, at a rate equal to one-twelfth the interest rate on three month commercial paper for the previous month, as reported in the Federal Reserve Statistical Release, H.15, or its successor. (L)

(Continued)

ELECTRIC PRELIMINARY STATEMENT PART IT Sheet 5
MICROGRIDS BALANCING ACCOUNT (MGBA)

5. ACCOUNTING PROCEDURE (Cont'd) (L)

E. Utility-Owned Generation

The following entries will be made each month, or as applicable, net of RF&U:

1. A credit equal to one-twelfth the adopted annual revenue requirement. A corresponding entry is included in DRAM, inclusive of RF&U;

2. A debit equal to the actual incremental incurred expenses;

3. A debit or credit entry equal to the capital-related revenue requirement related to the actual incremental capital costs incurred. Capital-related revenue requirements include depreciation expense, return on investment, federal and state income taxes, and property taxes associated with the costs of installed equipment;

4. A credit equal to any value received from Resource Adequacy credits, energy or ancillary services wholesale market transactions, and Renewable Energy Credits;

5. A debit or credit to transfer the balance or amounts to the DRAM for true-up in rates; and

6. A debit or credit entry equal to the interest on the average of the balance in this subaccount at the beginning of the month and the balance in this subaccount after the above entries, at a rate equal to one-twelfth the interest rate on three month commercial paper for the previous month, as reported in the Federal Reserve Statistical Release, H.15, or its successor.

F. Third-Party DGEMS Contracts

The following entries will be made each month, or as applicable, net of RF&U:

1. A debit equal to the actual incremental incurred expenses;

2. A credit equal to any value received from Resource Adequacy credits, energy or ancillary services wholesale market transactions, and Renewable Energy Credits;

3. A debit or credit to transfer the balance or amounts to the DRAM for true-up in rates; and

4. A debit or credit entry equal to the interest on the average of the balance in this subaccount at the beginning of the month and the balance in this subaccount after the above entries, at a rate equal to one-twelfth the interest rate on three month commercial paper for the previous month, as reported in the Federal Reserve Statistical Release, H.15, or its successor.

(L)

(Continued)

ELECTRIC TABLE OF CONTENTS Sheet 1

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(Continued)

ELECTRIC TABLE OF CONTENTS Sheet 18

(Continued)

PACIFIC GAS AND ELECTRIC COMPANY

Appendix K.2

Electric Preliminary Statement Part IT, Microgrids Balancing Account - Redlined Version

(Public)

ELECTRIC PRELIMINARY STATEMENT PART IT Sheet 1
MICROGRIDS BALANCING ACCOUNT (MGBA)

IT. MICROGRIDS BALANCING ACCOUNT (MGBA)

1. PURPOSE: The purpose of the Microgrids Balancing Account (MGBA) is to record actual incremental incurred expenses and capital-related revenue requirement related to the actual incremental capital costs incurred associated with the Electrical Isolation Technology Evaluation, the Microgrids Evaluation, and the Clean Substation Microgrid Program to be implemented pursuant to Decision D.21-01-018 and with Make-Ready, Utility-Owned Generation, and Third-Party contracts for Distributed Generation-Enabled Microgrid Services (DGEMS) implemented pursuant to D.22-11-009. The account consists of five one-way subaccounts, which separately track the Electrical Isolation Technology Evaluation, the Microgrids Evaluation, the Clean Substation Microgrid Program, Make-Ready investments, and Utility-Owned Generation; and one two-way subaccount, which tracks Third-Party DGEMS Contracts.

2. APPLICABILITY: The MGBA shall apply to all electric customer classes, except for those specifically excluded by the Commission.

3. REVISION DATE: Disposition of the balances of the Electrical Isolation Technology Evaluation Subaccount, the Microgrids Evaluation subaccount, Make-Ready subaccount, and Utility-Owned Generation subaccount will be in the distribution component of electric rates through the Distribution Revenue Adjustment Mechanism (DRAM) as part of PG&E's Annual Electric True-up (AET) advice letter filing at the end of the related project work. Disposition of the balance of the Third-Party DGEMS Contracts subaccount will be in the distribution component of electric rates through the DRAM as part of PG&E's AET advice letter filing on an annual basis. Additionally, for the Make-Ready subaccount, Utility-Owned Generation subaccount, and Third-Party DGEMS Contracts subaccount the costs will be recovered based on the allocation of wildfire mitigation costs adopted in D.21-11-016. ~~The specific method for the disposition of the balance of the Clean Substation Microgrid Program Subaccount will be determined in a future Tier 3 Advice Letter that PG&E will file pursuant to Ordering Paragraph 17 of D.21-01-018.~~Disposition of the balances of the Clean Substation Microgrid Program Subaccount for the period of 2021-2026 will be in the distribution component of rates through the DRAM as part of PG&E's AET advice letter filing and for the period beginning 2027 the revenue requirement will be included in the General Rate Case (GRC) application for recovery through distribution rates. Specifically, recovery through distribution rates will utilize the special revenue allocation that was originally approved in Phase II of PG&E's 2020 GRC, D.21-11-016, for costs associated with wildfire efforts.

4. RATES: The MGBA does not have a rate component.

5. ACCOUNTING PROCEDURE: The MGBA consists of the following subaccounts:

The Electrical Isolation Technology Evaluation Subaccount (one-way subaccount) records actual incurred expenses and capital-related revenue requirement related to the actual capital costs incurred for the Electrical Isolation Technology Evaluation as described in D.21-01-018.

The Microgrids Evaluation Subaccount (one-way subaccount) records actual incurred expenses for the Microgrids Evaluation as described in D.21-01-018.

(Continued)

ELECTRIC PRELIMINARY STATEMENT PART IT Sheet 1
MICROGRIDS BALANCING ACCOUNT (MGBA)

The Clean Substation Microgrid Program Subaccount (one-way subaccount) records actual incurred expenses and capital-related revenue requirement related to the actual capital costs incurred for the Clean Substation Microgrid Program[1] as described in D.21-01-018.

The Make-Ready Subaccount (one-way subaccount) tracks the difference between actual incurred expenses and capital-related revenue requirement related to the actual capital costs incurred against total adopted revenue requirement for the Make-Ready investments related to multi-season substation microgrids as described in D.22-11-009.

[1] For the Calistoga Clean Substation Microgrid (CSM) Project, Non-PSPS-related variable costs associated with courtesy dispatches under the Energy Vault resources would not be recorded in the Clean Substation Microgrid Program Subaccount of the MGBA. These costs will be recovered through GRC funding or, if it is for a non-PSPS-related catastrophic event, the Catastrophic Event Memorandum Account (CEMA).

(Continued)

5. ACCOUNTING PROCEDURE (Cont'd)

C. The Clean Substation Microgrid Program

The following entries will be made each month, or as applicable, net of RF&U:

1. A debit equal to the actual incremental incurred expenses;

2. A debit or credit entry equal to the capital-related revenue requirement related to the actual incremental capital costs incurred. Capital-related revenue requirements include depreciation expense, return on investment, federal and state income taxes, and property taxes associated with the costs of installed equipment;

3. A credit to transfer ~~all or a portion of~~ the balance or amounts in this subaccount, to ~~other adjustment clauses~~ the DRAM for future rate recovery~~, as may be approved by the CPUC~~; and

4. A debit or credit entry equal to the interest on the average of the balance in this subaccount at the beginning of the month and the balance in this subaccount after the above entries, at a rate equal to one-twelfth the interest rate on three month commercial paper for the previous month, as reported in the Federal Reserve Statistical Release, H.15, or its successor.

D. Make-Ready

The following entries will be made each month, or as applicable, net of RF&U:

1. A credit equal to one-twelfth the adopted annual revenue requirement. A corresponding entry is included in DRAM, inclusive of RF&U;

2. A debit equal to the actual incremental incurred expenses;

3. A debit or credit entry equal to the capital-related revenue requirement related to the actual incremental capital costs incurred. Capital-related revenue requirements include depreciation expense, return on investment, federal and state income taxes, and property taxes associated with the costs of installed equipment;

4. A debit or credit to transfer the balance or amounts to the DRAM for true-up in rates; and

   A debit or credit entry equal to the interest on the average of the balance in this subaccount at the beginning of the month and the balance in this subaccount after the above entries, at a rate equal to one-twelfth the interest rate on three month commercial paper for the previous month, as reported in the Federal Reserve Statistical Release, H.15, or its successor.

(Continued)

PACIFIC GAS AND ELECTRIC COMPANY

Appendix L

Model Protective Order and Nondisclosure Certificate

(Public)

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Request for Approval of PG&E's Plan to Develop a Clean Substation Microgrid Project and Associated Procurement Contract with Energy Vault	))))	**Advice 6808-E**

[PROPOSED] PROTECTIVE ORDER

1. Scope. This Protective Order shall govern access to and the use in connection with the above-referenced Advice Letter (the "Advice Letter") of Protected Materials, produced by, or on behalf of, any Disclosing Party.

2. Modification. This Protective Order shall remain in effect until it is modified or terminated by the Commission or the Administrative Law Judge Division ("ALJ Division"). The parties acknowledge that the identity of the parties submitting Protected Materials may differ from time to time. In light of this situation, the parties agree that modifications to this Protective Order may become necessary, and they further agree to work cooperatively to devise and implement such modifications in as timely a manner as possible. Each party governed by this Protective Order has the right to seek changes in it as appropriate from the ALJ Division or the Commission.

3. Definitions

A. The term "Protected Material(s)" means (i) trade secret, market sensitive, or other confidential and/or proprietary information as determined by the Disclosing Party in accordance with the provisions of D.06-06-066 and subsequent decisions, General Order 66-Cand 454.5(g), or any other right of confidentiality provided by law, or (ii) any other materials that are made subject to this Protective Order by the ALJ Division, Law and Motion Administrative Law Judge

("Law and Motion ALJ"), Assigned Commissioner, the Commission, or any court or other body having appropriate authority. Protected Materials also includes memoranda, handwritten notes, spreadsheets, computer files and reports, and any other form of information (including information in electronic form) that copies, discloses, or compiles other Protected Materials or from which such materials may be derived (except that any derivative materials must be separately shown to be confidential). Protected Materials do not include: (i) any information or document contained in the public files of the CPUC or any other state or federal agency, or in any state or federal court; or (ii) any information that is public knowledge, or which becomes public knowledge, other than through disclosure in violation of this Protective Order or any other protective order.

B. The term "redacted" refers to situations in which Protected Materials in a document, whether the document is in paper or electronic form, have been covered, blocked out, or removed. The term "unredacted" refers to situations in which the Protected Materials in a document, whether in paper or electronic form, have not been covered, blocked out, or removed.

C. The term "Disclosing Party" means a party who initially discloses any specified Protected Materials in connection with the Advice Letter.

D. The term "Market Participant" ("MP") refers to a party that is:

1) A person or entity, or an employee of an entity, that engages in the wholesale purchase, sale or marketing of energy or capacity, or the bidding on or purchasing of power plants, or bidding on utility procurement solicitations, or consulting on such matters, subject to the limitations in 3) below.

2) A trade association or similar organization, or an employee of such organization,

   a) whose primary focus in proceedings at the Commission is to advocate for persons/entities that purchase, sell or market energy or capacity at wholesale; bid on, own, or purchase power plants; or bid on utility procurement solicitations; or

   b) a majority of whose members purchase, sell or market energy or capacity at wholesale; bid on, own, or purchase power plants; or bid on utility procurement solicitations; or

c) formed for the purpose of obtaining market sensitive information; or

d) controlled or primarily funded by a person or entity whose primary purpose is to purchase, sell or market energy or capacity at wholesale; bid on, own, or purchase power plants; or bid on utility procurement solicitations.

3) A person or entity that meets the criteria of 1) above is nonetheless not a market participant for purpose of access to market sensitive data unless the person/entity seeking access to market sensitive information has the potential to materially affect the price paid or received for electricity if in possession of such information. An entity will be considered not to have such potential if:

a) the person or entity's participation in the California electricity market is *de minimis* in nature. In the resource adequacy proceeding (R.05-12-013) it was determined in D.06-06-064 § 3.3.2 that the resource adequacy requirement should be rounded to the nearest megawatt (MW), and load serving entities (LSEs) with local resource adequacy requirements less than 1 MW are not required to make a showing. Therefore, a *de minimis* amount of energy would be less than 1 MW of capacity per year, and/or an equivalent of energy; and/or

b) the person or entity has no ability to dictate the price of electricity it purchases or sells because such price is set by a process over which the person or entity has no control, *i.e.*, where the prices for power put to the grid are completely overseen by the Commission, such as subject to a standard offer contract or tariff price. A person or entity that currently has no ability to dictate the price of electricity it purchases or sells under this section, but that will have such ability within one year because its contract is expiring or other circumstances are changing, does not meet this exception; and/or

c) the person or entity is a cogenerator that consumes all the power it generates in its own industrial and commercial processes, if it can establish a legitimate need for market sensitive information.

E. A Market Participant's Reviewing Representatives are limited to persons designated by the Market Participant who meet the following criteria:

1. Are outside experts, consultants or attorneys;

2. Are not currently engaged, directly or indirectly, in (a) the purchase, sale, or marketing of electrical energy or capacity or natural gas (or the direct supervision of any employee(s) whose duties include such activities), (b) the bidding on or purchasing of

power plants (or the direct supervision of any employee(s) whose duties include such activities), or (c) consulting with or advising others in connection with any activity set forth in subdivisions (a) or (b) above (or the direct supervision of any employee(s) whose duties include such activities or consulting); and

3. Are not an employee of a market participant.

F. Persons or entities that do not meet the definition of market participant are non-market participants ("NMPs"), and may have access to market sensitive information through their designated Reviewing Representatives. An attorney or consultant that simultaneously represents market participant(s) and non-market participant(s) may not have access to market sensitive data. If, on the other hand, simultaneous representation is of market participant and non-market participant clients involved in completely different types of matters, there should be no bar (although there may be ethical implications of such representation that we do not address here). If, for example, an attorney represents a market participant in matters unrelated to procurement, resource adequacy, RPS, or the wholesale purchase, sale or marketing of energy or capacity, or the bidding on or purchasing of power plants, or bidding on utility procurement solicitations, in a forum other than this Commission, and simultaneously represents a non-market participant in cases related to these topics before the Commission, there should be no bar to the attorney's receipt of market sensitive data (pursuant to a non-disclosure agreement and protective order) in the latter matter. In close cases, the balance should militate to bar simultaneous representation because of the risks it poses.

H. All Reviewing Representatives are required to execute a non-disclosure agreement and are bound by the terms of this Protective Order.

4. Designation of Materials. When submitting materials in connection with the Advice Letter containing Protected Materials, a party shall physically mark such documents on each page (or in the case of non-documentary materials such as computer diskettes, on each item) as "PROTECTED MATERIALS SUBJECT TO PROTECTIVE ORDER," or with words of similar import as long as one or more of the terms, "Protected Materials," "Protective Order," or

"General Order No. 66-C" is included in the designation to indicate that the materials in question are protected.

All materials so designated shall be treated as Protected Materials unless and until (a) the designation is withdrawn pursuant to Paragraph 17 hereof, or (b) an ALJ, Commissioner or other Commission representative makes a determination pursuant to Paragraph 4 hereof changing the designation.

All documents containing Protected Materials that are submitted to Commission Staff in connection with the Advice Letter, or filed with the Commission or served, shall be placed in sealed envelopes or otherwise appropriately protected and shall be endorsed to the effect that they are submitted, filed or served under seal pursuant to this Protective Order. Such documents shall be served upon Reviewing Representatives and persons employed by or working on behalf of the state governmental agencies referred to in Paragraph 12 hereof who are eligible and have requested to review such materials. Service upon the persons specified in the foregoing sentence may either be (a) by electronic mail in accordance with the procedures adopted in connection with advice letters, (b) by facsimile, or (c) by overnight mail or messenger service. Whenever service of a document containing Protected Materials is made by overnight mail or messenger service, Commission Staff and/or the ALJ Division, as may be appropriate for purposes of review and disposition of the Advice Letter, shall be served with such document by hand on the date that service is due.

5. Redaction of Documents. Whenever a party submits to Commission Staff, or files, serves or provides in discovery, a document that includes Protected Materials (including but not limited to briefs, testimony, exhibits, and responses to data requests), such party shall also prepare a redacted version of such document. The redacted version shall enable persons familiar with the Advice Letter to determine with reasonable certainty the nature of the data that has been redacted and where the redactions occurred. The redacted version of a document to be submitted or filed shall be served on all persons on the utility's advice letter service list and on any third

parties as specified by statute or other Commission order, and the redacted version of a discovery document shall be served on all persons entitled thereto.

6. Selection of Reviewing Representatives. Each MP and NMP selecting a Reviewing Representative shall first identify its proposed Reviewing Representative to the Disclosing Party. An attorney or consultant that simultaneously represents market participant(s) and non-market participant(s) may not have access to market sensitive data, subject to the exception in paragraph 3.F. Any designated Reviewing Representative has a duty to disclose to the Disclosing Party any potential conflict that puts him/her in violation of Decision 06-12-030. A resume or curriculum vitae is reasonable disclosure of such potential conflicts, and should be the default evidence provided in most cases.

7. Access to Protected Materials and Use of Protected Materials. Subject to the terms of this Protective Order, Reviewing Representatives shall be entitled to access to Protected Materials. All other parties in this proceeding shall not be granted access to Protected Materials, but shall instead be limited to reviewing redacted versions of documents. Reviewing Representatives may make copies of Protected Materials, but such copies become Protected Materials. Reviewing Representatives may make notes of Protected Materials, which shall be treated as Notes of Protected Materials if they disclose the contents of Protected Materials. Protected Materials obtained by a party in connection with the Advice Letter may also be requested by that party in a subsequent Commission proceeding, subject to the terms of any protective order governing that subsequent proceeding, without constituting a violation of this order.

8. Maintaining Confidentiality of Protected Materials. Each Reviewing Representative shall treat Protected Materials as confidential in accordance with this Protective Order and the Non-Disclosure Certificate executed pursuant to Paragraph 7 and 8 hereof. Protected Materials shall not be used except as necessary in connection with review and disposition of the Advice Letter, and shall not be disclosed in any manner to any person except (i) Reviewing

Representatives who have executed Non-Disclosure Certificates; (ii) Reviewing Representatives' paralegal employees and administrative personnel, such as clerks, secretaries, and word processors, to the extent necessary to assist the Reviewing Representatives, provided that they shall first ensure that such personnel are familiar with the terms of this Protective Order, and have signed a Non-Disclosure Certificate, (iii) persons employed by or working on behalf of the CEC or other state governmental agencies covered by Paragraph 12. Reviewing Representatives shall adopt suitable measures to maintain the confidentiality of Protected Materials they have obtained pursuant to this Protective Order, and shall treat such Protected Materials in the same manner as they treat their own most highly confidential information. Reviewing Representatives shall be liable for any unauthorized disclosure or use by their paralegal employees or administrative staff. In the event any Reviewing Representative is requested or required by applicable laws or regulations, or in the course of administrative or judicial proceedings (in response to oral questions, interrogatories, requests for information or documents, subpoena, civil investigative demand or similar process) to disclose any of Protected Materials, they shall immediately inform the Disclosing Party of the request, and the Disclosing Party may, at its sole discretion and cost, direct any challenge or defense against the disclosure requirement, and the Reviewing Representative shall cooperate in good faith with such party either to oppose the disclosure of the Protected Materials consistent with applicable law, or to obtain confidential treatment of them by the person or entity who wishes to receive them prior to any such disclosure. If there are multiple requests for substantially similar Protected Materials in the same case or proceeding where a Reviewing Representative has been ordered to produce certain specific Protected Materials, the Reviewing Representative may, upon request for substantially similar materials by another person or entity, respond in a manner consistent with that order to those substantially similar requests.

9. Exception for California Independent System Operator (ISO). Notwithstanding any other provision of this Protective Order, with respect to an ISO Reviewing Representative only, participation in the ISO's operation of the ISO-controlled grid and in its administration of the

ISO-administered markets, including, but not limited to, markets for ancillary services, supplemental energy, congestion management, and local area reliability services, shall not be deemed to be a violation of this Protective Order.

10. Non-Disclosure Certificates. A Reviewing Representative shall not inspect, participate in discussions regarding, or otherwise be granted access to, Protected Materials unless and until he or she has first completed and executed a Non-Disclosure Certificate, attached hereto as Appendix A, and delivered the original, signed Non-Disclosure Certificate to the Disclosing Party. The Disclosing Party shall retain the executed Non-Disclosure Certificates pertaining to the Protected Materials it has disclosed and shall promptly provide copies of the Non-Disclosure Certificates to Commission Staff upon request.

11. Return or Destruction of Protected Materials. Protected Materials shall remain available to Reviewing Representatives until the later of the date that disposition of the Advice Letter becomes no longer subject to review, or the date that any other Commission proceeding relating to the Protected Material is concluded and no longer subject to judicial review. If requested to do so in writing after that date, the Reviewing Representatives shall, within fifteen days of such request, return the Protected Materials (including Notes of Protected Materials) to the Participant that produced them, or shall destroy the materials, except that copies of materials submitted to the Commission in connection with the Advice Letter that contain Protected Materials, and Notes of Protected Material may be retained, if they are maintained in accordance with Paragraph 8. Within such time period each Reviewing Representative, if requested to do so, shall also submit to the Disclosing Party an affidavit stating that, to the best of its knowledge, all Protected Materials and all Notes of Protected Materials have been returned or have been destroyed or will be maintained in accordance with Paragraph 8. To the extent Protected Materials are not returned or destroyed, they shall remain subject to the Protective Order and CPUC General Order No. 66-C. In the event that a Reviewing Representative to whom Protected Material are disclosed ceases to be engaged to provide services in connection with the

Advice Letter, then access to such materials by that person shall be terminated. Even if no longer engaged in conection with the Advice Letter, every such person shall continue to be bound by the provisions of this Protective Order and the Non-Disclosure Certificate.

12. Access and Use by Governmental Entities.

(a) In the event the CPUC receives a request from the CEC for a copy of or access to any party's Protected Materials, the procedure for handling such requests shall be as follows. Not less than five (5) days after delivering written notice to the Disclosing Party of the request, the CPUC shall release such Protected Materials to the CEC upon receipt from the CEC of an Interagency Information Request and Confidentiality Agreement ("Interagency Confidentiality Agreement"). Such Interagency Confidentiality Agreement shall (i) provide that the CEC will treat the requested Protected Materials as confidential in accordance with this Protective Order, (ii) include an explanation of the purpose for the CEC's request, as well as an explanation of how the request relates to furtherance of the CEC's functions, (iii) be signed by a person authorized to bind the CEC contractually, and (iv) expressly state that furnishing of the requested Protected Materials to employees or representatives of the CEC does not, by itself, make such Protected Materials public. In addition, the Interagency Confidentiality Agreement shall include an express acknowledgment of the CPUC's sole authority (subject to judicial review) to make the determination whether the Protected Materials should remain confidential or be disclosed to the public, notwithstanding any provision to the contrary in the statutes or regulations applicable to the CEC.

(b) In the event the CPUC receives a request for a copy of or access to a party's Protected Materials from a state governmental agency other than the CEC that is authorized to enter into a written agreement sufficient to satisfy the requirements for maintaining confidentiality set forth in Government Code Section 6254.5(e), the CPUC may, not less than five (5) days after giving written notice to the Disclosing Party of the request, release such protected material to the requesting governmental agency, upon receiving from the requesting

agency an executed Interagency Confidentiality Agreement that contains the same provisions described in Paragraph 10(a) above.

(c) The CEC may use Protected Materials when needed to fulfill its statutory responsibilities or cooperative agreements with the CPUC. Commission confidentiality designations will be maintained by the CEC in making such assessments, and the CEC will not publish any assessment that directly reveals the data or allows the data submitted by an individual load serving entity ("LSE") to be "reverse engineered."

13. Dispute Resolution. All disputes that arise under this Protective Order, including but not limited to alleged violations of this Protective Order and disputes concerning whether materials were properly designated as Protected Materials, shall first attempted to be resolved through meet and confer. If the meet and confer process is unsuccessful, the involved parties may present the dispute for resolution to the ALJ Division.

14 Other Objections to Use or Disclosure. Nothing in this Protective Order shall be construed as limiting the right of a party, the Commission Staff, or a state governmental agency covered by Paragraph 12 from objecting to the use or disclosure of Protected Material on any legal ground, such as relevance or privilege.

15. Remedies. Any violation of this Protective Order shall constitute a violation of an order of the CPUC. Notwithstanding the foregoing, the parties and Commission Staff reserve their rights to pursue any legal or equitable remedies that may be available in the event of an actual or anticipated disclosure of Protected Materials.

16. Withdrawal of Designation. A Disclosing Party may agree at any time to remove the "Protected Materials" designation from any materials of such party if, in its opinion, confidentiality protection is no longer required. In such a case, the Disclosing Party will notify all other parties that the Disclosing Party believes are in possession of such materials of the change of designation.

17. Interpretation. Titles are for convenience only and may not be used to restrict the scope of this Protective Order.

Entered: _____
Administrative Law Judge

Date: _____

APPENDIX A TO PROTECTIVE ORDER

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Request for Approval of PG&E's Plan to Develop a Clean Substation Microgrid Project and Associated Procurement Contract with Energy Vault	))))	**Advice 6808-E**

NON-DISCLOSURE CERTIFICATE

I hereby certify my understanding that access to Protected Materials is provided to me pursuant to the terms and restrictions of the Protective Order in connection with the above referenced Advice Letter, that I have been given a copy of and have read the Protective Order, and that I agree to be bound by it. I understand that the contents of the Protected Materials, any notes or other memoranda, or any other form of information that copies or discloses Protected Materials shall not be disclosed to anyone other than in accordance with that Protective Order. I acknowledge that a violation of this certificate constitutes a violation of an order of California Public Utilities Commission.

By: _____
Title:_____
Representing: _____
Date: _____

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
Dish Wireless L.L.C.

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

GenOn Energy, Inc.
Goodin, MacBride, Squeri, Schlotz & Ritchie
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