

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



Pacific Gas & Electric Company
ELC (Corp ID 39)
Status of Advice Letter 7022E
As of January 26, 2024

Subject: Request for Approval of Mid-Term Reliability Procurement Pursuant to D.21-06-035

Division Assigned: Energy

Date Filed: 09-13-2023

Date to Calendar: 09-15-2023

Authorizing Documents: D2106035

Disposition:

Signed

Effective Date:

01-11-2024

Resolution Required: Yes

Resolution Number: E-5297

Commission Meeting Date: 01-11-2024

CPUC Contact Information:

edtariffunit@cpuc.ca.gov

AL Certificate Contact Information:

Michael Finnerty

(279) 789-6216

PGETariffs@pge.com

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



To: Energy Company Filing Advice Letter

From: Energy Division PAL Coordinator

Subject: Your Advice Letter Filing

The Energy Division of the California Public Utilities Commission has processed your recent Advice Letter (AL) filing and is returning an AL status certificate for your records.

The AL status certificate indicates:

- Advice Letter Number
- Name of Filer
- CPUC Corporate ID number of Filer
- Subject of Filing
- Date Filed
- Disposition of Filing (Accepted, Rejected, Withdrawn, etc.)
- Effective Date of Filing
- Other Miscellaneous Information (e.g., Resolution, if applicable, etc.)

The Energy Division has made no changes to your copy of the Advice Letter Filing; please review your Advice Letter Filing with the information contained in the AL status certificate, and update your Advice Letter and tariff records accordingly.

All inquiries to the California Public Utilities Commission on the status of your Advice Letter Filing will be answered by Energy Division staff based on the information contained in the Energy Division's PAL database from which the AL status certificate is generated. If you have any questions on this matter please contact the:

Energy Division's Tariff Unit by e-mail to
edtariffunit@cpuc.ca.gov



September 13, 2023

Advice 7022-E

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

Subject: Request for Approval of Mid-Term Reliability Procurement Pursuant to D.21-06-035

I. Purpose

Pursuant to Decision (D.) 21-06-035, Pacific Gas and Electric Company (PG&E) submits this Tier 3 advice letter (Advice Letter) seeking California Public Utilities Commission (Commission or CPUC) approval of the Power Purchase Agreement for Zero Emissions Product from Hybrid Resource Products between Pacific Gas and Electric Company and Northern Orchard Solar PV, LLC (referred to herein as “Agreement” or “PPA” resulting from PG&E’s Mid-Term Reliability Request for Offers – Phase 2 (MTR RFO – Phase 2).

Introduction

The contract submitted for approval in this Advice Letter is intended to meet PG&E’s incremental September Net Qualifying Capacity (NQC) compliance requirements mandated by D.21-06-035 for the period after 2023. The contract includes generation that is eligible to meet the Renewables Portfolio Standard (RPS) and procurement from the facility will also contribute to PG&E’s RPS position.

As directed by D. 21-06-035¹, PG&E is requesting approval for the Agreement and asks that it be counted toward PG&E’s IRP and RPS procurement goals. To facilitate the RPS approval, PG&E has included sections relevant to Commission review of RPS procurement resulting from a competitive solicitation in this Advice Letter.²

In summary, Sections I-VII of this Advice Letter align with content provided in previous IRP transaction advice letters, and Sections VIII-X address content applicable to RPS

¹ D-21-06-035, p.65. “If an IOU procures resources that would count toward both their IRP and RPS procurement goals, the IOU should make only one request for PPA approval through a single Tier 3 advice letter, served on both the RPS and IRP proceeding service lists.”

² Because the Agreement is PG&E procurement (PG&E buys) resulting from a competitive solicitation, PG&E’s Advice Letter excludes sections included in the Commission’s most recent RPS Solicitation Sales.

procurement Advice Letters.³ In Section XI, PG&E requests findings by the Commission that the Agreement meets IRP and RPS procurement Requirements.

PG&E requests that the Commission issue a resolution approving the Agreement in its entirety with findings as set forth in Section XI below by no later than December 1, 2023.

Table 1 below summarizes the project.

TABLE 1: SUMMARY OF EXECUTED AGREEMENT IN NAMEPLATE MEGAWATTS

Counterparty (Project Name)	Agreement	Technology	Initial Delivery Date ⁴	Term (Years)	Nameplate (MW)
Northern Orchard Solar PV Parent Company: RWE	Power Purchase Agreement from Hybrid Resource Project	Lithium-ion battery storage and Solar photovoltaic	6/1/2024	15	92 MW BESS and 172.131 MW PV

II. Background

On June 30, 2021, the Commission issued D.21-06-035, which takes a number of steps to address the mid-term reliability needs of the electricity system within the California Independent System Operator Corporation's (CAISO) operating system beginning in 2023. D.21-06-035 requires incremental procurement of 11,500 MWs of additional NQC, of which PG&E is responsible for 2,302 MWs for its bundled service customer portion. Further, D.21-06-035 requires that at least 2,000 MW are to be brought online by August 1, 2023, an additional 6,000 MW by June 1, 2024, an additional 1,500 MW by June 1, 2025, and an additional 2,000 MW by June 1, 2026. D.21-06-035 requires that at least 2,500 MW of the resources procured by the Load Serving Entities (LSEs) collectively, between 2023 and 2025, be from zero-emission resources that generate electricity, or generation resources paired with storage, or demand response, to replace the current supply of energy from the Diablo Canyon Power Plant (DCPP) and ensure there would be no resultant increase in greenhouse gas (GHG) emissions with its retirement.

D.21-06-035 and subsequent Energy Division memoranda with guidance for incremental effective load carrying capacity (ELCC) values to use for mid-term reliability procurement

³ For sections of the RPS Advice Letter template that are duplicative of the IRP-related sections, PG&E has referred to the relevant IRP sections; in areas where the RPS Advice Letter content is not relevant (e.g., discussion of RPS Sales content), PG&E excludes such sections because this transaction does not comprise of a sale.

⁴ "Initial Delivery Date" is a contractual term. Per the contract, facilities are required to be commercially operational prior to the Initial Delivery Date.

compliance,⁵ affirm that the investor-owned utilities (IOUs) are to continue to act as the backstop procurement agent under the framework adopted in D.20-12-044 for Community Choice Aggregators and Energy Service Providers that fail to meet their procurement responsibilities of incremental system resources under D.21-06-035.

D.21-06-035 outlined eligibility requirements for resources to meet the procurement obligations and requirements for the solicitation, including types of resources eligible (e.g., the eligibility of imports) and minimum contract duration.

PG&E issued its Mid-Term Reliability Request for Offers – Phase 1 (MTR RFO – Phase 1) on June 18, 2021, to solicit offers to procure resources for incremental NQC with an expected online date of August 1, 2023, and June 1, 2024, which will count towards PG&E's procurement requirement of a total of 1,601 MWs by June 1, 2024. Nine agreements were executed by PG&E arising from the MTR RFO – Phase 1 for a total of 1,598.7 MW of eligible nameplate capacity. PG&E submitted an advice letter for approval of those contracts on January 1, 2022, and the Commission issued a resolution approving all nine agreements on April 21, 2022.⁶

To continue its progress toward meeting its procurement requirements, on April 15, 2022, PG&E issued its MTR RFO – Phase 2 as the second phase of its mid-term reliability procurement efforts to identify additional qualified resources. PG&E has since executed three agreements arising from its MTR RFO – Phase 2, for a total of 268 MW of eligible nameplate capacity. PG&E submitted two separate advice letters to the Commission to seek approval of those contracts. The Commission issued separate resolutions approving each of the agreements submitted under separate advice letters by PG&E on April 27, 2023.⁷ PG&E now submits this Advice Letter to seek the Commission's approval of the Agreement which arises from the MTR RFO – Phase 2.

⁵ Energy Division staff e-mailed parties on October 22, 2021, with an updated Incremental ELCC Study for Mid-term Reliability Procurement, by E3 and Astrapé. The materials can be found on [IRP Procurement Track \(ca.gov\)](https://www.cpuc.ca.gov/IRP/ProcurementTrack)

⁶ Advice Letter 6477-E, approved in CPUC Res. E-5202.

⁷ Advice Letter 6825-E, approved in CPUC Res. E-5262. Advice Letter 6861 E, approved in CPUC Res. E-5263.

III. Overview of MTR RFO – Phase 2

A. RFO Structure and Process

PG&E issued its MTR RFO – Phase 2 on April 15, 2022, to solicit offers to purchase incremental NQC with online dates beginning June 1, 2024, through June 1, 2026, to qualify for the various procurement categories, as further described in Table 2 below.

TABLE 2: PHASE 2 PG&E MID-TERM RELIABILITY SOLICITATION RESOURCE NEEDS

Procurement Category	Example Eligible Resources	Delivery Term (Years)	Minimum Size (MW)	Required Online date
Zero-Emitting	Paired ⁸ RPS and storage, Hybrid ⁹ RPS and storage	10 or 15	10	By June 1, 2025
Firm, Zero Emitting	RPS-eligible Geothermal, Biomass	10 or 15	10	By June 1, 2026
Long duration storage	Pumped Hydro Storage, Lithium-ion, Flow Battery, Compressed Air Energy Storage, etc.	10, 15, or 20 (UOG)	10	By June 1, 2024 (battery), By June 1, 2026
Any other type of non-fossil-fueled resource	Energy Storage	10, 15, or 20 (UOG)	10	By June 1, 2024

In its MTR RFO – Phase 2 solicitation materials, PG&E provided detailed guidance on project requirements to prospective participants. Participants were permitted to submit offers for Third-Party Owned projects utilizing the agreement types in Table 3 below. Participants were also permitted to submit offers for PG&E ownership of projects using the Build Own Transfer agreement. In the MTR RFO – Phase 2, PG&E requested offers for projects with initial delivery dates for the period beginning June 1, 2024, through June 1, 2026, and a minimum size requirement of 10 MWs for all agreement types. Participants were required to demonstrate site control, evidence that the project is on track to receive Full Capacity Deliverability Status (FCDS) in order to support delivery of the product, and that the project would be incremental to the 2019-2020 integrated resource plan (IRP) RESOLVE/SERVM baseline used in need determination. Offers had to meet the applicable CPUC and CAISO requirements for deliverability, as well as any other requirements that will enable PG&E to receive the resource adequacy (RA) benefits associated with the agreements.

⁸ Paired resources are defined as having two separate CAISO resource IDs and can be either contractually paired with two points of interconnection or co-located behind a single point of interconnection.

⁹ Hybrid resources are defined as different technologies that operate under a single CAISO resource ID behind a single point of interconnection.

TABLE 3: PG&E MTR RFO PHASE 2 AGREEMENT TYPES

Procurement Category	Agreement Type
Zero-emitting, co-located & contractually paired	<ul style="list-style-type: none"> • Zero-emitting term sheet, AND • LTRAA w/ ES agreement
Zero-emitting, hybrid	<ul style="list-style-type: none"> • Zero-emitting term sheet, AND • Hybrid zero-emitting compensation structure, AND • LTRAA w/ ES agreement
Zero-emitting Demand Response	<ul style="list-style-type: none"> • TBD
Firm Zero-emitting	<ul style="list-style-type: none"> • Firm Zero-emitting term sheet
Long Duration Storage	<ul style="list-style-type: none"> • LTRAA w/ ES agreement, OR • Build Own Transfer term sheet (UOG)
Other non-fossil-fueled resources	<ul style="list-style-type: none"> • LTRAA w/ ES agreement, OR • Build Own Transfer term sheet (UOG)

B. Participant Outreach

PG&E announced the issuance of the MTR RFO – Phase 2 by email notification and provided an e-mail update to PG&E’s mailing list, which included approximately 2,500 recipients. The issuance email provided potential participants with information on the location of solicitation documents, participant webinar information, and important action items.

MTR RFO – Phase 2 documents were finalized for release on April 15, 2022, and remain available on the PG&E website.¹⁰ The documents include the MTR RFO – Phase 2 solicitation protocol which includes information, requirements, and directions to submit conforming offers. In addition to the MTR RFO – Phase 2 dedicated website, PG&E established a MTR RFO – Phase 2 mailbox (MidTermRFO@pge.com) for participants and other interested parties to submit questions.

On April 26, 2022, PG&E conducted a participants’ conference via webinar to explain the MTR RFO – Phase 2 solicitation protocol, form agreements, and the offer submittal process as well as to answer questions from potential participants. About 60 individuals attended the webinar via phone or WebEx. PG&E posted the presentation to the MTR RFO – Phase 2 website after the webinar.

PG&E requested offers for the MTR RFO – Phase 2 by June 1, 2022, and notified participants via e-mail of their status regarding the shortlist on July 7, 2022. Shortlisted participants were notified in an email letter of additional requirements to remain on the shortlist and be eligible for negotiations.

¹⁰ See <http://www.pge.com/rfo/midtermrfo-phasetwo>

C. Offers Received

In response to the MTR RFO – Phase 2, PG&E received 59 offer variants, 32 unique offers, from 22 counterparties. Of the 32 offers, seven offers were non-conforming for the following reasons:

- A. Not incremental to the baseline.
- B. Did not agree to available agreement options.
- C. Could not meet the required online date.

PG&E provided participants an opportunity to revise offers that were missing information or required clarification by sending deficiency notices requesting further information by a specified date. Some participants were not able to rectify their non-conforming issues. Where 1) an offer was non-conforming and subsequent modification by the participant did not result in a conforming offer, or 2) where PG&E determined that an offer was in violation of the terms of the MTR RFO – Phase 2 and the offer or a variation was considered non-conforming and eliminated from further evaluation.

D. MTR RFO – Phase 2 Evaluation Protocol and Shortlist

PG&E evaluated offers based on Net Market Value (NMV). The evaluation methodology used to select shortlisted offers is described in Appendix E.

PG&E shortlisted offers based on a combination of NMV and other qualitative factors included in the solicitation protocol to achieve a shortlisted portfolio that could provide incremental NQC MW consistent with D.21-06-035. The shortlisted projects represented all four procurement categories identified in Table 2.

Consistent with Public Utilities Code Section 454.52(a)(1)(I),¹¹ PG&E also considered resources located in Disadvantaged Communities (DACs) as a qualitative factor when evaluating offers.

E. Negotiations

PG&E initiated negotiations with each participant with a shortlisted offer. The negotiations with RWE began with a review of the counterparty's offer and a discussion of RWE's proposed Northern Orchard project (Project). PG&E and RWE started negotiations with a term sheet. Upon further discussions, PG&E and RWE progressed toward developing a unique hybrid power purchase agreement type structure in which PG&E receives all renewable energy and capacity attributes, such as resource adequacy and a pricing that

¹¹ The former Section 454.52(a)(1)(H) providing that LSEs shall minimize localized air pollutants and other GHG emissions, with early priority on DACs, is now Section 454.52(a)(1)(I).

reflected savings from the Inflation Reduction Act. A summary of final terms is included in Appendix C.

F. Procurement Review Group Outreach

On July 19, 2022, PG&E presented a solicitation overview, offer summary, and shortlist materials to the Procurement Review Group (PRG).¹² The presentation was sent to the PRG on July 15, 2022, and included: the MTR RFO – Phase 2 requirements, offers received, and PG&E’s proposed shortlist. PG&E sent the PRG an email on June 28, 2023, notifying the PRG of its intent to execute the transaction for the Project.

G. Independent Evaluator

PG&E engaged an independent Evaluator (IE) from the Commission’s approved list of IEs for the MTR RFO – Phase 2. The IE for this solicitation was Merrimack Energy, represented by Wayne Oliver and Keith Oliver.

The IE’s involvement is outlined below:

- Reviewed and provided feedback on the MTR RFO – Phase 2 documentation.
- Reviewed and evaluated offers received and assisted in shortlist development.
- Discussed with PG&E the reasons the offers were considered non-conforming.
- Participated in feedback calls with participants that were not selected to be on the shortlist.
- Participated in contract negotiations that were held for each shortlisted participant.

The confidential version of the IE report is provided in Appendix B1, and the public version of the IE report is provided in Appendix B2.

IV. Selected Project—Northern Orchard

PG&E is requesting approval of the Agreement resulting from PG&E’s MTR RFO – Phase 2 described below. The final executed Agreement can be found in Confidential Appendix A, and additional contract terms can be found in Confidential Appendix C.

PG&E executed a Power Purchase Agreement for Zero Emissions Product from Hybrid Resource Projects, owned by Northern Orchard Solar PV, LLC. Northern Orchard Solar PV, LLC is a wholly owned subsidiary of RWE Renewables Energy Marketing, LLC, which is a wholly owned subsidiary of RWE Renewables Americas, LLC, whose ultimate parent company is RWE AG.

¹² The public meeting summary may be viewed at: https://www.pge.com/pge_global/common/pdfs/for-our-business-partners/energy-supply/procurement-review-group/PRG-071922.pdf

The Project is a transmission-connected 172.131 MW solar PV and a 92 MW four-hour (or 73.6 MW 5-hr) lithium-ion battery energy storage system (BESS) hybrid resource located in Kern County. Appendix C provides additional details about the project.

TABLE 4: PROJECT DESCRIPTION

Term	Provision
Project	Northern Orchard Solar PV
Counterparty	Northern Orchard Solar PV, LLC
Technology	Lithium-Ion Batteries / Solar PV
Location	Taft, CA
Type of Interconnection	Transmission
Term	15 years
Initial Delivery Date	June 1, 2024
Solar PV Nameplate Capacity AC	172.131 MW alternating current (AC)
BESS Nameplate Capacity	92 MW
BESS Energy	368 MWh
P50	See Confidential Appendix C
Source of Project	MTR Phase 2 Solicitation
Facility Status	New Facility

V. Safety & Climate Risk

As with PG&E's previous RFOs with energy storage projects, PG&E included safety as a qualitative evaluation criterion. As a condition of remaining on PG&E's shortlist for negotiations, PG&E required all shortlisted participants to provide information about their technology as well as the safety history of the participant and/or contractors (if known).

To reduce, manage, and address the potential safety risks with respect to the proposed energy storage projects, PG&E used enhanced safety provisions within the proposed agreements similar to those previously included in PG&E's RFOs with storage contracts, such as the MTR RFO – Phase 1, 2020 System Reliability RFO – Phase 1, the 2016 Energy Storage RFO, and the 2018 Local Sub Area Energy Storage RFO agreements. The safety provisions require sellers to practice responsible safety management enforced by contractual terms and conditions based on 1) standards for Prudent Electrical Practices, 2) all applicable laws and regulations.

Under these enhanced safety provisions, seller is required to provide a project safety plan that demonstrates responsible safety management during all phases of the project lifecycle—including project design, construction, operation, and maintenance. The project

safety plan references the applicable safety-related codes and standards and the seller's current safety programs and policies. It includes a summary of the project design and description of key safety-related systems. The seller must also describe potential hazards and include risk mitigations and safeguards, such as operating procedures, incident response, and recovery plans. In addition, the seller is required to demonstrate and enforce its contractors' and subcontractors' compliance with the Safety Requirements.

As additional project details become available during project development, PG&E will continue to monitor and perform additional safety checks of seller's project safety plans for consistency with the safety requirements of the Agreement. The Agreement terms also provide PG&E with the ability to enforce those requirements or, in certain cases, terminate the Agreement in the case of non-compliance.

Per the requirements in D.20-08-046, PG&E asked in the solicitation document, Appendix B – Supplemental Project Information that the seller under the Agreement acknowledges that long-term climate risks have been assessed with respect to the Project, consistent with Decision 20-08-046.

VI. Cost Recovery

As described above, PG&E has entered into the Agreement to meet its procurement requirements ordered by D.21-06-035.

Since the Agreement is entered into to meet the procurement requirements of D.21-06-035, the costs associated with the Agreement are eligible for recovery under the Power Charge Indifference Adjustment (PCIA) with an assigned vintage of 2021 for the duration of the contract's term. The contract's costs recovered through the PCIA shall be net of any CAISO charges and market revenues, and net of any RA capacity value and RPS attribute value retained for bundled service customers.

VII. Compliance with D.21-06-035

PG&E's MTR RFO – Phase 2 and the resulting incremental system RA Agreement presented in this Advice Letter meets the requirements and goals set forth in D.21-06-035, Ordering Paragraphs (OP) 3 and 6, as follows:

OP 3: All load-serving entities named in Table 6 of this order, plus the individual electric service providers who will receive their individual allocations confidentially from Commission staff, shall procure the September net qualifying capacity amounts given in Table 6, and shall file and serve on the service list of this proceeding or any successor proceeding compliance filings according to the schedule given in Table 7 of this order.

As required, PG&E is complying with D.21-06-035 by submitting this Advice Letter seeking Commission approval of the Agreement to satisfy its procurement obligations

towards the 2,302 MW required in Table 6 for PG&E in the D. 21-06-035. The Agreement is intended to meet the incremental September NQC requirements of D.21-06-035.

OP 6: To ensure that the capacity retiring at the DCPD is replaced entirely with zero-emitting resources, all load-serving entities shall collectively procure a minimum of 2,500 megawatts (MW) of incremental zero -emissions capacity out of the total of 11,500 MW required in D. 21-06-035. The zero-emitting capacity shall have the following characteristics:

- a. Be from a generation resource, a generation resource paired with storage (physically or contractually);
- b. Be available every day from 5 p.m. to 10 p.m. (the beginning of hour ending 1800 through the end of hour ending 2200), Pacific Time, at a minimum; and
- c. Be able to deliver at least 5 megawatt-hours of energy during each of these daily periods for every megawatt of incremental capacity claimed.

The Project is not included in the baseline generator list published by CPUC staff pursuant to D.21-06-035 and is an incremental resource. The Project has a 92 MW 4-hour (or 73.6 MW 5-hr) BESS. In addition, the Project will have renewable generation with an expected P50 sufficient to support DCPD replacement as further explained in the confidential Appendix C. Seller for the Project has supplied, and PG&E has reviewed, an independent engineering assessment supporting this P50 generation.

Therefore, the Project:

- a. is a hybrid Solar PV generation resource paired with Storage,
- b. the storage resource is expected to be available every day from 5 P.M. to 10 P.M. at a minimum,
- c. the storage resource will be capable of delivering at least 5 MWh per MW every day from 5 P.M. to 10 P.M for every megawatt of incremental capacity claimed.

In addition to the onsite BESS, in the future, PG&E may pair the generation component of this PV resource with another Commission approved standalone storage resource(s) to enable the additional MW to be qualified toward the zero-emissions procurement requirements of OP 6 of D.21-06-035, so that all of the renewable generation from the Project will count to the zero-emission procurement category. PG&E will appropriately optimize the allocation of the resources from the Project toward its zero-emission procurement category requirements as well as the overall incremental NQC procurement requirements arising under D.21-06-035 upon completion of its Phase 3 MTR RFO. PG&E will report the result of such allocation as part of its regular biennial near-term and mid-term reliability procurement compliance filings with the Commission.

VIII. RPS Aspects of Agreement

In this section, PG&E includes sections applicable to the Commission's assessment of RPS procurement contracts. As described above, the Agreement is eligible to meet PG&E's RPS and IRP procurement obligations.

a. General Deal Structure

Describe general characteristics of contract:

- 1. Counterparty(s) / Buyers(s)**
See Table 1 in Section IV
- 2. Business Relationship (if applicable, between seller/owner/buyer)**
None.
- 3. Contract Volume (MWh)**
See Table 1 in Section IV
- 4. Facility Size (MW)**
See Table 1 in Section IV
- 5. Term of the existing contract with the owner/developer (date of contract execution and expiration)**
Not Applicable.
- 6. Project background, e.g., expiring QF contract, phased project, previous power purchase agreement, contract amendment**
Not Applicable.
- 7. Source of agreement, i.e., RPS solicitation year or bilateral negotiation**
PG&E's MTR RFO – Phase 2.
- 8. If an amendment, describe contract terms being amended and reason for amendment**
Not Applicable.

TABLE 5: GENERAL PROJECT(S) DESCRIPTION

Project Name	See Table 1 in Section IV
Buyer/Counterparty	See Table 1 in Section IV
Technology	See Table 1 in Section IV
Capacity (MW)	See Table 1 in Section IV
Expected Generation (GWh/Year)	See Table 1 in Section IV
Date contract Delivery Term begins	See Table 1 in Section IV
Delivery Term (Years)	See Table 1 in Section IV
Location (city and state)	See Table 1 in Section IV

b. RPS Statutory Goals & Requirements

- 1. Briefly describe the contract's consistency with and contribution towards the RPS program's statutory goals set forth in Public Utilities Code §399.11. These goals include displacing fossil fuel consumption within the state; adding new electrical generating facilities within WECC; reducing air pollution in the state; meeting the state's climate change goals by reducing emissions of greenhouse gases associated with electrical generation; promoting stable retail rates for electric service; a diversified and balanced energy generation portfolio; meeting the state's resource adequacy requirements; safe and reliable operation of the electrical grid; and implementing the state's transmission and land use planning activities.**

Public Utilities Code Section 399.11 states that increasing California's reliance on eligible renewable energy resources is intended to displace fossil fuel consumption within the state, promote stable electricity prices, reduce greenhouse gas ("GHG") emissions, improve environmental quality and promote the goal of a diversified and balanced energy generation portfolio. The Project is consistent with these goals because it is a new facility located in the WECC that will generate clean energy, provides capacity, and will produce little, if any, GHG emissions directly associated with energy production.

- 2. Describe how the contract will support the IOU's specific RPS compliance period needs. Include Renewable Net Short calculation as part of response. Also, describe, in detail, how these sales will not inhibit the ability for the IOU to meet its RPS targets in all future compliance periods.**

In Table 6, PG&E provides its Conforming Renewable Net Short (RNS) Table from its Final 2022 RPS Plan. PG&E also provides its Alternative RNS Table calculation from its Final 2022 RPS Plan in Table 7. Deliveries from the project will commence on June 1, 2024, with expected deliveries through 2039. The Agreement will

therefore contribute toward PG&E's RPS procurement requirements at the end of the fourth compliance period and beyond when PG&E has a need for new incremental deliveries of RPS-eligible power.

LSE Name:	Pacific Gas & Electric		Input required	No input required	Hard-coded
Date Filed:	1/18/2023				

Variable	Calculation	Revised Calculation Correcting Apparent Errors in Energy Division Template	Item	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2017-2020	2021 Actual	2022 Forecast	2023 Forecast	2024 Forecast	2021-2024	2025 Forecast	2026 Forecast	2027 Forecast	2025-2027	2028 Forecast	2029 Forecast	2030 Forecast	2028-2030	2031 Forecast	2032 Forecast
			Forecast Year					CP3		1	2	3	CP4	4	5	6	CP5	7	8	9	CP6	10	11
Annual RPS Requirement																							
A			Total Retail Sales (MWh)	61,397,214	48,832,111	35,956,100	35,838,070	182,023,494	33,149,379	30,068,439	30,325,930		122,850,897	29,146,179	28,529,178	26,221,474	83,896,830	26,220,884	26,072,911	25,941,069	78,234,864	25,810,384	25,680,846
B			RPS Procurement Quantity Requirement (%)	27.0%	29.0%	31.0%	33.0%	29.5%	35.8%	38.5%	41.3%	44.0%	39.7%	46.7%	49.3%	52.0%	49.2%	54.7%	57.3%	60.0%	57.3%	60.0%	60.0%
C	A*B		Gross RPS Procurement Quantity Requirement (MWh)	16,577,248	14,161,312	11,146,391	11,826,563	53,711,513.8	11,850,903	11,576,349	12,509,446		48,831,843.5	13,602,522	14,073,444	13,635,166	41,311,131.4	14,334,957	14,947,600	15,564,642	44,847,198.6	15,486,231	15,408,508
D			Voluntary Margin of Over-procurement (MWh)					-					-				-	62,815	62,815	62,815	188,446	64,773	64,773
E	C+D		Net RPS Procurement Need (MWh)	16,577,248	14,161,312	11,146,391	11,826,563	53,711,514	11,850,903	11,576,349	12,509,446		48,831,844	13,602,522	14,073,444	13,635,166	41,311,131	14,397,773	15,010,415	15,627,457	45,035,645	15,551,004	15,473,281
RPS-Eligible Procurement																							
Fa			Risk-Adjusted RECs from Online Generation (MWh)	22,335,589	20,385,398	20,299,675	20,075,213	83,095,875	19,879,885	17,086,507	21,430,991	17,265,143	75,662,526	17,125,836	16,585,535	16,257,735	49,969,106	16,187,470	15,624,579	15,547,517	47,359,566	15,190,352	14,632,669
Faa			Forecast Failure Rate for Online Generation (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fb			Risk-Adjusted RECs from RPS Facilities in Development (MWh)	-	-	-	-	-	-	2,653	240,615	467,473	710,741	522,480	522,574	520,846	1,565,900	520,258	517,415	515,712	1,553,384	514,018	513,450
Fbb			Forecast Failure Rate for RPS Facilities in Development (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fc			Pre-Approved Generic RECs (MWh)	-	-	-	-	-	-	-	-	236,208	236,208	996,815	2,090,100	3,181,303	6,268,218	3,663,810	3,967,152	4,086,858	11,717,819	4,124,331	4,126,309
Fd			Executed REC Sales (MWh)	2,069,230	1,451,000	9,744,419	7,566,135	20,830,784	2,111,552	2,777,758	4,598,180	4,595,728	14,083,218	2,614,382	2,604,861	2,595,205	7,814,448	2,591,750	2,576,781	2,567,637	7,736,167	2,559,716	2,555,886
F	Fa+Fb+Fc-Fd		Total RPS Eligible Procurement (MWh)	20,266,359	18,934,398	10,555,256	12,509,078	62,265,091	17,768,333	14,311,403	17,073,425	13,373,097	62,526,258	16,030,749	16,593,349	17,364,679	49,988,777	17,779,787	17,532,365	17,582,450	52,894,601	17,268,984	16,716,542
F0			Category 0 RECs	16,659,366	14,103,286	10,555,256	12,509,078	53,826,987	13,197,486	10,575,085	13,138,425	10,571,595	47,482,590	10,474,596	9,958,534	9,673,847	30,106,977	9,612,245	9,090,318	9,040,522	27,743,085	8,736,032	8,631,408
F1			Category 1 RECs	3,606,993	4,831,112	-	-	8,438,104	4,570,848	3,736,318	3,935,000	2,801,502	15,043,667	5,556,152	6,634,815	7,690,832	19,881,799	8,167,542	8,442,047	8,541,927	25,151,517	8,532,952	8,085,134
F2			Category 2 RECs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F3			Category 3 RECs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross RPS Position (Physical Net Short)																							
Ga	F-E		Annual Gross RPS Position (MWh)	3,689,111	4,773,086	(591,135)	682,515	8,553,577	5,917,430	2,735,054	4,563,979		13,694,414	2,428,227	2,519,905	3,729,513	8,677,645	3,382,014	2,521,950	1,954,993	7,858,957	1,717,981	1,243,261
Gb	F/A		Annual Gross RPS Position (%)	33.0%	38.8%	29.4%	34.9%	34.2%	53.6%	47.6%	56.3%		50.9%	55.0%	58.2%	66.2%	59.6%	67.8%	67.2%	67.8%	67.6%	66.9%	65.1%

PG&E's RNS Stochastic Adjustment (2022-2032)

Variable	Calculation	Revised Calculation Correcting Apparent Errors in Energy Division Template	Item	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2017-2020	2021 Actual	2022 Forecast	2023 Forecast	2024 Forecast	2021-2024	2025 Forecast	2026 Forecast	2027 Forecast	2025-2027	2028 Forecast	2029 Forecast	2030 Forecast	2028-2030	2031 Forecast	2032 Forecast
Step 2 Result: Stochastically-Adjusted Net Short (Physical Net Short + Stochastic Risk-Adjustment)																							
Gc			VAMO-Adjusted Annual Gross RPS Position (MWh)					-															
Gd			VAMO-Adjusted Annual Gross RPS Position (%)					29.5%															
Ge			Stochastically-Adjusted Annual Gross RPS Position (MWh)	3,665,687	4,730,505	(656,309)	613,324	8,353,207	5,457,106	2,253,849													
Gf		(Ge + C) / A	Stochastically-Adjusted Annual Gross RPS Position (%)	33.0%	38.7%	29.2%	34.7%	34.1%	52.2%	46.0%													
Application of Bank																							
Ha	J-Hc (from previous CP)		Existing Banked RECs above the PQR	14,619,000	18,284,687	23,015,192	22,358,883	14,619,000	22,972,207	28,429,313													
Hb			RECs above the PQR added to Bank	3,665,687	4,730,505	(656,309)	613,324	8,353,207	5,457,106	2,253,849													
Hc			Non-bankable RECs above the PQR					-															
H	Ha+Hb		Gross Balance of RECs above the PQR	18,284,687	23,015,192	22,358,883	22,972,207	22,972,207	28,429,313	30,683,162													
Ia			Planned Application of RECs above the PQR towards RPS Compliance	-	-	-	-	-	-	-													
Ib			Planned Sales of RECs above the PQR	-	-	-	-	-	-	-													
J	H-Ia-Ib		Net Balance of RECs above the PQR	18,284,687	23,015,192	22,358,883	22,972,207	22,972,207	28,429,313	30,683,162													
J0			Category 0 RECs	2,228,784	2,228,784	1,572,475	2,185,799	2,185,799	3,072,057	3,072,057													
J1			Category 1 RECs	16,055,903	20,786,408	20,786,408	20,786,408	20,786,408	25,357,256	27,611,105													
J2			Category 2 RECs																				
Expiring Contracts																							
K			RECs from Expiring RPS Contracts (MWh)	-	-	-	-	-	-	31,734	394,719	630,507	1,056,960	681,293	1,231,015	1,648,131	3,560,439	2,110,754	2,664,278	2,690,050	7,465,081	2,985,542	3,474,298
Net RPS Position (Optimized Net Short)																							
La	Ga+Ia-Ib-Hc	Ge-Hc-IF(Hb>0, Hb-Ia, IF(Hb <Ha, Hb, IF(Ha<0, 0, -Ha)))	Annual Net RPS Position after Bank Optimization (MWh)	-	-	-	-	(0)	-	-													
Lb	(F+Ia-Ib-Hc)/A	(C+La)/A	Annual Net RPS Position after Bank Optimization (%)	27.0%	29.0%	31.0%	33.0%	29.5%	35.8%	38.5%													

Note: All values are to be input in MWhs



- (1) (Row A) Forecasts of retail sales through 2026 are reflective of PG&E's internal bundled retail sales forecast and 2027-2032 are reflective of PG&E's conforming load forecast from PG&E's 2022 IRP.
- (2) (Row Hc) Since PG&E elected to comply early in the 2017-2020 period with the banking rules established in D.17-06-026, PG&E has modeled the new banking rules for the current and future compliance periods.
- (3) (Row K) Row K now includes only expiring volumes from contracts as of May 2022.
- (4) (Rows Gc and Gd) VAMO-Adjusted Net Short (Physical Net Short + Deterministic RPS Allocation) PG&E added rows Gc and Gd to the RNS in order to show the VAMO adjusted physical net short, which incorporates expected RPS Allocations in response to D.21-05-030.
- (5) (Rows Ge and Gf) Stochastically-Adjusted Net Short (Physical Net Short + Stochastic Risk-Adjustment) PG&E added rows Ge and Gd to the RNS in order to show the stochastically-adjusted physical net short, which incorporates the risks and uncertainties addressed in the stochastic model. For more details on PG&E's stochastically modeled risks, see the 2021 RPS Plan.
- (6) (Row Gg) The Stochastically-Adjusted Annual Gross Position (MWh) excludes generation volumes allocated to GTSR customer sales and may differ from Row Ga, the Annual Gross RPS Position (MWh)
- (7) (Row La) Row La incorrectly calculates the Annual Net RPS Position after Bank Optimization when bank is being applied to fill a short position.
- (8) (Row Lb) Row Lb incorrectly calculates the Annual Net RPS Position after Bank Optimization.
- (9) (Rows La and Lb) Rows La and Lb incorrectly subtract the non-bankable volumes. Although these volumes can not be carried forward, per Decision 12-06-038, these volumes could be used towards meeting compliance in the current period. Therefore, the non-bankable volumes should be included in the Annual Net RPS Position after Bank Optimization.
- (10) (Row F) Total RPS Eligible Procurement may differ from volumes presented in P&E's Cost Quantification due to the inclusion of Pre-Approved Generic Volumes in the RNS.

LSE Name:	Pacific Gas & Electric	<input type="checkbox"/> Input required	<input type="checkbox"/> No input required	<input type="checkbox"/> Hard-coded
Date Filed:	1/18/2023			

Variable	Calculation	Revised Calculation Correcting Apparent Errors in Energy Division Template	Item	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2017-2020	2021 Actual	2022 Forecast	2023 Forecast	2024 Forecast	2021-2024	2025 Forecast	2026 Forecast	2027 Forecast	2025-2027	2028 Forecast	2029 Forecast	2030 Forecast	2028-2030	2031 Forecast	2032 Forecast
Forecast Year								CP3		1	2	3	CP4	4	5	6	CP5	7	8	9	CP6	10	11
Annual RPS Requirement																							
A			Total Retail Sales (MWh)	61,397,214	48,832,111	35,956,100	35,838,070	182,023,494	33,149,379	30,068,439	30,325,930		122,850,897	29,146,179	28,529,178	27,374,140	85,049,496	26,779,773	26,575,104	26,816,197	80,171,074	27,318,099	27,939,932
B			RPS Procurement Quantity Requirement (%)	27.0%	29.0%	31.0%	33.0%	29.5%	35.8%	38.5%	41.3%	44.0%	39.7%	46.7%	49.3%	52.0%	49.3%	54.7%	57.3%	60.0%	57.3%	60.0%	60.0%
C	A*B		Gross RPS Procurement Quantity Requirement (MWh)	16,577,248	14,161,312	11,146,391	11,826,563	53,711,513.8	11,850,903	11,576,349	12,509,446		48,831,843.5	13,602,522	14,073,444	14,234,553	41,910,517.6	14,640,502	15,235,507	16,089,718	45,965,727.4	16,390,860	16,763,959
D			Voluntary Margin of Over-procurement (MWh)															61,873	61,873	61,873	185,620	65,484	65,484
E	C+D		Net RPS Procurement Need (MWh)	16,577,248	14,161,312	11,146,391	11,826,563	53,711,514	11,850,903	11,576,349	12,509,446		48,831,844	13,602,522	14,073,444	14,234,553	41,910,518	14,702,375	15,297,381	16,151,592	46,151,347	16,456,344	16,829,444
RPS-Eligible Procurement																							
Fa			Risk-Adjusted RECs from Online Generation (MWh)	22,335,589	20,385,398	20,299,675	20,075,213	83,095,875	19,879,885	17,086,507	21,430,991	17,265,143	75,662,526	17,125,836	16,585,535	16,257,735	49,969,106	16,187,470	15,624,579	15,547,517	47,359,566	15,190,352	14,632,669
Faa			Forecast Failure Rate for Online Generation (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fb			Risk-Adjusted RECs from RPS Facilities in Development (MWh)	-	-	-	-	-	-	2,653	240,615	467,473	710,741	522,480	522,574	520,846	1,565,900	520,258	517,415	515,712	1,553,384	514,018	513,450
Fbb			Forecast Failure Rate for RPS Facilities in Development (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fc			Pre-Approved Generic RECs (MWh)	-	-	-	-	-	-	-	-	236,208	236,208	996,815	2,090,100	3,181,303	6,268,218	3,663,810	3,967,152	4,086,858	11,717,819	4,124,331	4,126,309
Fd			Executed REC Sales (MWh)	2,069,230	1,451,000	9,744,419	7,566,135	20,830,784	2,111,552	2,777,758	4,598,180	4,595,728	14,083,218	2,614,382	2,604,861	2,595,205	7,814,448	2,591,750	2,576,781	2,567,637	7,736,167	2,559,716	2,555,886
F	Fa+Fb+Fc-Fd		Total RPS Eligible Procurement (MWh)	20,266,359	18,934,398	10,555,256	12,509,078	62,265,091	17,768,333	14,311,403	17,073,425	13,373,097	62,526,258	16,030,749	16,593,349	17,364,679	49,988,777	17,779,787	17,532,365	17,582,450	52,894,601	17,268,984	16,716,542
F0			Category 0 RECs	16,659,366	14,103,286	10,555,256	12,509,078	53,826,987	13,197,486	10,575,085	13,138,425	10,571,595	47,482,590	10,474,596	9,958,534	9,673,847	30,106,977	9,612,245	9,090,318	9,040,522	27,743,085	8,736,032	8,631,408
F1			Category 1 RECs	3,606,993	4,831,112	-	-	8,438,104	4,570,848	3,736,318	3,935,000	2,801,502	15,043,667	5,556,152	6,634,815	7,690,832	19,881,799	8,167,542	8,442,047	8,541,927	25,151,517	8,532,952	8,085,134
F2			Category 2 RECs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F3			Category 3 RECs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross RPS Position (Physical Net Short)																							
Ga	F-E		Annual Gross RPS Position (MWh)	3,689,111	4,773,086	(591,135)	682,515	8,553,577	5,917,430	2,735,054	4,563,979		13,694,414	2,428,227	2,519,905	3,130,127	8,078,259	3,077,412	2,234,984	1,430,858	6,743,254	812,640	(112,902)
Gb	F/A		Annual Gross RPS Position (%)	33.0%	38.8%	29.4%	34.9%	34.2%	53.6%	47.6%	56.3%		50.9%	55.0%	58.2%	63.4%	58.8%	66.4%	66.0%	65.6%	66.0%	63.2%	59.8%

PG&E's RNS Stochastic Adjustment (2022-2032)

Variable	Calculation	Revised Calculation Correcting Apparent Errors in Energy Division Template	Item	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2017-2020	2021 Actual	2022 Forecast	2023 Forecast	2024 Forecast	2021-2024	2025 Forecast	2026 Forecast	2027 Forecast	2025-2027	2028 Forecast	2029 Forecast	2030 Forecast	2028-2030	2031 Forecast	2032 Forecast
Step 2 Result: Stochastically-Adjusted Net Short (Physical Net Short + Stochastic Risk-Adjustment)																							
Gc			VAMO-Adjusted Annual Gross RPS Position (MWh)					-															
Gd			VAMO-Adjusted Annual Gross RPS Position (%)					29.5%															
Ge			Stochastically-Adjusted Annual Gross RPS Position (MWh)	3,665,687	4,730,505	(656,309)	613,324	8,353,207	5,457,106	2,253,470													
Gf	(Ge + C) / A		Stochastically-Adjusted Annual Gross RPS Position (%)	33.0%	38.7%	29.2%	34.7%	34.1%	52.2%	46.0%													
Application of Bank																							
Ha	J-Hc (from previous CP)		Existing Banked RECs above the PQR	14,619,000	18,284,687	23,015,192	22,358,883	14,619,000	22,972,207	28,429,313													
Hb			RECs above the PQR added to Bank	3,665,687	4,730,505	(656,309)	613,324	8,353,207	5,457,106	2,253,470													
Hc			Non-bankable RECs above the PQR																				
H	Ha+Hb		Gross Balance of RECs above the PQR	18,284,687	23,015,192	22,358,883	22,972,207	22,972,207	28,429,313	30,682,783													
Ia			Planned Application of RECs above the PQR towards RPS Compliance	-	-	-	-	-	-	-													
Ib			Planned Sales of RECs above the PQR	-	-	-	-	-	-	-													
J	H-Ia-Ib		Net Balance of RECs above the PQR	18,284,687	23,015,192	22,358,883	22,972,207	22,972,207	28,429,313	30,682,783													
J0			Category 0 RECs	2,228,784	2,228,784	1,572,475	2,185,799	2,185,799	3,072,057	3,072,057													
J1			Category 1 RECs	16,055,903	20,786,408	20,786,408	20,786,408	20,786,408	25,357,256	27,610,726													
J2			Category 2 RECs																				
Expiring Contracts																							
K			RECs from Expiring RPS Contracts (MWh)	-	-	-	-	-	-	31,734	394,719	630,507	1,056,960	681,293	1,231,015	1,648,131	3,560,439	2,110,754	2,664,278	2,690,050	7,465,081	2,985,542	3,474,298
Net RPS Position (Optimized Net Short)																							
La	Ga+Ia-Ib-Hc	Ge-Hc-IP(Hb>0, Hb-Ia, IP(Hb <Ha, Hb, IP(Ha<0, 0, -Ha)))	Annual Net RPS Position after Bank Optimization (MWh)	-	-	-	-	(0)	-	-													
Lb	(F+Ia-Ib-Hc)/A	(C+La)/A	Annual Net RPS Position after Bank Optimization (%)	27.0%	29.0%	31.0%	33.0%	29.5%	35.8%	38.5%													

Note: All values are to be input in MWhs



- (1) (Row A) Forecasts of retail sales through 2032 are reflective of PG&E's internal bundled retail sales forecast
- (2) (Row Hc) Since PG&E elected to comply early in the 2017-2020 period with the banking rules established in D 17-06-026, PG&E has modeled the new banking rules for the current and future compliance periods
- (3) (Row K) Row K now includes only expiring volumes from contracts as of May 2022
- (4) (Rows Gc and Gd) VAMO-Adjusted Net Short (Physical Net Short + Deterministic RPS Allocation) PG&E added rows Gc and Gd to the RNS in order to show the VAMO adjusted physical net short, which incorporates expected RPS Allocations in response to D 21-05-030
- (5) (Rows Ge and Gf) Stochastically-Adjusted Net Short (Physical Net Short + Stochastic Risk-Adjustment) PG&E added rows Gc and Gd to the RNS in order to show the stochastically-adjusted physical net short, which incorporates the risks and uncertainties addressed in the stochastic model. For more details on PG&E's stochastically modeled risks, see the 2021 RPS Plan
- (6) (Row Ge) The Stochastically-Adjusted Annual Gross Position (MWh) excludes generation volumes allocated to GTSR customer sales and may differ from Row Ga, the Annual Gross RPS Position (MWh)
- (7) (Row La) Row La incorrectly calculates the Annual Net RPS Position after Bank Optimization when bank is being applied to fill a short position
- (8) (Row Lb) Row Lb incorrectly calculates the Annual Net RPS Position after Bank Optimization
- (9) (Rows La and Lb) Rows La and Lb incorrectly subtract the non-bankable volumes. Although these volumes can not be carried forward, per Decision 12-06-038, these volumes could be used towards meeting compliance in the current period. Therefore, the non-bankable volumes should be included in the Annual Net RPS Position after Bank Optimization
- (10) (Row F) Total RPS Eligible Procurement may differ from volumes presented in P&E's Cost Quantification due to the inclusion of Pre-Approved Generic Volumes in the RNS

c. Confidentiality

- 1. Explain if confidential treatment of specific material is requested. Describe the information and reason(s) for confidential treatment consistent with the showing required by D.06-06-066, as modified by D.08-04-023.**

See Section XIII.

IX. Consistency with Commission Decisions**a. RPS Procurement Plan**

- 1. Identify the Commission decision that approved the utility's RPS Procurement Plan. Did the utility adhere to Commission guidelines for filing and revisions?**

On December 19, 2022, the CPUC issued D.22-12-030, which conditionally approved PG&E's 2022 Renewable Procurement Plan. Consistent with the decision guidelines, PG&E submitted a final version of its 2022 RPS Plan on January 18, 2023, and filed an updated public version of its 2022 RPS Plan on June 28, 2023. In PG&E's 2022 RPS Plan, PG&E states that it expects that it will procure new RPS-eligible resources to meet PG&E's MTR requirement in the IRP proceeding. Consistent with D. 21-06-035, PG&E is filing this Tier 3 Advice Letter in the RPS and IRP proceedings.

- 2. Describe the Procurement Plan's assessment of portfolio needs as well as how these sales are consistent with the Commission decision for sale of RECs.**

The goal of PG&E's 2022 RPS Plan is to procure volumes of RPS-eligible deliveries to fill a compliance need starting in 2028. The RPS Plan recognizes that MTR procurement will contribute to PG&E's RPS compliance need. A description of PG&E's assessment of its portfolio needs is further discussed in Chapter IV of its 2022 RPS Plan. This contract does not include RPS sales.

- 3. Discuss how the Project is consistent with the utility's Procurement Plan and meets utility procurement and portfolio needs (e.g. capacity, electrical energy, resource adequacy, or any other product resulting from the project).**

See Section VIII.b.2. above.

- 4. Sales**

Not applicable. PG&E is not selling RECs as part of this transaction.

- i. Briefly describe IOU's approved sales framework and how the sales contract(s) are consistent with the framework**

Not Applicable.

5. Portfolio Optimization Strategy

- i. Describe how the proposed sale(s) optimizes IOU's RPS portfolio (or entire energy portfolio). Specifically, a response should include:
 - a. Identification of IOU's portfolio optimization strategy objectives that the proposed sales are consistent with.
Not Applicable.
 - b. Identification of metrics within portfolio optimization methodology or model (e.g. Agreement costs, energy value, capacity value, interest costs, carrying costs, transaction costs, etc.) that are increased/decreased as a result of the proposed transaction.
Not Applicable.
 - c. Identification of risks (e.g. non-compliance with RPS requirements, regulatory risk, over-procurement of non-bankable RPS-eligible products, safety, etc.) and constraints included in optimization strategy that may be decreased or increased due to the proposed sale.
Not Applicable.
 - i. Description of how the proposed sale is consistent with IOUs overall planned activities and range of transactions planned to optimize portfolio.
Not Applicable.

b. Bilateral contracting – if applicable

1. Discuss compliance with D.06-10-019 and D.09-06-050.
Not Applicable.
2. Specify the sale and/or portfolio needs necessitating the utility to procure bilaterally as opposed to a solicitation.
Not Applicable.
3. Describe why the buyer did not participate in the solicitation and why the benefits of the sale cannot be sold through a subsequent solicitation.
Not Applicable.
4. Solicitation Methodology and Evaluation
 - i. Briefly describe IOU's LCBF Methodology (or other evaluation methodology) and how the contract compared relative to other offers available to the IOU at the time of evaluation.
See Appendix E.

c. Compliance with Standard Terms and Conditions (STCs)

1. Does the proposed contract comply with D.08-04-009, D.08-08-028, and D.10-

03-021, as modified by D.11-01-025?

The Commission set forth standard terms and conditions to be incorporated into contracts for the purchase of electricity from eligible renewable energy resources in D.04-06-014 and D.07-02-011, as modified by D.07-05-057 and D.07-11-025. These terms and conditions were compiled and published in D.08-04-009. Additionally, the non-modifiable term related to Green Attributes was finalized in D.08-08-028 and the non-modifiable terms related to RECs were finalized in D.10-03-021, as modified by D.11-01-025.

The non-modifiable standard terms and conditions in the Agreement conform exactly to the “non-modifiable” terms set forth in Attachment A of D.08-04-009, as modified by D.08-08-028 and by Appendix C of D.10-03-021, as modified by D.11-01-025.

2. Using the tabular format, provide the specific page and section number where the RPS non-modifiable STCs are located in the contract.

The locations of non-modifiable terms in the Agreement are indicated in the table below:

TABLE 8: NON-MODIFIABLE TERMS

Non-Modifiable Term		Contract Section Number	Contract Page Number
STC 1: CPUC Approval		Appendix I	I-4
STC 6: Eligibility	14.1(b)	26	
STC 17: Applicable Law		20.9	38
STC REC 1: Transfer of RECs		14.1(b)	26
STC REC 2: WREGIS Tracking of RECs		4.5(h)	8

3. Provide a redline of the contract against the utility’s Commission-approved pro forma REC sales confirmation agreement as Confidential Appendix E to the filed advice letter. Highlight modifiable terms in one color and non-modifiable terms in another.

Not Applicable. This is not a REC sales transaction.

d. Solicitation Process

1. Process overview

See Section III.

2. Sales solicitation process and schedule

The Agreement is not a sales transaction. See Section III for an overview of the solicitation process and schedule.

3. Solicitation Design

See Section III.

4. Table of Key Terms of REC sales confirmation agreement

Not Applicable given this is not a REC sales.

e. Valuation Process: Quantitative and Qualitative Analysis**1. For Sales contracts, provide a quantitative analysis that evaluates selling the proposed contracted amount vs. banking the RECs towards future RPS compliance requirements (or any reasonable other options).**

The Agreement is not a sales transaction. The quantitative evaluation of the Agreement can be found in Appendix D of this Advice Letter.

2. Explain the process used to determine price reasonableness, with maximum benefit to ratepayers.

Appendix E describes the quantitative methodology used to determine the NMV value for the project.

3. Provide the notional value of each contract, as well as the total of all selected contracts.

See Appendix G.

4. Explain any quantitative and qualitative criteria used to rank bids.

See Appendix E.

f. Discussion of Outcome of Solicitation

Not Applicable. Not a sales contract.

1. For Sales contracts, provide the overall bid solicitation results and the shortlisted bids

Quantitative information to include total number of overall and shortlisted responses for solicitation, price per bid, contract term of bids, bid quantity, total forecasted revenues per bid, and expected PCC classification of bid.

2. Procurement Review Group (PRG) Participation**ii. List PRG participants (by organization/company).**

See Section III.F.

iii. Describe the utility's consultation with the PRG, including when information about the contract was provided to the PRG, whether the information was provided in meetings or other correspondence, and the steps of the solicitation process where the PRG was consulted.

See Section III.F.

iv. For short-term contracts, if the PRG was not able to be informed prior to filing, explain why the PRG could not be informed.

Not Applicable.

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

See Section III.G.

1. Provide name of IE.
2. Describe the oversight provided by the IE.
3. List when the IE made any findings to the Procurement Review Group regarding the applicable solicitation, the project/bid, and/or contract negotiations.
4. Insert the public version of the project-specific IE Report.

X. Safety Considerations

a. What has the IOU done to ensure that the contract and the facility's (or facilities') operation are: consistent with Public Utilities Code Section 451; do not interfere with the IOU's safe operation of its utility operations and facilities; and will not adversely affect the public health and safety?

The Project is owned, constructed and operated by a third party. As explained in Section V.1, the Seller is obligated to own and operate the Project in accordance with the laws, rules, and regulations that apply to it, a number of which are referenced in the Agreement to clarify that the burden of safe operations, including operations that impact public safety, lies with the Seller. PG&E's safe operation of its utility operations and facilities is addressed in the interconnection process. While interconnection safety is not specified in the Agreement, under the terms of the Agreement, PG&E will declare that the Projects have commenced deliveries under the Agreement only after PG&E, as the transmission operator, and the CAISO have concluded such testing and given permission to commence commercial operations.

b. Will the contract lead to any changes in the structure or operations of the underlying facility (or facilities)? Any change in the safety practices at the facility (or facilities)? If so, with what federal, state and local agencies did the seller or facility owner confer or seek permits or permit amendments for these changes?

Not Applicable. This agreement will result in the development of a new facility. There is no existing or underlying facility.

XI. Request for Commission Approval

PG&E requests that the Commission issue a Resolution by no later than 90 days from the date of submittal of this Advice Letter that contains the following findings, conclusions, and orders:

1. Approves the Agreement for the Project as described in Section IV of this Advice Letter.
2. Findings that the resource secured by the Agreement presented in this Advice Letter qualifies for the zero-emission procurement category and the general NQC procurement category requirement of D.21-06-035.
3. Findings that the Agreement, and PG&E's entry into the Agreement, is reasonable and prudent for all purposes, and that any payments to be made by PG&E pursuant to the Agreement are recoverable in full by PG&E.
4. Finds that any procurement pursuant to the Agreement is procurement from eligible renewable energy resources for purposes of determining PG&E's compliance with any obligation that it may have to procure eligible renewable energy resources pursuant to the California RPS (Public Utilities Code Section 399.11 et seq.), D.03-06-071, D.06-10-050, D.11-12-020, D.11-12-052, D. 19-06-023 or other applicable law.
5. Finds that all procurement and administrative costs, as provided by Public Utilities Code Section 399.13(g), associated with the Agreement shall be recovered in rates.
6. Adopts the following finding of fact and conclusion of law in support of CPUC Approval:
 - a. The Agreement is consistent with PG&E's 2022 RPS Procurement Plan.
 - b. The terms of the Agreement are reasonable.
7. Adopts the following finding of fact and conclusion of law in support of cost recovery for the Agreement:
 - a. The utility's net costs under the Agreement shall be recovered through PG&E's Portfolio Allocation Balancing Account.
 - b. Any above-market cost that may arise from the Agreement is subject to the provisions of D.21-06-035 as a 2021 PCIA-eligible contract and recorded to the Portfolio Allocation Balancing Account.
8. Adopts the following findings with respect to resource compliance with the EPS adopted in R.06-04-009:
 - a. The Agreement is not a form of covered procurement subject to the EPS, because the generating facility has an expected capacity factor of less than 60 percent and, therefore, is not baseload generation under paragraph 1(a)(ii) and 3(2)(a) of the adopted Interim EPS Rules.
9. Adopts a finding of fact and conclusion of law that deliveries from the Agreement shall be categorized as procurement under the portfolio content category specified in Public Utilities Code Section 399.16(b)(1)(A), subject to the Commission's after-the-fact verification that all applicable criteria have been met.

XII. Confidentiality Treatment

In support of this Advice Letter, PG&E has provided the confidential information listed below. This information is being submitted in the manner directed by Commission 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 Public Utilities Code section 454.5(g) or the Investor Owned Utility Matrix, Appendix 1 of D.06-06-066 and Appendix C of D.08-04-023. A separate Declaration Seeking Confidential Treatment is submitted concurrently with this Advice Letter.

Confidential Appendices

Appendix A: Northern Orchard Project Agreement
Appendix B1: Independent Evaluator Report (Confidential)
Appendix C: Contract Summary – Northern Orchard
Appendix D: Quantitative Evaluation Results Workbook
Appendix F: Consistency with Commission Decision and Rules
Appendix G: MTR Phase II Solicitation Overview and Results

Public Appendices

Appendix B2: Independent Evaluator Report (Public)
Appendix E: Evaluation Methodology

XIII. Protests

Anyone wishing to protest this submittal may do so by letter sent electronically via E-mail, no later than **October 3, 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



ADVICE LETTER SUMMARY

ENERGY UTILITY

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

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

Utility type:

- ELC GAS WATER
 PLC HEAT

Contact Person: Michael Finnerty
 Phone #: (279) 789-6216
 E-mail: PGETariffs@pge.com
 E-mail Disposition Notice to: michael.finnerty@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) #: 7022-E

Tier Designation: 3

Subject of AL: Request for Approval of Mid-Term Reliability Procurement Pursuant to D.21-06-035

Keywords (choose from CPUC listing): Compliance, Procurement, Reliability

AL Type: Monthly Quarterly Annual One-Time Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #: D. 21-06-035

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

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

Confidential treatment requested? Yes No

If yes, specification of confidential information: see confidential 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: Mark Muranishi, Mark.Muranishi@pge.com

Resolution required? Yes No

Requested effective date: No. of tariff sheets: 0

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

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

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

Tariff schedules affected: N/A

Service affected and changes proposed¹: N/A

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

¹Discuss in AL if more space is needed.

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

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

Contact Name:
Title:
Utility/Entity Name:

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

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

Clear Form

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

**PACIFIC GAS AND ELECTRIC COMPANY
ADVICE LETTER REQUEST FOR APPROVAL OF
MID-TERM RELIABILITY PROCUREMENT PURSUANT
TO D.21-06-035**

**DECLARATION OF MARK MURANISHI
SEEKING CONFIDENTIAL TREATMENT
FOR CERTAIN DATA AND INFORMATION
CONTAINED IN PG&E'S ADVICE LETTER**

I, Mark Muranishi, declare:

1. I am a Director in the Structed Energy Transactions Department at Pacific Gas and Electric Company (PG&E). In this position, I am responsible for procurement of various electric resources and products including energy storage and renewable energy. 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 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 data and information contained in PG&E's Advice Letter Request for approval of Mid-term Reliability procurement pursuant to D.21-06-035.

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 data and information covered by D.06-06-066, Appendix 1, and Public Utilities Code §454.5(G). 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. 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 September 13, 2023 at Oakland, California.

/s/

Mark Muranishi

PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)

**ADVICE LETTER FOR APPROVAL OF MID-TERM RELIABILITY PROCUREMENT PURSUANT TO D.21-06-035
September 13, 2023**

IDENTIFICATION OF CONFIDENTIAL INFORMATION

Redaction Reference	Category from D.06-06-066, Appendix 1, or Separate Confidentiality Order That Data Corresponds To	PG&E's Justification for Confidential Treatment	Length of Time
Confidential Appendices			
Appendix A: Northern Orchard Project Agreement	Item VII.B (Contracts and Power Purchase Agreements between utilities and non-Affiliated Third Parties (except RPS)).	The terms of the Power Purchase Agreement For Zero Emissions Product from Hybrid Resource Projects (ZE Hybrid PPA) presented in this appendix are generally confidential. The terms of this contract that are public pursuant to Item VII.B. are publicly disclosed in Section IV. Selected Projects.	Contract documents and terms of contracts are confidential for three years from the date that the contract states that deliveries are to begin, or until one year following expiration, whichever comes first.
Appendix B1: Independent Evaluator (IE) Report (Confidential)	Item VII.B (Contracts and Power Purchase Agreements between utilities and non-Affiliated Third Parties (except RPS)); Item VIII. B) Specific quantitative analysis involved in scoring and evaluation of participating bids.	The IE Report contains extensive discussion of the specific terms of the ZE Hybrid PPA. All contract terms, except for the 8 contract characteristics noted as public in Matrix VII.B, are confidential. The IE Report also contains information on the shortlist and counterparty negotiations, which constitutes the confidential results of bid scoring and evaluation.	Contract documents and terms of contracts are confidential for three years from the date that the contract states that deliveries are to begin, or until one year following expiration, whichever comes first. Information under Item VIII.B is confidential for three years from the date winning contracts are submitted for CPUC approval.
Appendix C: Contract Summary – Northern Orchard	Item VII.B (Contracts and Power Purchase Agreements between utilities and non-Affiliated Third Parties (except RPS)).	Contract specific terms between PG&E and the counterparty and between the counterparty and suppliers are confidential terms as they are not identified as public by Matrix term VII.B.	Contract documents and terms of contracts are confidential for three years from the date that the contract states that deliveries are to begin, or until one year following expiration, whichever comes first.

PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)

**ADVICE LETTER FOR APPROVAL OF MID-TERM RELIABILITY PROCUREMENT PURSUANT TO D.21-06-035
September 13, 2023**

IDENTIFICATION OF CONFIDENTIAL INFORMATION

Redaction Reference	Category from D.06-06-066, Appendix 1, or Separate Confidentiality Order That Data Corresponds To	PG&E’s Justification for Confidential Treatment	Length of Time
Appendix D: Quantitative Evaluation Results Workbook	Item VIII.B (Specific quantitative analysis involved in scoring and evaluation of participating bids).	The appendix contains information on the offers received, which constitutes the confidential results of bid scoring and evaluation.	Information under Item VIII.B is confidential for three years from the date winning contracts are submitted for CPUC approval.
Appendix F: Consistency with Commission Decisions and Rules	May 21, 2014 <i>Administrative Law Judge’s Ruling on Renewable Net Short</i> issued in Rulemaking 11-05-005, pages 5 and 24	PG&E’s optimized Renewable Net Short, including: PG&E’s assumptions for its overall portfolio optimization strategy; any plans to sell forecast Renewable Energy Credits (RECs) above the Procurement Quantity Requirements(PQR); application of forecast RECs above the PQR towards a future RPS compliance requirement; and any plan to procure of RECs above the PQR in future years.	Indefinite
	Item V.C (Bundled Customer Total Energy Forecast (MWh) by Customer Class)	Confidential forecast of bundled customer load forecast, RPS compliance load forecast and RPS net short position.	For bundled load forecast, front three years of data. For RPS Compliance load forecast and RPS net short position, front two years of forecast data
	Item VI.B (Utility Bundled Net Open (Long or Short) Position for Energy (MWh))	This information could be used to determine PG&E’s net open position for RPS-eligible products and constitutes analysis and evaluation of proposed RPS projects, including sales or transactions intended to manage a compliance bank.	Front three years of forecast data confidential
	Item VIII.A (Bid Information)	Confidential bid information. Total number of projects and megawatts bid by resource type public after final contract submitted for CPUC approval.	Three Years
	VIII.B (Quantitative/qualitative analysis for scoring and evaluating offers)	Confidential quantitative/qualitative analysis for scoring and evaluating offers in solicitation	Information under Item VIII.B is confidential for three years from the date winning contracts are submitted for CPUC approval.

PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)

**ADVICE LETTER FOR APPROVAL OF MID-TERM RELIABILITY PROCUREMENT PURSUANT TO D.21-06-035
September 13, 2023**

IDENTIFICATION OF CONFIDENTIAL INFORMATION

Redaction Reference	Category from D.06-06-066, Appendix 1, or Separate Confidentiality Order That Data Corresponds To	PG&E's Justification for Confidential Treatment	Length of Time
	Public Utilities Code 454.5(g)	Information concerns PG&E strategies for its portfolio and/or specific resources. Release of this market sensitive information could put PG&E at a competitive disadvantage with regard to other market participants and could detrimentally impact customers.	Three Years
Appendix G: MTR Phase II Solicitation Overview and Results	Item VII.B (Contracts and Power Purchase Agreements between utilities and non-Affiliated Third Parties (except RPS)).	The terms of the ZE Hybrid PPA presented in this appendix are generally confidential.	Contract documents and terms of contracts are confidential for three years from the date that the contract states that deliveries are to begin, or until one year following expiration, whichever comes first.

Appendix A

Northern Orchard Project Agreement

(Confidential)

Appendix B1

Independent Evaluator Report

(Confidential)

Appendix B2

Independent Evaluator Report

(Public)

PACIFIC GAS & ELECTRIC COMPANY

Independent Evaluator Report

PG&E'S Mid-Term Reliability RFO – Phase 2 FINAL
REPORT

August 10, 2023

Prepared By



TABLE OF CONTENTS

1 INTRODUCTION 4

1.1 OVERVIEW OF THE 2022 MID-TERM RELIABILITY RFO – PHASE 2 4

1.2 REGULATORY BACKGROUND..... 4

1.3 MID-TERM RELIABILITY RFO – PHASE 2 SOLICITATION PROTOCOL 6

1.4 ISSUES ADDRESSED IN THIS REPORT 14

2 DESCRIPTION OF THE ROLE OF THE IE 15

2.1 REGULATORY REQUIREMENTS FOR THE IE 15

2.2 DESCRIPTION OF KEY IE ROLES 16

2.3 DESCRIPTION OF IE OVERSIGHT ACTIVITIES 18

3 DESCRIPTION OF OUTREACH ACTIVITIES AND ROBUSTNESS OF SOLICITATION 18

3.1 DESCRIPTION OF IOU OUTREACH TO POTENTIAL BIDDERS..... 18

3.2 PRINCIPLES USED TO DETERMINE ADEQUATE ROBUSTNESS OF A SOLICITATION .. 20

3.3 DID THE IOU CONDUCT ADEQUATE OUTREACH..... 20

3.4 WAS THE SOLICITATION ADEQUATELY ROBUST 21

3.5 DID THE IOUS SEEK ADEQUATE FEEDBACK ABOUT THE BIDDING/BID EVALUATION
PROCESS FROM ALL BIDDERS AFTER COMPLETION OF SOLICITATION? 21

3.6 WAS THE OUTREACH SUFFICIENT AND MATERIALS CLEAR SUCH THAT BIDS
RECEIVED MEET THE NEEDS OF THE SOLICITATION? 22

3.7 OTHER RELEVANT INFORMATION OR OBSERVATIONS 22

4 DESCRIPTION OF BID EVALUATION AND SELECTION METHODOLOGY 22

4.1 IDENTIFICATION OF PRINCIPLES FOR EVALUATING PG&E'S BID EVALUATION
METHODOLOGY 22

4.2 OVERVIEW OF PG&E'S LEAST COST BEST FIT EVALUATION METHODOLOGY..... 24

4.3 DETAILED DESCRIPTION OF THE EVALUATION PROCESS 26

4.3.1 VALUATION COMPONENTS OVERVIEW 26

4.3.2 VALUATION SUMMARY BY RESOURCE AND CONTRACT TYPE 27

4.3.3 VALUATION COMPONENTS 29

4.3.4 ENERGY VALUE 29

4.3.5 CAPACITY VALUE..... 30

4.3.6 ANCILLARY SERVICE (A/S) VALUE 31

4.3.7 REC VALUE 31

4.3.8 FIXED COST..... 31

4.3.9 VARIABLE ENERGY COST FOR RPS CONTRACTS 32

4.3.10 METERED CONTRACT COST FOR RPS CONTRACT TYPE..... 32

4.3.11 TRANSMISSION NETWORK UPGRADE COSTS 32

4.3.12 ADDER HEDGE VALUE AND ADJUSTED NET MARKET VALUE..... 32

4.3.13 COMPLIANCE ADDER 32

4.3.14 PORTFOLIO FIT ADJUSTMENT 33

4.3.15 INPUT ASSUMPTIONS 33

4.3.16 QUALITATIVE FACTORS – PROJECT VIABILITY 33

4.3.17 THIRD-PARTY OFFER QUALITATIVE ASSESSMENT..... 34

4.3.18 UTILITY-OWNED GENERATION QUALITATIVE ASSESSMENT 35

4.4 REVISIONS TO BID EVALUATION CRITERIA..... 36

- 4.5 EVALUATION OF THE STRENGTHS AND WEAKNESSES OF PG&E'S METHODOLOGY 36
 - 4.5.1 STRENGTHS OF EVALUATION AND RANKING METHODOLOGY37
 - 4.5.2 WEAKNESSES OF THE EVALUATION AND RANKING METHODOLOGY38
- 4.6 FUTURE LCBF IMPROVEMENTS.....38
- 4.7 ADDITIONAL INFORMATION OR OBSERVATIONS REGARDING PG&E'S EVALUATION METHODOLOGY39
- 5 ADMINISTRATION OF THE MID-TERM RELIABILITY PHASE 2 SOLICITATION PROCESS..... 39**
 - 5.1 ISSUANCE OF THE MID-TERM RELIABILITY RFO – PHASE 2.....40
 - 5.2 PARTICIPANT'S WEBINAR41
 - 5.3 QUESTIONS & ANSWERS42
 - 5.4 REVIEWED AND COMMENTED ON INTERNAL EVALUATION PROTOCOLS AND EVALUATION METHODOLOGY42
 - 5.5 RECEIPT OF OFFERS – JUNE 1, 202242
 - 5.6 COMMUNICATIONS WITH BIDDERS43
 - 5.7 MEETING WITH IE REGARDING POTENTIAL SHORTLIST RECOMMENDATIONS44
 - 5.8 PRG MEETING – OFFER SUMMARY AND SHORTLIST SELECTION46
 - 5.9 NOTIFICATION TO BIDDERS50
 - 5.10 INITIATION OF CONTRACT NEGOTIATIONS.....50
 - 5.11 CONTRACT NEGOTIATION BETWEEN PG&E AND RWE52
 - 5.12 FINAL CONTRACT54
- 6 FAIRNESS OF SOLICITATION ADMINISTRATION 63**
 - 6.1 PRINCIPLES AND GUIDELINES USED TO DETERMINE FAIRNESS.....63
 - 6.2 DESCRIPTION OF IE METHODOLOGY USED TO EVALUATE ADMINISTRATION OF PG&E'S SOLICITATION PROCESS, NOTABLY THE LCBF PROCESS64
 - 6.3 IDENTIFICATION OF NON-CONFORMING BIDS65
 - 6.4 UTILITY EVALUATION AND OUTSOURCED EVALUATION.....65
 - 6.5 TRANSMISSION ANALYSIS PROCEDURES.....66
 - 6.6 CRITERIA OR ANALYSIS USED TO CREATE THE SHORTLIST67
 - 6.7 OFFER EVALUATION RESULTS AND SHORTLIST ASSESSMENT67
 - 6.8 CONCLUSIONS REGARDING ADMINISTRATION OF THE BID EVALUATION PROCESS67
 - 6.9 ANY OTHER RELEVANT INFORMATION67
- 7 DOES THE CONTRACT MERIT CPUC APPROVAL 68**
 - 7.1 INTRODUCTION68
 - 7.2 NEED FOR PROCUREMENT68
 - 7.3 CONTRACT PRICING AND PORTFOLIO FIT.....69
 - 7.4 PROJECT VIABILITY70
 - 7.4.1 PROJECT SCRUTINY.....70
 - 7.4.2 NORTHERN ORCHARD SOLAR PLUS STORAGE PROJECT OVERVIEW70
 - 7.4.3 TECHNOLOGY AND PROCUREMENT ISSUES71
 - 7.4.4 EXPERIENCE (FINANCING, CONSTRUCTION, & OPERATION).....71
 - 7.4.5 SITE CONTROL71
 - 7.4.6 INTERCONNECTION71

7.4.7 PERMITTING72
7.4.8 SCHEDULE.....72
7.4.9 CONCLUSIONS.....72

8 TREATMENT OF AFFILIATE BIDS AND UOG OWNERSHP PROPOSALS 72

9 WAS THE RFO ACCEPTABLE 77

10 CONCLUSIONS & RECOMMENDATIONS 77

10.1 CONCLUSIONS & OBSERVATIONS.....77
10.2 RECOMMENDATIONS.....80

1 INTRODUCTION

1.1 OVERVIEW OF THE 2022 MID-TERM RELIABILITY RFO – PHASE 2

On April 15, 2022, Pacific Gas & Electric Company (“PG&E” or “Company”) issued its Mid-Term Reliability RFO – Phase 2 (“Mid-Term Reliability RFO – Phase 2” or “RFO”) pursuant to California Public Utilities Commission (“CPUC”) “Final Decision” in Rulemaking 21-06-003 issued on June 30, 2021 (Decision Requiring Procurement to Address Mid-Term Reliability (2023-2026)). PG&E issued its Mid-Term Reliability RFO – Phase 2 seeking offers from Participants for the purchase of eligible system resource adequacy (“RA”) to come online by June 1, 2024, June 1, 2025, or June 1, 2026. The Final Decision requires PG&E to procure and have online 400 MW by August 1, 2023, 1,201 MW by June 1, 2024, 300 MW by June 1, 2025, and 400 MW by June 1, 2026.

Through the Mid-Term Reliability RFO – Phase 2 solicitation process, PG&E has executed a long-term Power Purchase Agreement for Zero Emissions Product from Hybrid Resource Projects (“Zero Emitting Hybrid PPA”)¹ for a hybrid project comprised of (a) 92 mega-watt (MW²) of lithium-ion energy storage and (b) 172.1 MW of solar photovoltaic (“PV”) with Northern Orchard Solar PV, LLC³ with a scheduled Initial Delivery Date of June 1, 2024 and a contract term of 15 years. PG&E is seeking CPUC approval of the contract with Northern Orchard Solar PV, LLC through this Advice Letter filing. [REDACTED]

1.2 REGULATORY BACKGROUND

The CPUC’s Final Decision Requiring Procurement to Address Mid-Term Reliability (2023 – 2026) in Rulemaking 20-05-003 addresses the mid-term reliability needs of the electricity system within the California Independent System Operator’s (CAISO’s) operating system by requiring at least 11,500 MW of additional net qualifying capacity (NQC) to be procured by all of the load serving entities (“LSEs”) subject to the Commission’s integrated resource planning (IRP) authority.⁴ The overall capacity requirements are adopted annually beginning with 2,000 MW by 2023, an additional 6,000 MW by 2024, an additional 1,500 MW by 2025, and an additional 2,000 MW by 2026. The resources required in the 2023-2025 timeframe are designed for purposes of replacing the capacity being retired from the Diablo Canyon nuclear power plant, as well as several thermal power plants complying with the once-through-cooling (“OTC”) regulations of the

¹ PG&E has referred to this agreement as RA + RPS (no Energy Settlement). The RA + RPS – Long-term Resource Adequacy Agreement + Bundled Renewable Energy combines PG&E’s standard RA agreement (without Energy Settlement) with provisions for renewable energy. [REDACTED]

³ The Participant for this RFP is RWE Renewables Energy Marketing, LLC. RWE Renewable Energy Marketing, LLC is a wholly owned subsidiary of RWE Renewables Americas, LLC, whose ultimate parent company is RWE AG. .

⁴ In Decision 23-02-040 (February 23, 2023), the CPUC required supplemental mid-term reliability procurement of a total of 4,000 MW of NQC in addition to the 11,500 MW ordered in D. 21-06-035, with the additional procurement for 2026 and 2027.

State Water Resources Control Board. The CPUC specifically ordered that the resources from Diablo Canyon be replaced with at least 2,500 MW of zero-emitting generation, generation paired with storage, or demand response resources.

The Final Decision also stated that the CPUC expects that all of the resources procured pursuant to this order will be zero-emitting, unless they otherwise qualify under the renewable portfolio standard eligibility requirements. The 2026 resources are required to be long-lead time resources,⁵ with half coming from long-duration storage and the other half from firm zero-emitting resources or those that otherwise qualify as eligible under the renewable portfolio standard program and have at least an 80 percent capacity factor. Incremental capacity from fossil-fueled resources will not be eligible to qualify under this order.

LSE's will be required to submit procurement information twice yearly, consistent with Decision D.20-12-044 requirements, to show progress toward the capacity procurement requirements in this decision. Backstop procurement to be conducted by the IOUs may be ordered by the Commission once yearly, with the costs allocated to the deficient LSEs and/or their customers. In addition, deficient LSEs will be subject to penalties for failing to deliver the capacity required in 2023 – 2025 at the level of the net cost of new entry (CONE). The Final Decision also identified the estimated annual procurement amounts that would be required from all LSE. Cumulative capacity requirements totaled 11,500 MW from 2023 to 2026, including 2000 MW in 2023, 6,000 MW additional in 2024, 1,500 MW additional in 2025 and 2,000 additional MW in 2026.

In terms of eligible resources, the Final Decision proposed that at least 1,000 MW of geothermal resources and 1,000 MW of long-duration storage (defined as providing 8 hours of storage or more) should be required as part of the overall procurement requirement by no later than 2026. The Final Decision also identified obligations for each LSE. PG&E's bundled obligations included 400 MW in 2023, 1,201 MW in 2024, 300 MW in 2025, and 400 MW in 2026. Of this total, the minimum capacity for zero-emitting resources⁶ by 2025 was set at 500 MW.

Other provisions of the Final Decision include the following:

- Demand-side and/or distributed energy resources shall be eligible as a priority to qualify for the capacity requirements, as long as they meet the incrementality qualifications described in Decision 19-11-016, and otherwise meet the

⁵ Long lead-time resources required by this order by June 1, 2026 shall be defined as: (a) at least 1,000 MW of long-duration storage (able to deliver at maximum capacity for at least eight hours from a single resource); and (b) at least 1,000 MW of generation capacity that has no on-site emissions or is eligible under the requirements of the renewable portfolio standard program, and has at least 80 percent capacity factor. The resource must not be use limited or weather dependent. No storage projects shall qualify under this provision.

⁶ Zero-emitting capacity shall have the following characteristics: (a) be from a generation resource, a generation resource paired with storage (physically or contractually), or a demand response resource; (b) be available every day from 5 p.m. to 10 p.m. (the beginning of hour ending 1800 through the end of hour ending 2200), Pacific time, at a minimum; and (c) be able to deliver at least 5 MWh of energy during each of these daily periods for every MW of incremental capacity claimed.

qualifications laid out for the various categories of capacity specified in this decision;

- Any imports used to show compliance with the procurement required by this order shall follow the eligibility and counting rules of the resource adequacy program in place at the time of contract execution and shall be associated with a new resource or an increase of capacity from an existing resource with a commercial online date that is after the date of this order;
- The IOU's may propose to meet a portion of their capacity required by this order with utility-owned resources under the terms set in Decision 19-11-016, and must file a full application with any such proposal, for the Commission's consideration;
- All contracts for resources, including imports, used to satisfy the requirements of this procurement order shall have a minimum duration of 10 years;
- Any excess procurement from one compliance year in this decision may be used to satisfy an obligation in a future year;
- The Commission shall use marginal ELCC values provided by Commission staff to estimate the reliability contributions of various resources to be procured in response to this order;
- Requiring 2,500 MW of incremental procurement of capacity from zero-emissions generation, generation paired with storage, or demand response resources by 2025 will further ensure that there is no increase in GHG emissions as a result of the closure of Diablo Canyon;
- The Reference System Plan adopted in D.20-03-028 did not show a requirement for new natural gas capacity by 2030, but did not analyze whether replacement of existing, inefficient natural gas capacity with newer, more efficient gas would contribute to system reliability and renewables integration;
- Acceleration of some procurement requirements one year ahead can help mitigate cost and reliability risks.

1.3 MID-TERM RELIABILITY RFO – PHASE 2 SOLICITATION PROTOCOL

PG&E issued the Mid-Term Reliability RFO – Phase 2 Solicitation Protocol on April 15, 2022. PG&E issued an update to the protocol on August 4, 2022 in which PG&E eliminated Section V.D. Shortlist Offer Deposit requirement. PG&E stated in its revision to the Protocol that PG&E is no longer requiring shortlist offer deposits in this RFO. In the Mid-Term Reliability RFO – Phase 1 Protocol document, PG&E listed a number of requirements and preferences to inform prospective Participants of the requirements for competing in the procurement process. In addition, to meet the CPUC's requirements, PG&E indicated it would execute agreements in two phases:

- Phase 1 is for projects that intend to meet the August 1, 2023 and June 1, 2024 online dates, and qualifying zero-emissions generating resources to come online on or before June 1, 2015;
- Phase 2 is for projects that intend to come online after August 1, 2023 and on or before June 1, 2026.

The Mid-Term Reliability RFO Phase 2 Solicitation Protocol establishes the terms and conditions by which PG&E will seek offers to meet system-level Net Qualifying Capacity (“NQC”) needs with online dates beginning June 1, 2024 through June 1, 2026, depending on the category of resources. All resources will be expected to be considered incremental in counting toward PG&E’s procurement responsibilities, as specified in the Decision. All resources must provide Resource Adequacy by the contractual online date. PG&E is seeking third-party owned and utility-owned projects for Phase 2. A summary of the key provisions of the final Mid-Term Reliability RFO – Phase 2 Solicitation Protocol is provided in Table 1.

Table 1: Provisions of the Mid-Term Reliability RFO – Phase 2 Protocol

Mid-Term Reliability RFO – Phase 2	Description of Key Provisions
Resource Needs	<p>PG&E is required to procure at least 2,302 MWs of additional net qualifying capacity (“NQC”). Compliance would be measured based on September NQC calculations using marginal ELCC values calculated by the Commission for each resource type for each future online year. The additional MWs are to come online between August 1, 2023 and June 1, 2026. The Decision requires PG&E to procure and have online 400 MW by August 2023, 1,201 MW by June 1, 2024, 300 MW by June 1, 2025⁷ and 400 MW by June 1, 2026.</p> <p>PG&E proposed to execute Agreements in two phases. Phase 1 was for projects that intend to meet the August 2023 and June 1, 2024 online dates and qualifying zero-emissions generating resources to come online on or before June 1, 2025. Phase 2 is for the remainder of the capacity PG&E is required to procure per D.21-06-035. All resources would be expected to be considered incremental in counting towards PG&E’s procurement responsibilities, as specified in the Decision. For projects with online dates in 2025 and 2026, PG&E has a commercial preference for resources that can come online by March 1.</p>
Products Solicited	<p>Through this RFO, PG&E sought third-party owned projects and utility-owned projects for Phase 2. Third-party owned options include: (a) Zero-Emitting Resources⁸ with a required online date by June 1, 2025; (b) Firm, Zero Emitting Resources⁹ with a required online date of June 1, 2026; (c) Long Duration Storage with a required online date by June 1, 2024 if the project is a</p>

⁷ The Protocol lists 500 MW from Zero Emission resources. The Zero Emission resources are required to replace Diablo Canyon and must be procured by 2025 but may occur in any of the years 2023 – 2025.

⁸ Zero Emitting includes Zero-emissions generation, generation paired with storage, or demand response resources. Example eligible resources included Paired RPS and storage and Hybrid RPS and storage.

⁹ Firm Zero Emitting resources include RPS eligible geothermal and biomass.

	<p>battery project and by June 1, 2026 for other storage options including Pumped Hydro Storage, Compressed Air Energy Storage, etc.; (d) any other type of non-fossil fueled resource such as energy storage. Delivery terms were 10 or 15 years for Zero Emitting and Firm Zero Emitting resources and 10, 15, or 20 years for Long Duration Storage and any other type of non-fossil-fueled resources. Minimum size was 10 MW for third-party options. The RFO is akin to an All-Source solicitation process within the eligibility provisions listed in the Revised Proposed Decision.</p>
<p>Proposed Schedule</p>	<p>The Schedule for the Phase 2 solicitation included the following key dates for the RFO:</p> <ul style="list-style-type: none"> • April 15, 2022 – PG&E issues the RFO; • April 26, 2022 - Participants Webinar; • June 1, 2022 – Deadline for Participants to submit offers via PowerAdvocate by 1:00 PM PPT; • August 1, 2022 – PG&E notifies selected Participants that their offers will be included on a list of offers (“Shortlist”) for which PG&E may seek to enter into or negotiate an Agreement related to the offer; • August 8, 2022 – Deadline for notified shortlisted Participants to accept shortlist status, acknowledge acceptance of Confidentiality Agreement, post the Shortlist Offer Deposit and begin safety process; • August 15, 2022 – Shortlisted Participants should provide redlines to commercial agreements; • November 30, 2022 – Target Agreement Execution for Zero Emitting, Firm Zero Emitting, Battery long-duration storage, and 2024 online date offers: • Q1, 2023 – Target Agreement execution date for remaining projects; • Q1, 2023 – Target Advice Letter filing with the CPUC.
<p>Agreement Types¹⁰</p>	<p>PG&E sought both third-party owned and utility-owned projects for Phase 2. PG&E preferred to execute agreements that are substantially similar to the form agreements provided. Agreement and Term Sheet types by Product included:</p> <ol style="list-style-type: none"> 1. <u>Zero Emitting Term Sheet</u> - – PG&E would consider offers for Zero Emitting, co-located and contractually paired, Zero Emitting hybrid, and Firm zero Emitting through the Zero Emitting Term Sheet; 2. <u>Long-Term Resource Adequacy Agreement with Energy Settlement (LTRA w/ES)</u> – PG&E would

¹⁰ For the Phase 1 process, PG&E included the following agreements: (1) Long-term RA Agreement; (2) BTM RA Agreement; (3) RA Confirm; and (4) DRAM contract for Demand Response. The other Agreements included were incorporated specifically for the Phase 2 process.

	<p>consider offers for Zero Emitting, co-located & contractually paired resources, Zero Emitting, hybrid resources, long duration storage and other non-fossil-fueled resources through a Long-Term Resource Adequacy Agreement with Energy Settlement;</p> <p>3. <u>Hybrid Zero-emitting Compensation Structure</u> – PG&E would consider offers for Zero-emitting hybrid through a Hybrid Zero-emitting Compensation Structure;</p> <p>4. <u>Build Own Transfer (BOT) Term Sheet</u> – PG&E would consider offers for long-duration storage and other non-fossil-fueled resources through the BOT contract structure. RA</p> <p>5. <u>TBD – While Zero-emitting Demand Response resources are eligible to participate, there is no contract structure provided at this time.</u></p>
<p>Eligibility Requirements</p>	<p>Phase 2 of this solicitation was for resources providing net qualifying capacity that is incremental to the baseline list, and for projects that can come online by June 1, 2024, 2025, and 2026. Offers in each category must meet the applicable specifications noted in the RFP Protocol. For projects with online dates in 2025 and 2026, PG&E has a commercial preference for resources that can come online by March 1.</p> <p><u>1) Eligible Resources</u> – Resources must be incremental to the Integrated Resource Planning Baseline used in the need determination model that was posted on the Commission’s website on February 22, 2021. Expansion of existing projects that are incremental to the baseline will be considered in all procurement categories. Projects may be transmission or distribution connected. PG&E has a preference for resources located in the CAISO footprint due to uncertainty of import allocation rights in the future. A description of eligible resources includes:</p> <p><u>Third-Party Agreements for Transmission or Distribution Connected Projects:</u></p> <ul style="list-style-type: none"> • <u>Zero-Emitting Resources</u> – (a) can be from a generation resource, a generation resource paired with storage (physically or contractually), or a demand response resource; (b) be available every day from 5 p.m. to 10 p.m., Pacific time, at a minimum; and (c) be available to deliver at least 5 MWh of energy during each of these daily periods for every MW of incremental capacity claimed; (d) must be a paired resource, hybrid resource, or demand

response; (e) paired resources must be from the same counterparty; (f) the contractual online dates for the paired resources must be the same; (g) hybrid resources must be fully deliverable. For paired resources, the storage component must be fully deliverable and the renewable component may be energy only or fully deliverable; (h) any demand response resource must be able to demonstrate the ability to meet daily discharge without any energy storage and describe how incremental capacity will be counted; (i) for paired resources, the storage component and renewable component may have different term lengths; (j) PG&E has a preference for co-located paired resources in this category.

- **Firm Zero-emitting resources** – (a) have no on-site emissions or is eligible under the requirements of the renewable portfolio standard program; (b) have at least an 80 percent capacity factor; (c) must not be use limited or weather dependent; (d) cannot include storage.
- **Long-duration Storage Resources** – (a) an eligible project must be comprised of a single storage resource that is able to deliver at maximum capacity for at least eight hours; (b) the capacity that the storage is able to deliver for eight hours may be less than the facility’s installed MW or interconnection limit.
- **Other Non-Fossil-Fueled Resources** – (a) PG&E will accept offers in the storage Offer Form for resources less than eight hours duration that are able to come online by June 1, 2024
- **BOT Agreement** – PG&E will consider offers for storage resources that will provide Energy, Resource Adequacy, and Ancillary Services, and any other products available from the project. The project will be constructed on a third-party owned site. PG&E will take ownership of the project once it has been constructed to the specifications in the BOT Agreement, is operational, and has satisfied certain tests. For the BOT Agreement, PG&E requires entering into a long-term agreement to support the ongoing maintenance and performance of the energy storage resource.

2) Project Size – For third-party agreements for transmission or distribution-connected projects the minimum size is 10 MW.

3) Site Control – Third-party agreements for transmission or distribution-connected projects - Participants must demonstrate site control at the time of offer submission. Examples of

acceptable forms of site control are: (1) Fee title, (2) Recorded Exclusive Easement, (3) Executed Option Agreement, (4) Lease (Non-revocable), (5) Lease Option (Non-revocable). To demonstrate site control, counterparties must submit a signed copy from all parties of any of the acceptable forms. Offers in the Zero-emitting category will need to submit site control documentation for both components of the project.

4) Performance and Operational Requirements – Third-party agreements for transmission or distribution-connected projects - Offers in this Solicitation must provide RA. Products must meet the applicable CPUC RA requirements, CPUC Mid-Term Reliability requirements, CAISO requirements for deliverability, as well as any other requirements that will enable PG&E to receive all of the RA benefits associated with the project;

5) Electric Interconnection – Third-party agreements for transmission or distribution-connected projects – At the time of Offer submittal, Participants must have Participating Transmission Operator (PTO) or Utility Distribution Company (UDC) documentation showing that the Resource has requested or is expected to receive Full Capacity Deliverability Status (FCDS) in order to support delivery of the product, including RA, per the obligations of the corresponding agreement. Seller must submit the most recent interconnection documentation provided by the PTO or UDC. Participants must remain active in the applicable interconnection queue until the project's required network upgrades have been completed. PG&E will evaluate projects qualitatively based on the status of their interconnection status and viability of coming online to meet the required COD. With regard to transmission upgrade costs, sellers that have not yet received transmission upgrade cost estimates from the PTO or UDC in the form of RNUs and DNU's should provide a Electric System Upgrades Cost termination Rights value in the offer form. If projected upgrade costs from the PTO or UDC come in significantly higher than the input Electric System Upgrade Cost Termination Rights, PG&E may no longer consider the offer.

6) Incrementality – Per the Decision, the resources must be incremental to the 2019 – 2020 IRP RESOLVE/SERVM baseline used in need determination, meaning they would need to be contracted and approved by the Commission after June 30, 2020. The 2019-2020 IRP RESOLVE/SERVM baseline generator list that includes all online and in-development resources will be made available and serve as the baseline for the procurement proposed.

	<p><u>7) Complete Offer Package</u> – Each Participants Offer must be complete at the time of submission. Participant’s failure to provide all required information may prevent PG&E from being able to evaluate and rank the Offer, which means that the Offer may not be considered for the Shortlist.</p> <p><u>8) Safety</u> – Participants selected for the shortlist may be required to demonstrate that they meet the acceptable prequalification criteria similar to Section 3 of PG&E’s Contractor Safety Program Requirements, which may require Shortlisted Participants to register with PG&E’s primary safety management system, ISNetwork.</p>
Imports	<p>For Sellers offering a project that is all or partially outside of CAISO’s footprint, Seller is directed to fill out the offer form using all the same guidance as projects inside the CAISO. Seller is responsible for securing the transmission that will be required to bring the energy into the CAISO. Seller is directed to explain in Appendix B how the resource will provide Resource Adequacy into the CAISO. Imports must (a) follow the CPUC and CAISO RA import rules in place at time of execution and (b) come from new resources or increased capacity from existing resources, with online dates later than June 30, 2020. Current RA Rules allow: (a) Resource specific imports, which must be dynamically transferred, either pseudo-tied or dynamically scheduled and (b) Non-resource specific imports, which are imports that are not resource-specific imports as defined. For non-resource specific imports, PG&E wants Participants to deliver from a pool of resources, where the pool is comprised of only the project under contract. Import offers need to identify in Appendix B what intertie the project will deliver to and what balancing authority the project is physically located in.</p>
Pricing	<p>Participants were required to provide a complete Offer package and include pricing in their Offer Form, using the corresponding Agreement or term sheet as guidance.</p>
Number of Offers and Variations Allowed	<p>Participants may submit up to 5 offer variations at a specific interconnection point.</p>
Evaluation Process and Evaluation of Offers Received	<p>PG&E will apply “least-cost, best-fit” principles using quantitative and qualitative criteria to evaluate offers submitted. The quantitative evaluation compares an offer’s costs to its benefits to calculate Net Market Value (“NMV”). The Cost may consist of the contract fixed cost, variable cost and transmission network upgrade cost. The Benefit may consist of capacity value, energy</p>

	<p>value, and green attributes to the extent provided in the agreement or term sheet.</p> <p>PG&E may also consider Qualitative factors that could impact the value of an offer including, but not limited to, the following: interconnection status, site control, credit, safety history, previous adverse commercial experience, agreement or term sheet modifications, ability to meet the Initial Delivery Date, including commercial preferences for earlier dates; Supply Chain Responsibilities Status, developer experience, location and completeness of Offers.</p>
<p>Offer Submittal Process</p>	<p>All Offers must be received by June 1, 2022 at 1:00 P.M. (PPT). All offers for this RFO must be submitted electronically through PowerAdvocate.</p>
<p>Offer Package¹¹</p>	<p>Offers must contain all required information and must be organized in accordance with the instructions listed in the RFO Protocol. Information required includes:</p> <ol style="list-style-type: none"> 1. Introductory Letter 2. Offer Form (Appendix A1 – A4) 3. Supplemental RFO Documents - Project Description – Appendix B 4. FERC 717 Waiver Appendix C 5. Form Agreement or Term Sheet - Appendix E1 – E3 6. Letter of Credit – Appendix G1 7. Request for Taxpayer ID – Appendix G2 8. Safety Review Questionnaire – Appendix H 9. Map of Facilities 10. Interconnection Report or Agreement
<p>Credit</p>	<p>Upon execution of an Agreement with PG&E, the Participant must post collateral with PG&E. Each of the Agreements requires that the Participant post collateral with PG&E following commercial operation of the facility in varying amounts and form, as provided in the applicable Agreement.</p> <p>For third-party projects, for Pre-Delivery Term Security the Participant was required to post credit of \$80/kw to \$90/kW within 5 days of execution. Bidders are required to past Delivery Term Security in the amounts specified in the Protocol for each resource category.</p> <p>For utility-owned projects, the EPC contractor was required to post \$15/kW within 5 days of execution and the greater of an</p>

¹¹ Offer Packages for Energy Storage Resources for Utility-Owned Offers and Zero-Emitting Resource Offers require similar documents but fewer in most cases.

	additional (a) \$45/kW or (b) 10% of the purchase price due 10 business days after CPUC Approval. Post COD/Post-Closing security is 10% of the purchase price due on the Commencement Date plus an acceptable warranty by an issuer acceptable to the utility.
CPUC Approval	Whether an Agreement goes into effect or not was expressly conditioned on PG&E's receipt of Approvals, which were more specifically defined in each of the Agreements or Term Sheets. At a minimum, PG&E would require a finding from the CPUC that PG&E's entry into the Agreement satisfies PG&E's compliance with the Final Decision, that the terms were reasonable, and that PG&E would recover the costs incurred under the Agreement in its rates. Additionally, most Agreements would be subject to a no-fault termination if Approval does not occur within a specified period, as set forth in each of the applicable Agreements. CPUC approval typically required the approval of the Agreement by the CPUC to be final and non-appealable without any modifications that were unacceptable to either of the parties.

1.4 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 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?

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 fifteen plus 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.¹² 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

¹² 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 Mid-Term Reliability RFO in May 2021. Merrimack Energy served as IE for the Mid-Term Reliability RFO – Phase 1 and was asked by PG&E to also serve as IE for Phase 2. 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 identified the tasks to be performed by the IE. These included 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 and 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 the Mid-Term Reliability RFO 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 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.

2.3 DESCRIPTION OF IE OVERSIGHT ACTIVITIES

As noted, Merrimack Energy was retained as the IE by PG&E in May 2021 for the Mid-Term Reliability RFO. For this Mid-Term Reliability RFO – Phase 2 process, 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, monitoring communications between PG&E and the Participants, reviewing and commenting on internal RFO Evaluation Protocol documents, organizing and summarizing the offers received, reviewing, questioning and commenting on the evaluation results, shortlisting and final selection, monitoring the status of short-listed offers, participating in meetings with Participants after receipt of offers and during contract negotiations, regular communications with PG&E’s Project Manager, project team, and transactors on a regular basis to discuss RFO and contract issues, participation in meetings with the PRG, , and monitoring the contract discussion and negotiation process with shortlisted Participants.

This report provides an assessment and review of PG&E’s Mid-Term Reliability RFO – Phase 2 procurement process, undertaken during much of 2022 from development of the RFO through execution of the final Agreements. The role of the IE is also discussed as it pertains to specific activities in Section V 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 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 2,600 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 Mid-Term Reliability RFO – Phase 2 process and the issuance of the RFO. The list includes Diverse Suppliers. PG&E notified contacts on the mailing list for the issuance of the 2020 System Reliability RFO – Phase 1 and Phase 2 processes and Summer 2021/2022 procurement processes and also provided several email notifications and updates to the Participants email list during the solicitation process. In addition, while the notification of the Mid-Term Reliability RFO – Phase 1 and timing for receipt of offers was fairly short, Participants were at least aware that PG&E had a mandated procurement target and planned to issue a Phase 2 process and could therefore pre-plan for participation in such an RFO based on the CPUC

Decision process. As a result, Participants should have been very aware of the timing and requirements for the Phase 2 process.

PG&E initiated a comprehensive process for communicating with bidders for the Mid-Term Reliability RFO process. PG&E utilized the PowerAdvocate Platform as the means for Participants to submit their offers. 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 the CPUC Final Decision D.21-06-035. Issued on June 30, 2021. and contact information for PG&E should prospective Participants wish to ask any questions or request follow-up information.

The PG&E public website for the Mid-Term Reliability RFO – Phase 2 contained general information to bidders to help bidders determine if they wanted to participate as a bidder in the process.¹³ The following documents and information were included on the public website for Participant review and utilization:

- CPUC Final Decision D.21-06-035 issued on June 30, 2021;
- Solicitation Schedule for the Mid-Term RFO – Phase 2 process;
- RFO Documents including the Mid-Term Reliability RFO – Phase 2 Solicitation Protocol and associated Appendices including:
 - Appendix A1 – 3rd Party Owned Offer Form – Zero Emitting
 - Appendix A2 – 3rd Party Owned Offer Form – Firm Zero Emitting
 - Appendix A3 – 3rd Party Owned Offer Form – Storage
 - Appendix A4 – Utility Ownership Offer Form - Storage
 - Appendix B – Supplemental Project Information
 - Appendix C – FERC Order 717
 - Appendix D1 – 3rd Party Owned Confidentiality Agreement
 - Appendix D2 – Utility Owned Confidentiality Agreement
 - Appendix E1 – Zero Emitting Generation Term Sheet
 - Appendix E2 – Hybrid Zero Emitting Generation Term Sheet
 - Appendix E3 – Firm, Zero Emitting Generation Term Sheet
 - Appendix E4 – Long Term Resource Adequacy Agreement with Energy Settlement
 - Appendix E5 – Term Sheet for Utility Owned Build Own Transfer Agreement
 - Appendix E6 – Term Sheet for Long Term Performance and Maintenance Agreement
 - Appendix G1 – Letter of Credit
 - Appendix G2 - Request for Taxpayer ID (W-9) Form
 - Appendix H – Safety Review Questionnaire
- Mid-Term Reliability RFO – Phase 2 Webinar Deck
- Mid-Term Reliability RFO – Phase 2 Participants Webinar Audio Recording
- Contact Information for PG&E and the IE

¹³ 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.

No questions were received from prospective Participants. The IE found the website easy to access and navigate. All documents associated with the Mid-Term Reliability RFO – Phase 2 were included on the website and were easy to identify, access, and download.

3.2 PRINCIPLES USED TO DETERMINE ADEQUATE ROBUSTNESS OF A SOLICITATION

With regard to assessing whether the response to the solicitation was adequately robust, there are several criteria to consider:

- Was the response to the solicitation commensurate with the level of outreach?
- Did the solicitation encourage a diverse response from Participants in terms of products requested, project structure, pricing options, etc.?
- Was the response large with respect to the number of proposals and megawatts (“MW”) offered relative to the amount requested?
- Was the process a competitive process based on the amount of MW submitted by Bidders relative to the number of MW requested?
- Were the Solicitation Documents clear and concise such that Participants could clearly assess how to structure a competitive offer?

3.3 DID THE IOU CONDUCT ADEQUATE OUTREACH

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 Mid-Term Reliability RFO – Phase 2 process. 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 Participants webinar to provide information on the solicitation process, and to allow the Participants to ask questions and seek information about the solicitation process.

3.4 WAS THE SOLICITATION ADEQUATELY ROBUST

The overall result of this outreach activity was only a reasonable response to the RFO, especially when compared to the response for the Mid-Term Reliability RFO – Phase 1 process. While current market conditions¹⁴ can explain why the overall level of response was not very robust, Merrimack Energy was surprised by the [REDACTED]. It has been our experience in other RFPs that the [REDACTED]. We expected a more robust response for this solicitation.

PG&E received 31 unique offers and 59 variants overall from 21 counterparties for a total of 4,553 MW, mostly attributed to energy storage projects, compared to a total of 213 offer variants from twenty-eight (27) counterparties representing sixty-three (63) unique projects with a total capacity of approximately 6,700 MW for the Mid-Term Reliability RFO – Phase 1 process, for which contracts were executed in December, 2021.

In conclusion, the response of the market to PG&E's Mid-Term Reliability RFO – Phase 2 provides evidence that the outreach and Participant engagement activities of PG&E were generally effective given the circumstances, and Participants felt they had an adequate opportunity to receive a contract from the process.

3.5 DID THE IOUS SEEK ADEQUATE FEEDBACK ABOUT THE BIDDING/BID EVALUATION PROCESS FROM ALL BIDDERS AFTER COMPLETION OF SOLICITATION?

PG&E's project team members were involved in regular communications with prospective Participants, primarily after submission of the offers for purposes of clarifying offers and initiating the contract negotiation process with selected bidders. The IE participated in calls with Participants during offer review and evaluation and after offer selection through final contract negotiations. PG&E also notified Participants who had submitted offers that were not selected of the opportunity to request a follow-up call to discuss the offer or process.

¹⁴ As Independent Evaluator in a number of solicitations over the past few years, Merrimack Energy has recently (i.e., 2022) seen a drop in the number of proposals submitted and the number of participants. There are a number of factors that can explain this trend including supply chain constraints for renewable and storage equipment, overall inflationary trends affecting labor and EPC costs, significant increases in the cost of key inputs including lithium ion, steel, copper and other commodities, increases in interest rates which affects the cost of financing these projects, the implications of the war in Ukraine, and the regulatory implications associated with the US Department of Commerce anti-dumping and solar tariff circumvention case, all of which increase the risk of power project development cost and timing (i.e., COD date). Additionally, issues with interconnection processes and timing of constructing interconnection facilities and upgrades to transmission facilities all serve to increase project risk at a time when demand for such resources is increasing dramatically throughout the world.

3.6 WAS THE OUTREACH SUFFICIENT AND MATERIALS CLEAR SUCH THAT BIDS RECEIVED MEET THE NEEDS OF THE SOLICITATION?

PG&E prepared initial versions of the Protocol Document and Offer Forms and issued the documents in an expedited manner to solicit interest from bidders. The IE reviewed the documents to ensure the documents were clear and concise.

The IE also found that PG&E's project team was generally responsive to the needs of and comments provided by prospective Participants and also responded to questions in a reasonable timeframe.

3.7 OTHER RELEVANT INFORMATION OR OBSERVATIONS

The majority of the Participants provided reasonably complete proposals with a moderate amount of clarification questions or information requirements after submission. After submission of the Offers, PG&E's project team also worked diligently to ensure that the Participant Offer's conformed to the requirements of the RFO. Team members were in contact with the Participants within a day after submission of the Offers. PG&E's project team made every attempt to allow Participants to cure any deficiencies and conform their offers to RFO requirements within reason and subject to RFO requirements, in recognition of the short timeframe for preparing offers.

4 DESCRIPTION OF BID EVALUATION AND SELECTION METHODOLOGY

4.1 IDENTIFICATION OF PRINCIPLES FOR EVALUATING PG&E'S 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 Mid-Term Reliability RFO – Phase 2 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 included the following:

- Were the procurement targets, products solicited, principles and objectives clearly defined in PG&E's Mid-Term Reliability RFO – Phase 2 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 Mid-Term Reliability RFO - Phase 2 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 Mid-Term Reliability RFO – Phase 2 Solicitation Protocol Document and related Appendices provide a reasonable amount of information on which Participants could base their offers. The documents contain detailed information on the products sought, the information required of Participants for offer submission, contract provisions, proposal documents and offer forms.

PG&E held a Participants Webinar on April 26, 2022 attended by approximately 90 Participants to further describe the solicitation process. For the Phase 2 process, PG&E

did not hold a separate webinar for Participants to specifically review the offer form and information required of bidders but instead addressed information related to Offer Form Instructions in the Participants Webinar.

PG&E included Offer Forms for each of the products solicited including: (1) 3rd-Party Owned Offer Form for Zero Emitting resources; (2) 3rd-Party Owned Offer Form for Firm Zero Emitting resources; (3) 3rd-Party Owned Offer Form for Storage; and (4) Utility Ownership Offer Form for Storage (Build Own Transfer). Each of the Offer Forms was focused on information required for the specific resource type. The Offer Form also solicited information on the Participant, resource attributes and pricing, project description and operational characteristics, electrical interconnection information, developer experience, site control status, and project financing. PG&E did not include a review of the offer forms during the Participants Webinar. However, there were no questions submitted by participants regarding the offer forms, indicating that participants are now familiar with the offer forms used by PG&E, which have now been applied in several solicitations.

Overall, the IE concluded that the products solicited, procurement targets, protocol information and documents required to be provided with the offer were generally clearly defined and applied. PG&E also provided the IE with internal evaluation protocol documents for quantitative and qualitative factors prior to submission of Offers. PG&E also provided documentation to the IE with regard to the evaluation results that allowed the IE to fully review and verify the inputs for each offer and the outputs based on the assessment of specific cost and benefit categories for each offer.

PG&E generally followed its evaluation criteria and methodology in undertaking the evaluation of the offers. Furthermore, the methodologies applied to the different types of products were fair, reasonable and consistent and did not unduly bias any technologies or product types. Also, PG&E did apply consistent evaluation methodologies and models to the various proposals or project structures sought. The methodologies applied were consistent with the project structures evaluated as described in this section of the report.

To address the other issues identified, the IE will first present a detailed description of PG&E's bid evaluation methodology and process implemented by PG&E to undertake the Mid-Term Reliability RFO – Phase 2 evaluation process. 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 OVERVIEW OF PG&E'S LEAST COST BEST FIT EVALUATION METHODOLOGY

This section of the report provides an overall description of PG&E's bid evaluation methodology, procedures, and criteria applicable to the Mid-Term Reliability RFO – Phase 2 process. The methodology selected was designed to conform to the Least Cost Best Fit ("LCBF") procedures applied in other solicitations. For this report, the IE is

providing a general summary of the overall methodology and criteria used in the evaluation in this section of the report.

The solicitation protocol for the Mid-Term Reliability RFO – Phase 2 bid evaluation procedure and methodology states that PG&E will evaluate each offer using both quantitative and qualitative criteria, each of which has a corresponding internal protocol. The evaluation procedure protocol describes how to combine the criteria to determine the ranking and the shortlist.

The quantitative valuation compares an offer's cost to its benefits. The cost may consist of the contract fixed cost, variable cost, and transmission network upgrade costs. The benefits may consist of capacity value and energy value to the extent provided in the agreement. From a quantitative perspective, an evaluation will be performed on all offers by first calculating each project's Net Market Value ("NMV"). An Adjusted Net Market Value for each project will be measured in present value [REDACTED] and then projects will be ranked from highest to lowest.

The following describes the general evaluation process flow envisioned by PG&E for undertaking the evaluation process once the Evaluation Team commenced formal reviews of offers submitted¹⁵:

- All offers will be downloaded from PowerAdvocate. Offers utilizing the Utility Owned – BOT Agreement will be placed on a secure SharePoint site that will be assessed only by members of the Utility Ownership team;
- All offers will be reviewed to determine whether or not they meet the applicable eligibility requirements for consideration in the RFO. Conforming and non-conforming offers will be identified at this stage;
- Offers will be reviewed by the Solicitation Team and Utility Ownership team for an assessment of several Project Viability criteria and assigned a score. The review may consist of, but will not be limited to the following factors:
 - Counterparty Experience
 - Site Control
 - Equipment Availability
 - Electric Grid Interconnection status
 - Location

The review team conducting the viability assessment will provide qualitative results in the form of a [REDACTED].

¹⁵ PG&E's Evaluation Teams reviewed the offers when received to ensure the Participants provided the requested information and to identify any inconsistencies in the offer forms and other offer information. In addition, the Evaluation Team also identified cases where the data appeared inconsistent or where further clarification of the information was required. In such cases, PG&E contacted the Participants to seek to clarify or correct the data prior to conducting the offer evaluation process.

- A Net Market Value assessment will be performed on all Offers by comparing an Offer's costs to its benefits. Next, PG&E will include a Compliance Adder and a Portfolio Fit Adjustment to create an Adjusted Net Market Value. An Adjusted Net Market Value for each project will be measured in present value [REDACTED] and then projects will be ranked from highest to lowest within each procurement category.
 - PG&E noted that valuations will be updated if and when offers are updated during the negotiation process.¹⁶;
 - To develop the shortlist, PG&E will evaluate the results of the quantitative and qualitative scores for each project.
- After shortlisting, the following additional criteria will be considered before executing an agreement:
 - Adjusted Net Market Value (to account for changes in value which might occur during negotiations);
 - Project Viability;
 - Credit;
 - Agreement Modifications;
 - Safety;
 - Agreement Term and Initial Delivery Date;
 - Location in Disadvantaged Communities ("DACs").

4.3 DETAILED DESCRIPTION OF THE EVALUATION PROCESS

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 types of offers would be evaluated. In addition, this section includes a description of the input assumptions utilized for evaluation purposes.

4.3.1 Valuation Components Overview

PG&E's evaluation protocol specifies how the Market Valuation criterion will be applied to the individual offers received in the Mid-Term Reliability RFO – Phase 2. The protocol also includes confidential assumptions that will be used in shortlisting the Offers. These assumptions may be updated during the negotiation process after shortlisting.

In the solicitation process, a Participant submits an Offer detailing the costs and operational characteristics of the energy generation facility. For each Offer, NMV is calculated based on the summation of several components as follows:

Net Market Value: $NMV = E + A + C + R - (V + F + MC + T)$ where

¹⁶ PG&E classifies its negotiation and evaluation process as a "continually competitive process." This means that Participants can revise or lower pricing to become more competitive. PG&E will then value and rank offers based on the revisions to project pricing submitted by Participants.

C = Capacity Value
 E = Energy Value
 A = Ancillary Service (A/S) Value
 R = REC Value
 V = Variable Cost
 F = Fixed Cost
 MC = Metered Contract Cost
 T = Transmission Network Upgrade Cost

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

The [REDACTED] market curves will be used for shortlisting Offers received. Valuations may be refreshed with later curves after shortlisting.

4.3.2 Valuation Summary by Resource and Contract Type

Table 2 below summarizes the various products accepted for this RFO. PG&E prepared its evaluation methodologies to be consistent with the products and contract types requested as listed in Table 2 below:

Table 2: Phase 2 PG&E Mid-Term Reliability Solicitation Resource Needs

Procurement Category	Eligible Resource	Delivery Term (Years)	Minimum Size (MW)	Required Online Date
Zero-Emitting	Paired RPS and storage, Hybrid RPS and storage	10 or 15	10	By June 1, 2025
Firm Zero-Emitting	RPS-eligible Geothermal and Biomass	10 or 15	10	By June 1, 2026

Long Duration Storage	Pumped Hydro storage, Lithium-ion, Flow Battery, Compressed Air Energy Storage	10, 15, or 20 (UOG)	10	By June 1, 2024 (Battery), By June 1, 2026 (Other)
Any Other Type of Non-Fossil-Fueled Resource	Energy Storage	10, 15, or 20 (UOG)	10	By June 1, 2024

Table 3 describes the procurement category and resource type by contract agreement type.

Table 3: Agreement Types for Each Procurement Category

Procurement Category	Agreement Type
Zero-emitting, co-located and contractually paired	<ul style="list-style-type: none"> Zero-emitting term sheet and LTRAA with Energy Settlement Agreement
Zero-emitting hybrid	<ul style="list-style-type: none"> Zero-emitting term sheet and Hybrid zero-emitting compensation structure and LTRAA with Energy Settlement Agreement
Zero-emitting Demand Response	<ul style="list-style-type: none"> TBD
Firm Zero-emitting	<ul style="list-style-type: none"> Firm Zero-emitting term sheet
Long Duration Storage	<ul style="list-style-type: none"> LTRAA with Energy Settlement or Build Own Transfer term sheet (UOG)
Other non-fossil-fueled resources	<ul style="list-style-type: none"> LTRAA with Energy Settlement or Build Own Transfer term sheet (UOG)

For this RFO, PG&E is seeking offers for the purchase of eligible system resource adequacy (“RA”) to come online by June 1, 2024, June 1, 2025 (500 MW), and June 1, 2026 (400 MW). The Decision requires PG&E to procure at least 2,302 MWs of additional NQC. To meet the CPUC’s requirements, PG&E solicited a Mid-Term Reliability Phase 1 solicitation process that resulted in the procurement of approximately 1,600 MW (although not all contracts executed have been successful). For the Phase 2 process, PG&E is seeking about 900 MW minimum in total to fulfill its remaining obligation.

Table 4 below provides a summary of the NMV components for each agreement type along with a description of how the various components are applied.

Table 4: Valuation Summary by Agreement Type

Resource/Contract Type	Components	Explanation
RPS Agreement Type ¹⁷	The NMV includes the components: $NMV = E + C + R - (V + MC + T)$	[REDACTED]
Resource Adequacy with Energy Settlement ¹⁸	$NMV = E + C - (F + T)$	
Utility Owned EPC Agreement	$NMV = E + A + C - (V + F + T)$	

For the Zero-Emitting Hybrid category offers, the valuation consists of a combination of valuing RPS type contracts and RA with Energy Settlement type of contract.

4.3.3 Valuation Components

The following sections describe in more detail how the costs and benefit values of each component are included for each Agreement type.

4.3.4 Energy Value

As noted above, [REDACTED]

For RPS contracts, [REDACTED]

For Long-Term RA Agreements with Energy Settlement, [REDACTED]

¹⁷ This includes Zero-emitting Co-located and Contractually Paired, Zero-emitting hybrid, Firm Zero-emitting, Long-duration storage, and other non-fossil-fueled resources.

¹⁸ Includes the same resource types included in footnote 15 above.

For utility-owned projects, [REDACTED]

Similarly, [REDACTED]

4.3.5 Capacity Value

The Capacity Value component is applicable for all Product types listed in Table 2. Capacity value is the net present value of monthly capacity values across all months during the delivery period.

[REDACTED] Given ongoing Commission activity on RA reform and Energy Division work on ELCC values, these values are likely to change as more information becomes available.

4.3.6 Ancillary Service (A/S) Value

To the extent that the resource is certified by CAISO to provide Regulation and/or Spin,

[REDACTED]

The amount of energy and A/S delivery

[REDACTED]

For Renewable and Zero Emission resources,

[REDACTED]

4.3.7 REC Value

The REC Value

[REDACTED]

4.3.8 Fixed Cost

Fixed Cost for RA or RA with Energy Settlement Contract Type represents the total fixed contract payment.

[REDACTED]

For Utility-Owned Generation BOT product,

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

4.3.9 Variable Energy Cost for RPS Contracts

The Energy Cost [REDACTED]

4.3.10 Metered Contract Cost for RPS Contract Type

The Metered Contract Cost [REDACTED]

4.3.11 Transmission Network Upgrade Costs

This component is applicable for all product types.

For all offers that have network upgrade cost estimates in their submitted interconnection documentation, PG&E uses the network upgrade cost included in the interconnection study to determine the transmission network upgrade cost adder. [REDACTED]

[REDACTED]

4.3.12 Adder Hedge Value and Adjusted Net Market Value

The following adders are added to the NMV to create the final Adjusted NMV. The final ranking of the projects is based on the Adjusted NMV. The projects are ranked within each procurement category.

4.3.13 Compliance Adder

The IRP mandate is a compliance requirement for PG&E. [REDACTED]

[REDACTED]

4.3.14 Portfolio Fit Adjustment

The Portfolio Fit Adjustment is intended to adjust the value of offers for how well they fit within the hourly profile of PG&E's bundled portfolio. [REDACTED]

[REDACTED]

4.3.15 Input Assumptions

An important aspect of the offer evaluation process is the development of input assumptions to use in the evaluation of the Participant's pricing formulas and other evaluation parameters. The key input prices for the evaluation include RA price curves and hourly energy prices. This includes the following components:

[REDACTED]

4.3.16 Qualitative Factors – Project Viability

In addition to the quantitative factors previously discussed, PG&E proposed to evaluate each offer using qualitative attributes to assess project viability as well. 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 experience and track record, project schedule/critical path, etc.). For assessment of the qualitative criteria, PG&E proposed to use subject matter experts to review and evaluate the offers relative to their criteria of expertise. PG&E applies project viability criteria to both third-party projects as well as Utility-Owned projects which may vary based on the nature of the projects being contracted. A brief description of the qualitative factors to be considered for third-party offers and utility-owned generation offers is provided below.

4.3.17 Third-Party Offer Qualitative Assessment

PG&E may use any of the nine assessment criteria below to evaluate a project. PG&E proposed to develop a single composite rating for Project Viability based on the criteria listed below and any additional relevant project information. Applicable criteria include: (1) Financing/Credit - PG&E may evaluate the financial viability of an offer; (2) Environmental Characteristics - PG&E may also evaluate the environmental characteristics and environmental impacts of a project; (3) Development Plan – PG&E may evaluate the development plan of a project including site control and access, commercial viability of the technology, availability of equipment, reasonableness of the project schedule and interconnection status; (4) Safety – PG&E may screen project proposals to assess whether there are safety risks associated with their particular technology; (5) Prior Experience – PG&E may consider previous adverse commercial experience with a Participant; and (6) Disadvantaged Communities – PG&E may give preference to projects located in Disadvantaged Communities with similar quantitative rankings to projects not located in DACs; (7) Location – PG&E may give preference to projects located in PG&E’s service territory; (8) Agreement or Term Sheet Modifications – PG&E may consider a project to be non-viable if they submit significant Agreement or Term Sheet redlines that reduce the likelihood of reaching a commercial agreement or greatly extending the timeline and work required to reach a commercial agreement; and (9) Supply Chain Responsibility Status – PG&E may consider a Participant’s status as a small business when evaluating each Offer. Participants that identify themselves as a small business must be certified as a small business by the Small Business Administration or the California Department of General Services in order to be considered under this qualitative criterion

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

The inputs to determine scoring in these categories are provided in the Offer Form (Appendix A1 – A4) and Supplemental Project Information (Appendix B).

4.3.18 Utility-Owned Generation Qualitative Assessment

For utility-owned generation options, PG&E proposed to undertake a phased approach for the qualitative evaluation.

In the initial screening phase, PG&E considers two factors:

1. Eligibility – the eligibility review will determine if the submittal has met the primary intent of the RFO. This includes whether the project meets eligibility requirements associated with project size and connection criteria, and meets the timelines and other administrative conditions of the RFO. [REDACTED]
2. Technology and Safety – this review evaluates the technology proposed to determine its viability, reliability and safety under the conditions of the RFO. PG&E would also determine if the technology is acceptable to PG&E for ownership. [REDACTED]

Projects that pass the above two initial evaluation screens would then be comprehensively evaluated using the balance of the scoring criteria including environmental assessment, siting criteria, permitting, and contractor safety.

PG&E will then develop a single composite score for Project Viability based on the status and plans for key project activities. The qualitative criteria evaluated at this stage includes:

- Technology – is the energy storage technology component a single commercially proven energy storage technology type from a manufacturer regularly engaged in the manufacture, assembly, start-up, and service of the Energy Storage System in the US for a minimum of two years. In addition, technology relevant experience of the Participant, constructability of the project, operations history, and complexity of the storage system;
- Safety – initial review of technology safety as well as a review of contractor/developer safety records;
- Permitting, Environmental and Site Control (for BOT only) – risk of not achieving COD or jeopardizing continued operation of the facility, as a result of permitting, environmental or site control issue not being sufficiently addressed;
- Schedule – risk of schedule slippage including timing for interconnection, permitting and other governmental reviews (input from environmental team), financing, construction and commissioning time expectations;
- Financial Status of Bidder – PG&E will evaluate the Offer’s construction and term financing viability.

Similar to third-party proposal evaluation, [REDACTED]

All inputs are provided by the Participants in response to the information requested in the Protocol for each type of offer. This includes Offer Form (Appendix A4), Project Description (Appendix B), Organizational and Finance Information (Appendix B), Project Milestone Schedule (Appendix B), Experience Qualifications (Appendix B), Organizational and Finance information (Appendix B), Utility Ownership Additional Information (Appendix B), and comments to the Utility Ownership Term Sheets.

4.4 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.

As Merrimack Energy has noted throughout this report, 



In addition, 



4.5 EVALUATION OF THE STRENGTHS AND WEAKNESSES OF PG&E'S METHODOLOGY

As noted, PG&E did develop an internal evaluation methodology and protocol for the Phase 2 process that was designed to identify how resources in each of the categories would be evaluated. Merrimack Energy reviewed and commented on the internal evaluation protocol and methodology. For the standalone battery energy storage and utility-owned generation options the methodology is consistent with previous solicitations. PG&E has developed a methodology for evaluating the eligible offers received in response to the Mid-Term Reliability RFO – Phase 2 that generally includes all resource options in terms of resource eligibility. PG&E included a combination of existing methodologies used in previous solicitations as well as expansion to traditional methodologies to address the requirements of this solicitation. Since the solicitation is seeking Resource Adequacy capacity, the focus on the evaluation methodology is designed to assess the cost and benefits of each offer. Furthermore, since the two

contracts executed which are the subject of this Advice Letter were for energy storage options from a third-party, [REDACTED]

4.5.1 Strengths of Evaluation and Ranking Methodology

The following represents the IEs perspective regarding the strengths associated with the evaluation and ranking methodology implemented by PG&E for the products selected through this initial Advice Letter regarding the Mid-Term Reliability RFO – Phase 2 which is primarily seeking RA capacity with energy settlement from two standalone energy storage projects. These include:

- The methodology used by PG&E takes into consideration all reasonable costs and benefits associated with the various types of offers, project structures, and contract structures. Since PG&E is seeking RA capacity, the evaluation methodology is relatively straightforward with few cost and benefit components (although the Long-Term RA with Energy Settlement agreement adds complexity to the evaluation process but has been tested in other solicitations);
- The overall evaluation methodology is capable of effectively and consistently evaluating a range of different types of resources, project structures with different terms, product sizes, and operating parameters;
- PG&E uses consistent input assumptions for undertaking the evaluation of all offers;
- PG&E's offer forms were transparent and interactive with drop down menus for a number of fields. The structure of the offer forms served to reduce or eliminate errors in completing the offer forms;
- PG&E developed an internal integration model to compile all input and output data for each of the Offers and provides a detailed summary of the components of the costs and benefits for each Offer, on a monthly basis including nominal and discounted dollars, and provides other pertinent data for each offer to allow the IE to undertake a detailed review of the evaluation results for each offer. The model is structured to allow the IE to key in an offer number for each offer and the input and output data for each offer requested is provided for review and assessment. This model has proven to be a very valuable tool to allow the IE to easily and quickly assess the reasonableness of PG&E's evaluation results and to identify any questions or comments about the results;
- PG&E's evaluation methodology is consistent with Least Cost Best Fit principles by incorporating quantitative and qualitative factors to determine a shortlist of projects;

- PG&E prepared detailed internal evaluation protocol documents that clearly describes the evaluation methodologies and criteria, which facilitates review by the IE;
- The key inputs and assumptions (i.e., capacity price forward curve, discount rate, and a forward curve for power prices) were locked down prior to receipt of offers, which serves to minimize any potential evaluation bias.

4.5.2 Weaknesses of the Evaluation and Ranking Methodology

Based on the historical evolution of the evaluation methodology over several similar solicitations undertaken by PG&E, Merrimack Energy has raised only a few minor potential weaknesses.

- While not a defined weakness at this point since PG&E has continued to execute energy storage contracts for RA with Energy Settlement as a tested and reasonable methodology, but bidders are asking more questions about the implementation of the energy settlement methodology to address questions by lenders. Merrimack Energy is not certain about the acceptance of the application of the energy settlement methodology to other storage options, including long-duration storage or other technologies as well as the application of the methodology for Zero-Emitting resources. Merrimack Energy intends to address the strengths and weaknesses of the methodology as applied to these different resources in future Advice Letter filings for such resources;
- PG&E may want to consider if it should provide a signal to Participants if PG&E has any preferences related to offer selection or contract structure. For example, if PG&E prefers shorter term offers (i.e., 10 years as opposed to 15 years) perhaps it should state so in the Protocol document;
- Alternatively, if PG&E intends to select a portfolio of resources and contract types to hedge risk, Participants should probably be informed of this consideration;

4.6 FUTURE LCBF IMPROVEMENTS

There are several issues that should be considered as potential future improvements in the evaluation and ranking process for future solicitations of this nature¹⁹. These include:

- The IE feels that although the [REDACTED] to ranking offers on a qualitative basis is reasonable, we feel there should be consideration given to increasing the weighting of qualitative factors or adding “teeth” to the use of qualitative factors in the ranking and selection of offers. Merrimack Energy feels

¹⁹ Given the CPUC specified requirements regarding the amount of MWs to be targeted by each utility, the IE viewed project viability and critical path schedule for each proposal to be a critical element associated with project success and risk.

this is particularly important given the current state of the power market with the number of outstanding issues and risks which can either serve to delay or totally derail a project. More detailed scoring factors and scoring systems, such as scoring relative to the highest and lowest performance on a given factor, can be developed and fully disclosed in the RFP documentation. In this way, bidders' pre-bid efforts could be concentrated on qualitative factors important to PG&E to ensure with a higher probability that the project will be successful in meeting the target online date. Instead, the IE's impression was that [REDACTED]

[REDACTED] Alternatively, PG&E could establish thresholds that all offers would have to meet. The IE would expect that as more new projects are proposed, qualitative criteria will be more important for screening out non-viable or risky projects, that would have little chance of meeting the proposed online date;

- While it is challenging to undertake a reasonable project viability assessment for all offers submitted outside the general approach undertaken by PG&E to identify any potential fatal flaws, it may be worthwhile to include a more formal and detailed project viability assessment prior to shortlisting, particularly if a number of the projects selected through this solicitation fail to go forward;
- The timing of interconnection for recent Cluster processes [REDACTED]
- The IE noted in [REDACTED]

4.7 ADDITIONAL INFORMATION OR OBSERVATIONS REGARDING PG&E'S EVALUATION METHODOLOGY

No additional information or observations are provided.

5 ADMINISTRATION OF THE MID-TERM RELIABILITY PHASE 2 SOLICITATION PROCESS

In performing its oversight role, the IE participated in and undertook a number of activities in connection with the Mid-Term Reliability RFO – Phase 2 including reviewing the RFO documents, participating in conference calls with the PG&E project teams, participating in the Participants Webinar, participating in discussions on the offer submission

templates, evaluation methodology and selection process, organizing and summarizing the offers received, reviewing and commenting on the evaluation and selection process and results at each step of the process, and participating in calls with bidders (including shortlisted bidders) throughout the evaluation, selection and negotiation processes.

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 Mid-Term Reliability - Phase 2 solicitation process are described below.

5.1 ISSUANCE OF THE MID-TERM RELIABILITY RFO – PHASE 2

PG&E launched its Mid-Term Reliability RFO – Phase 2 solicitation on April 15, 2022. PG&E announced issuance of the RFO on April 13, 2022 via an email blast to its contact list. The email distributed identified the web address for the Mid-Term Reliability RFO – Phase 2 and also provided information on the products requested, schedule for launch of the RFO on April 15, 2022 and provided a link to the CPUC Mid-Term Reliability Procurement Decision.

PG&E followed up with an announcement on April 15, 2022 announcing the issuance of the Mid-Term Reliability Phase 2 Request for Offers. The notice identified the products and timeframe for the resources to be on-line, the specific website for the RFO²⁰, the due date for submitting offers, and information on the Participants' Webinar on April 26, 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 submitted the comments to the PG&E project lead.

The RFO Protocol document originally issued on April 15, 2022 was subsequently revised and updated and reposted to the website on August 4, 2022 with revisions to the section on Shortlist Offer Deposit, which was eliminated. The schedule for submission of offers was fairly compressed with Participants having approximately six weeks to submit an offer.

The Solicitation Protocol provided an overview of the RFO including the solicitation goals, project types/agreements, eligibility requirements, and submission requirements. The RFO also contained several appendices, several of which Participants had to submit as part of their proposal. The Appendices noted below were posted to the RFO Phase 2 webpage. Appendices included:

- Appendix A1 – 3rd Party Owned Offer Form – Zero Emitting Resources
- Appendix A2 – 3rd Party Owned Offer Form – Firm, Zero Emitting Resources
- Appendix A3 – 3rd Party Owned Offer Form - Storage
- Appendix A4 - Utility Ownership Offer Form - Storage
- Appendix B – Supplemental Project Information

²⁰ The website address for the solicitation is www.pge.com/midtermrfo-phasetwo.

- Appendix C – FERC Order 717
- Appendix D1 – 3rd Party Owned Confidentiality Agreement
- Appendix D2 – Utility Owned Confidentiality Agreement Appendix E1 – Zero Emitting Generation Term Sheet
- Appendix E2 – Hybrid Zero Emitting Generation Term Sheet
- Appendix E3 – Firm Zero Emitting Generation Term Sheet
- Appendix E4 – Long Term Resource Adequacy Agreement with Energy Settlement
- Appendix E5 – Term Sheet for Utility Owned Build Own Transfer Agreement
- Appendix E6 – Term Sheet for Long Term Performance and Maintenance Agreement
- Appendix G1 – Letter of Credit
- Appendix G2 - Request for Taxpayer ID (W-9) Form
- Appendix H – Safety Review Questionnaire

PG&E used two websites for the Mid-Term Reliability RFO – Phase 2. PG&E maintained a webpage on its company website devoted to the Mid-Term Reliability RFO – Phase 2. The webpage contained information to assist bidders primarily on the front-end of the solicitation process including RFO documents, PowerAdvocate Registration information and instructions, Participant’s Webinar information, and contact information for the RFO to allow Participants to seek information or ask questions about the Mid-Term Reliability RFO – Phase 2.

PG&E also utilized the PowerAdvocate Platform, which was used as a repository for the bidders to submit their proposals. PG&E established four separate Events on PowerAdvocate – one for Utility-Owned Storage offers, one for 3rd Party Owned Storage offers, one for 3rd Party Owned Firm, Zero Emitting resources, and a fourth for 3rd Party Owned Zero Emitting resources. This served to ensure that Participants could only have access to the Event for which they registered and served to ensure that the team associated with the Utility-Owned resources would have no access to third-party offer information.

5.2 PARTICIPANT’S WEBINAR

PG&E held its Participants Webinar for the Mid-Term Reliability RFO – Phase 2 on April 26, 2022. The IE called into and monitored the Webinar. Topics addressed at the Webinar included:

- Solicitation Schedule;
- Role of the Independent Evaluator;
- Overview of CPUC Decision 21-06-005;
- Overview of the Solicitation;
- Eligibility Requirements;
- Overview of the Agreements;
- Offer Submittal;
- Q&A;

A total of approximately 63 individuals attended the Participants Webinar.

5.3 QUESTIONS & ANSWERS

PG&E did not include a separate Frequently Asked Questions document on the webpage since there were no questions asked during the Participants conference and subsequent to the Participants Conference.

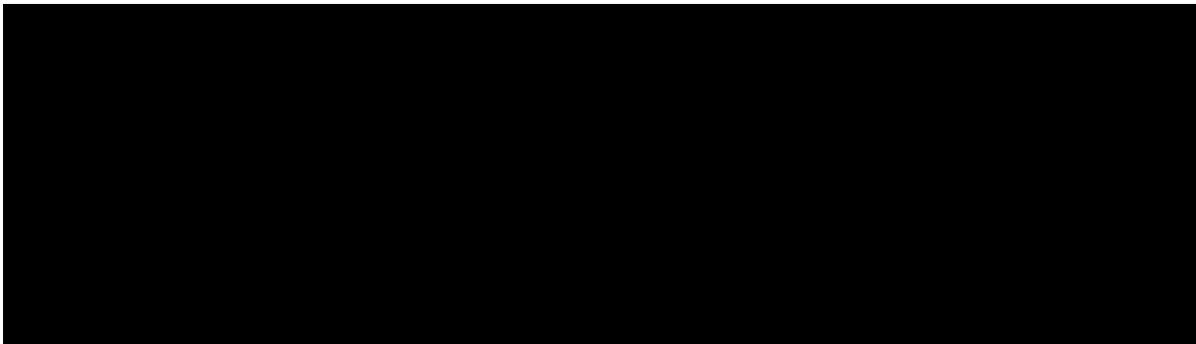
5.4 REVIEWED AND COMMENTED ON INTERNAL EVALUATION PROTOCOLS AND EVALUATION METHODOLOGY

The IE had the opportunity to review the draft RFO Internal Evaluation Protocols and Evaluation Methodology²¹ for the Mid-Term Reliability RFO - Phase 2 process prior to submission of offers and provided comments and questions to PG&E associated with the draft evaluation protocols. The IE had limited comments since the protocol document and evaluation methodology were similar to the recent PG&E System Reliability RFOs for which Merrimack Energy served as IE. Merrimack Energy did have a few questions regarding the basis for the capacity values for the various resource options and the inclusion of the compliance adder used in the evaluation.

5.5 RECEIPT OF OFFERS – JUNE 1, 2022

The deadline for PG&E to receive offers was June 1, 2022. 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, operational information, commercial and other pertinent information associated with each offer. For third-party offers, PG&E received a total of 59 offer variations from twenty counterparties, representing thirty-one unique projects, with a total capacity offered of 4,553 MW.

Table 5: Summary of the Projects by Product Type Requested.



²¹ This included the Market Valuation Protocol, Mid-Term Reliability RFO – Phase 2 Evaluation Procedure, Mid-Term Reliability RFO – Phase 2 Evaluation Protocol – Qualitative Attributes (Project Viability), and 2022 Mid-Term Reliability Phase 2 Energy Storage Evaluation Protocol – Qualitative Attributes Project Viability – UOG.

[REDACTED]

PG&E received offers for a range of products, Stand-Alone Energy Storage, 3rd Party Zero Emitting resources [REDACTED], 3rd Party Firm Zero Emitting resources [REDACTED], and Utility-Owned BESS, and contract structures (i.e., Long-Term RA Agreement, Long-Term RA Agreement with Energy Settlement, and Utility-Owned EPC Agreement).

The response to the Mid-Term RFO Phase 2 solicitation was [REDACTED], with [REDACTED] than in the Mid-Term Reliability RFO - Phase 1 process. Merrimack Energy was particularly [REDACTED]. In every All Source RFO or Renewable RFO for which Merrimack Energy has served as IE recently, the predominant resource type is [REDACTED]. In addition, the Commission has mandated a substantial amount of generation requirements in California which should have elicited a robust response. Merrimack Energy speculates that the reason for the [REDACTED] market response was attributed to regulatory uncertainty driven by the US Department of Commerce anti-dumping and solar tariff circumvention investigation. In addition, constrained supply chains for generating equipment due to covid and the war in Ukraine along with inflationary pressures has resulted in equipment shortages and higher prices. Also contributing to [REDACTED] for generation resources are increases in commodity and input costs to assemble the projects along with higher freight costs, and higher interest rates which affect the cost of borrowing. All these factors have come together at the same time to create a challenging procurement environment market by [REDACTED]

[REDACTED]

The IE and PG&E team initially reviewed the offers for conformance with eligibility requirements and completeness of the offers. Several projects did offer [REDACTED]. For some resource options, [REDACTED]

[REDACTED]

Appendix A to this report contains a summary list of all offers submitted into the Mid-Term Reliability RFO – Phase 2.

As illustrated in Appendix A, [REDACTED]

[REDACTED]

5.6 COMMUNICATIONS WITH BIDDERS

Upon receipt of the offers, the PG&E Mid-Term Reliability RFO – Phase 2 team began to review the offers submitted and identified either information that was missing from an



offer, errors in submission, or sought clarification regarding information included in the offers. The initial round of communications to conform offer requirements took place within a few days after offer submission.

PG&E submitted questions to bidders with clarifying questions relating to missing information in the offer form, operational characteristics, site control documentation, interconnection details, etc.

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.

No offers were initially classified as non-conforming.

5.7 MEETING WITH IE REGARDING POTENTIAL SHORTLIST RECOMMENDATIONS

On July 1, 2022, the PG&E project team held a meeting with Merrimack Energy to discuss the Mid-Term Reliability - Phase 2 Offers and PG&E's thoughts on shortlist selection and strategy. PG&E also updated the IE on the Mid-Term Reliability - Phase 1 renegotiation process. At the beginning of the meeting, PG&E provided the PRG with a high-level summary of the results of the Phase 1 and Phase 2 processes. PG&E identified the key takeaways as follows:

[REDACTED]

²² PG&E executed 9 contracts for lithium-ion batteries in Phase 1 of this process totaling 1,548 MW. [REDACTED]

[REDACTED]

PG&E also described the amount of offers bid into each category along with issues associated with some of the offers received and provided suggested recommendations for going forward. PG&E and the IE also reviewed the lists of projects offered in each category to ensure all offers were accounted for. Table 6 provides Merrimack Energy’s summary of the information provided by PG&E regarding initial thoughts and consideration for shortlist selection.

Table 6: Shortlist Selection Proposals by PG&E

Category	Need (MW)	Bids Received	Issues	Recommendations
Firm Zero Emitting	[REDACTED]			
Zero Emitting				
Energy Storage				

PG&E presented its recommended next steps to the IE as follows:

[REDACTED]

[REDACTED]

The IE mentioned

[REDACTED]

Merrimack Energy inquired about the quantitative evaluation results underlying shortlist selection

[REDACTED]

5.8 PRG MEETING – OFFER SUMMARY AND SHORTLIST SELECTION

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

[REDACTED]

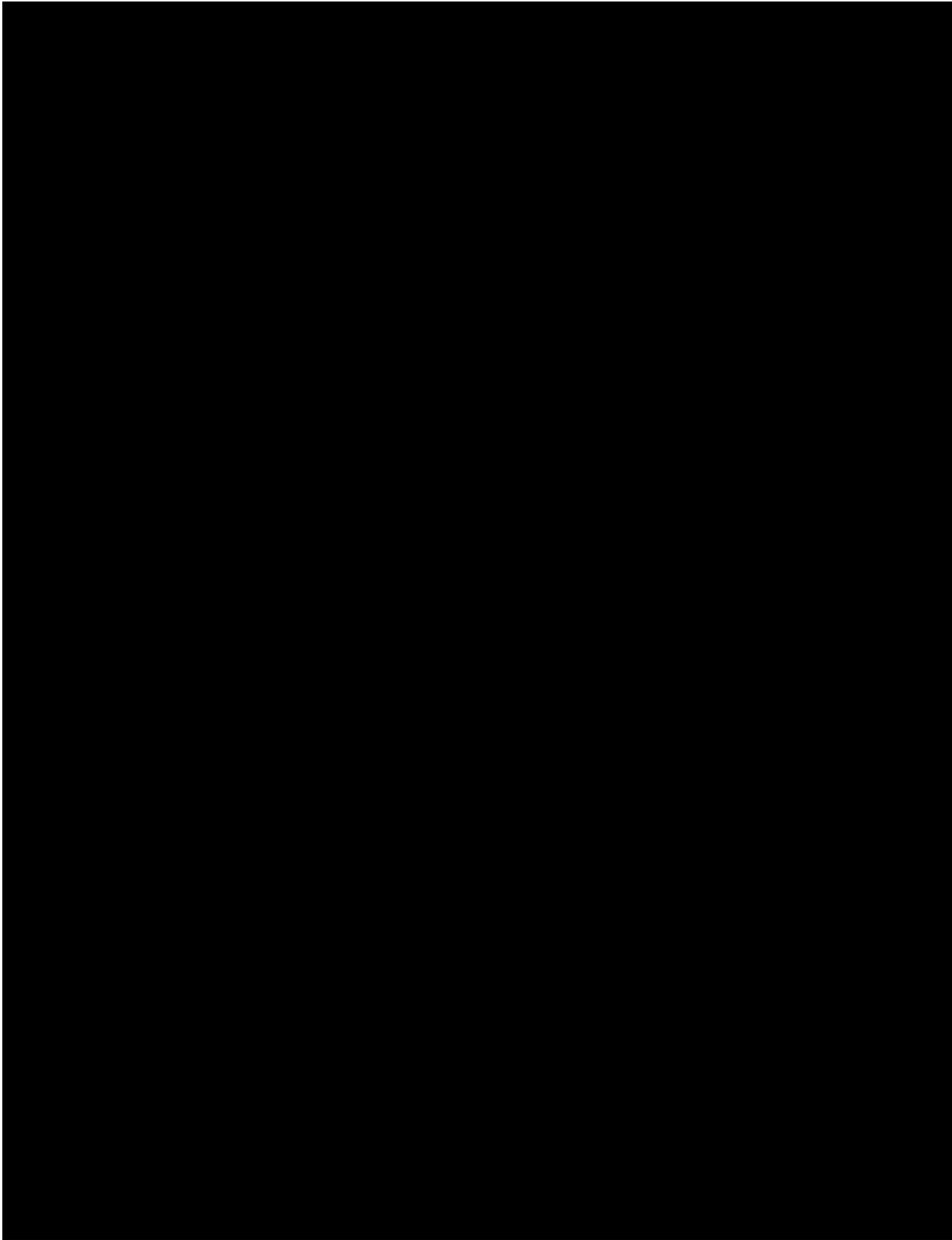
[REDACTED]

[REDACTED]

25

26

[REDACTED]



[REDACTED]

[REDACTED]

5.9 NOTIFICATION TO BIDDERS

On July 7, 2022 PG&E notified the shortlisted bidders of their status in the Mid-Term Reliability RFO – Phase 2 solicitation process. PG&E notified Participants who had projects selected for the shortlist.

[REDACTED]

5.10 INITIATION OF CONTRACT NEGOTIATIONS

PG&E scheduled initial meetings with shortlisted Participants beginning late in July, 2022 to discuss their projects and the next steps in the negotiation process.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

5.11 CONTRACT NEGOTIATION BETWEEN PG&E AND RWE

[REDACTED]

5.12 FINAL CONTRACT

[REDACTED]

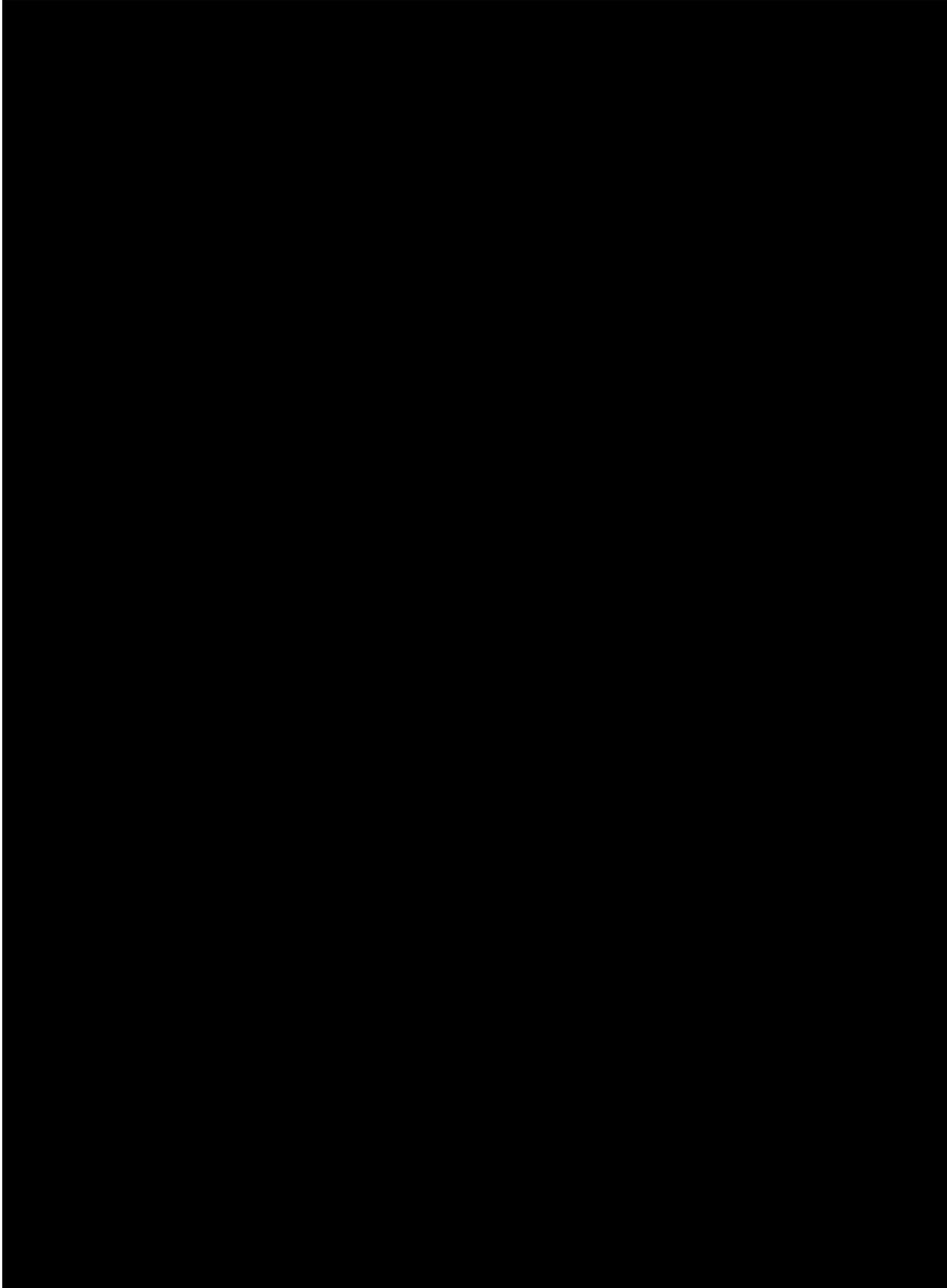
[REDACTED]

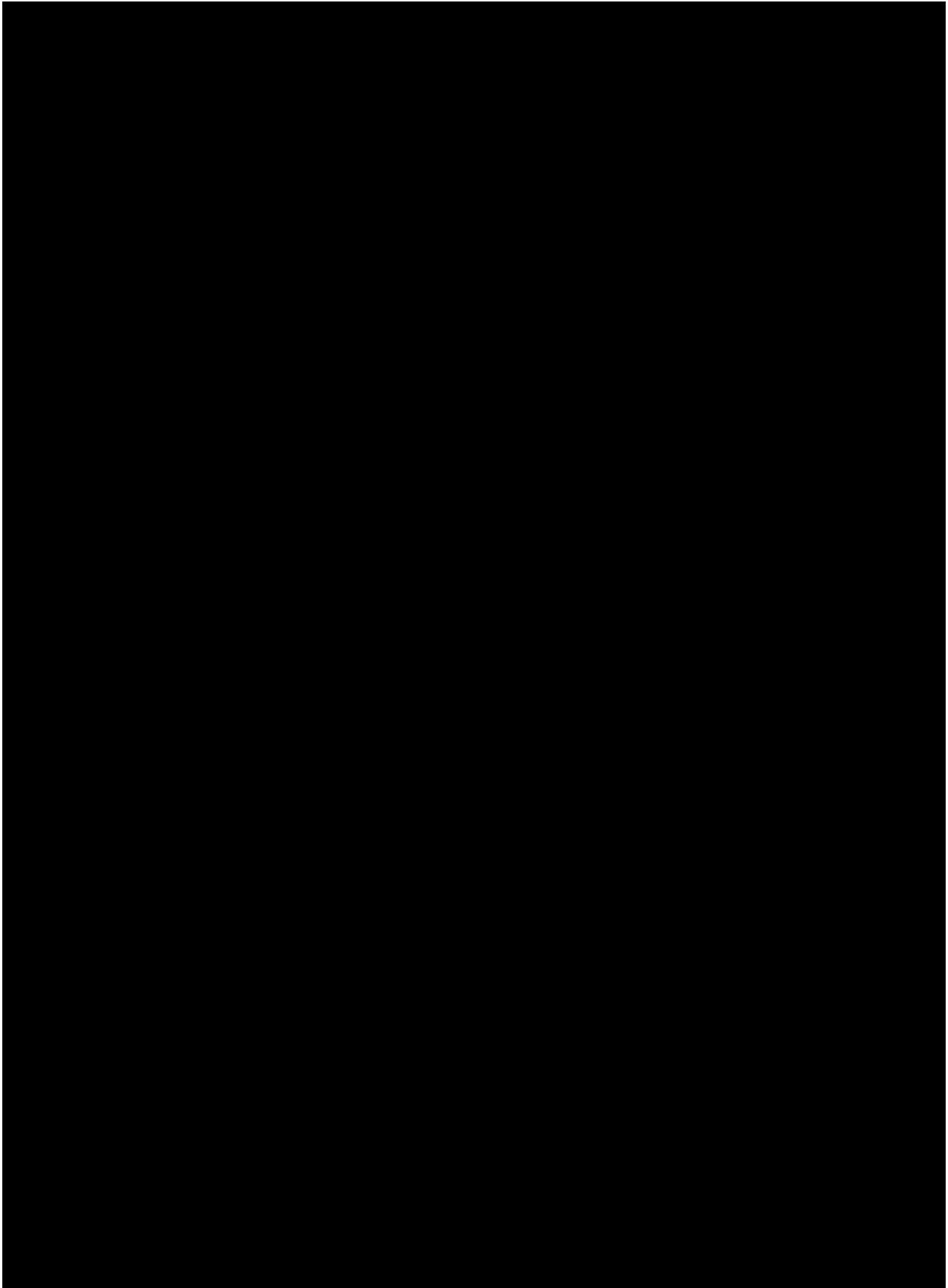
[REDACTED]

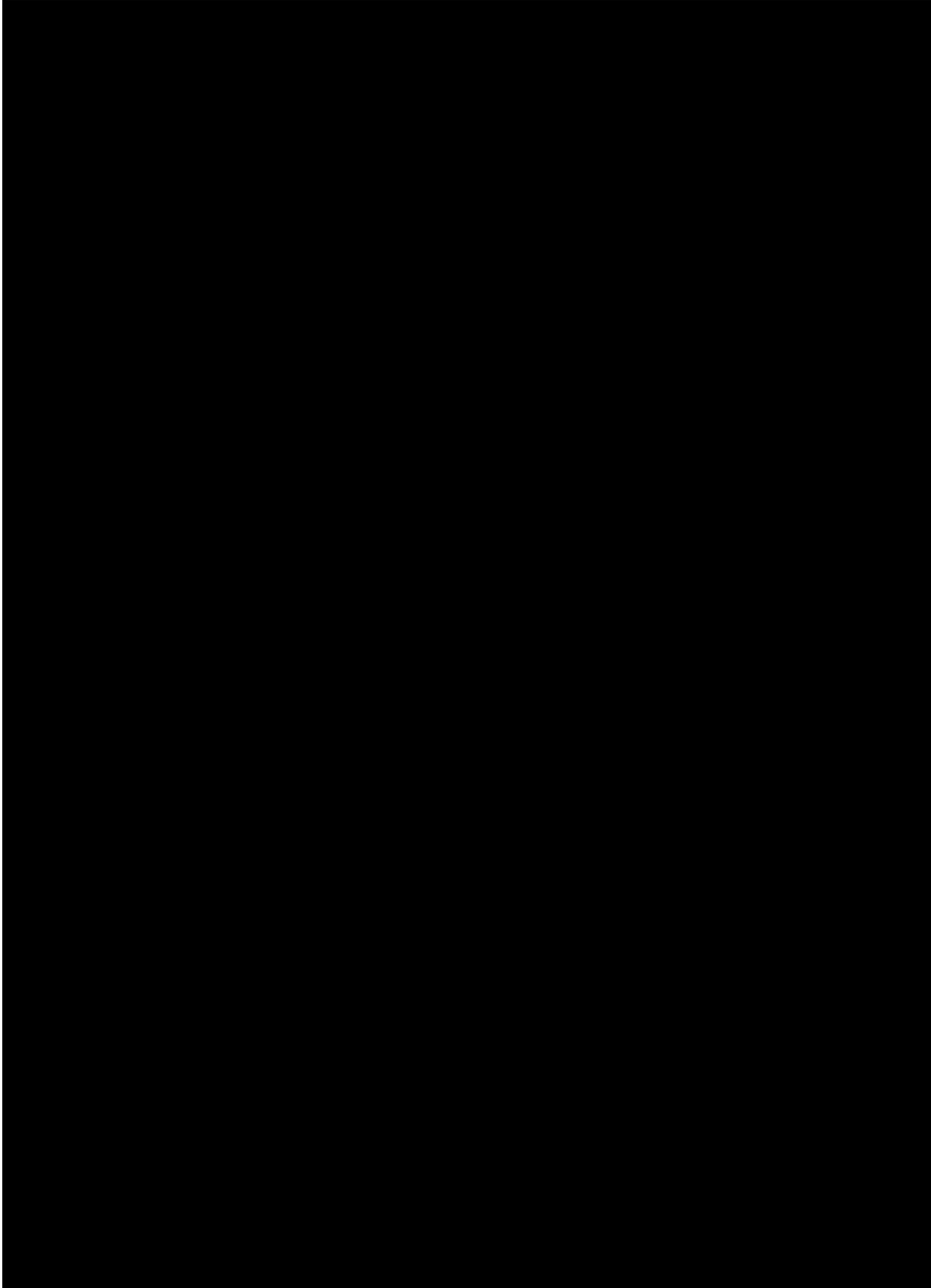
[REDACTED]

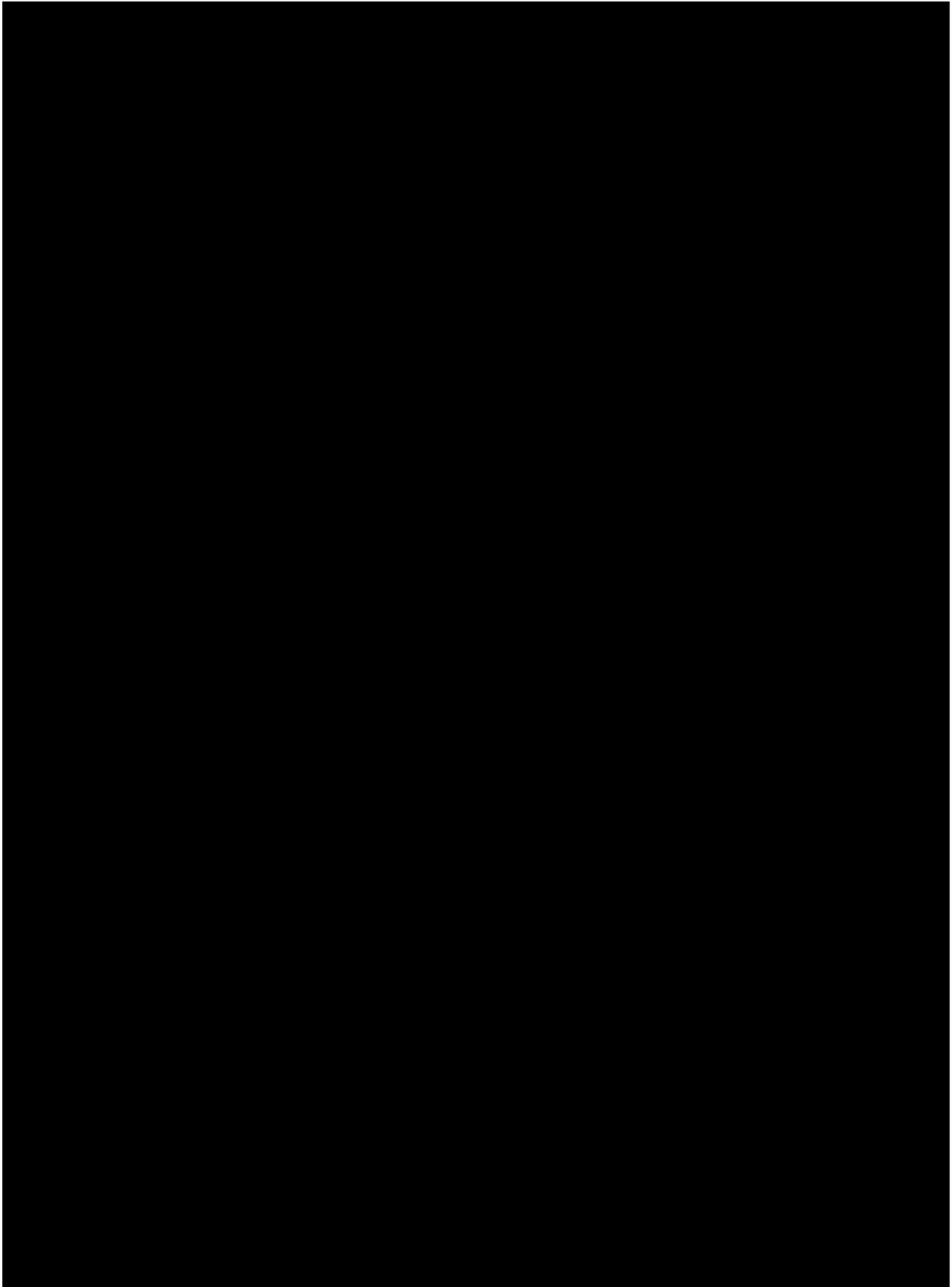
[REDACTED]

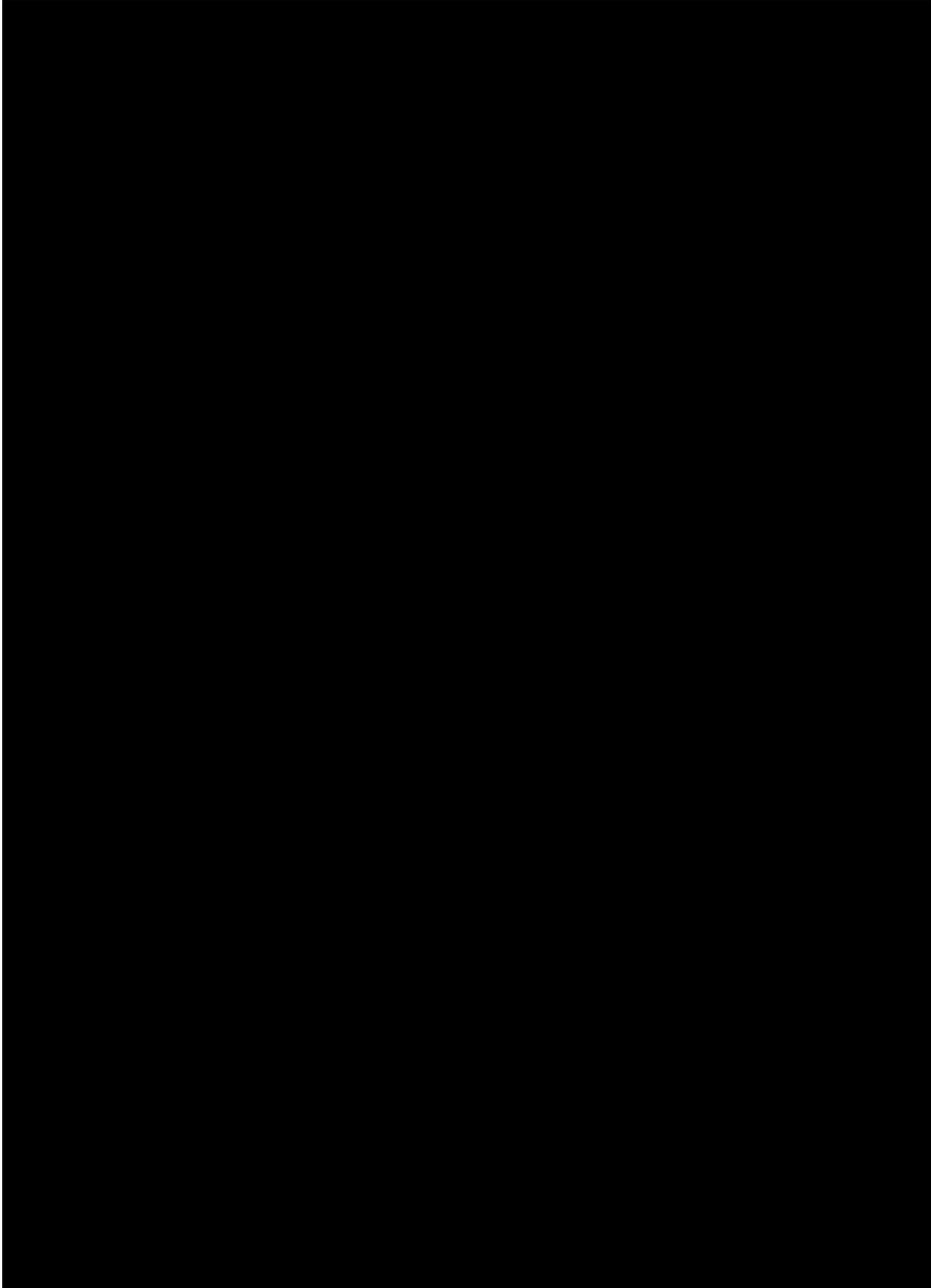
[REDACTED]

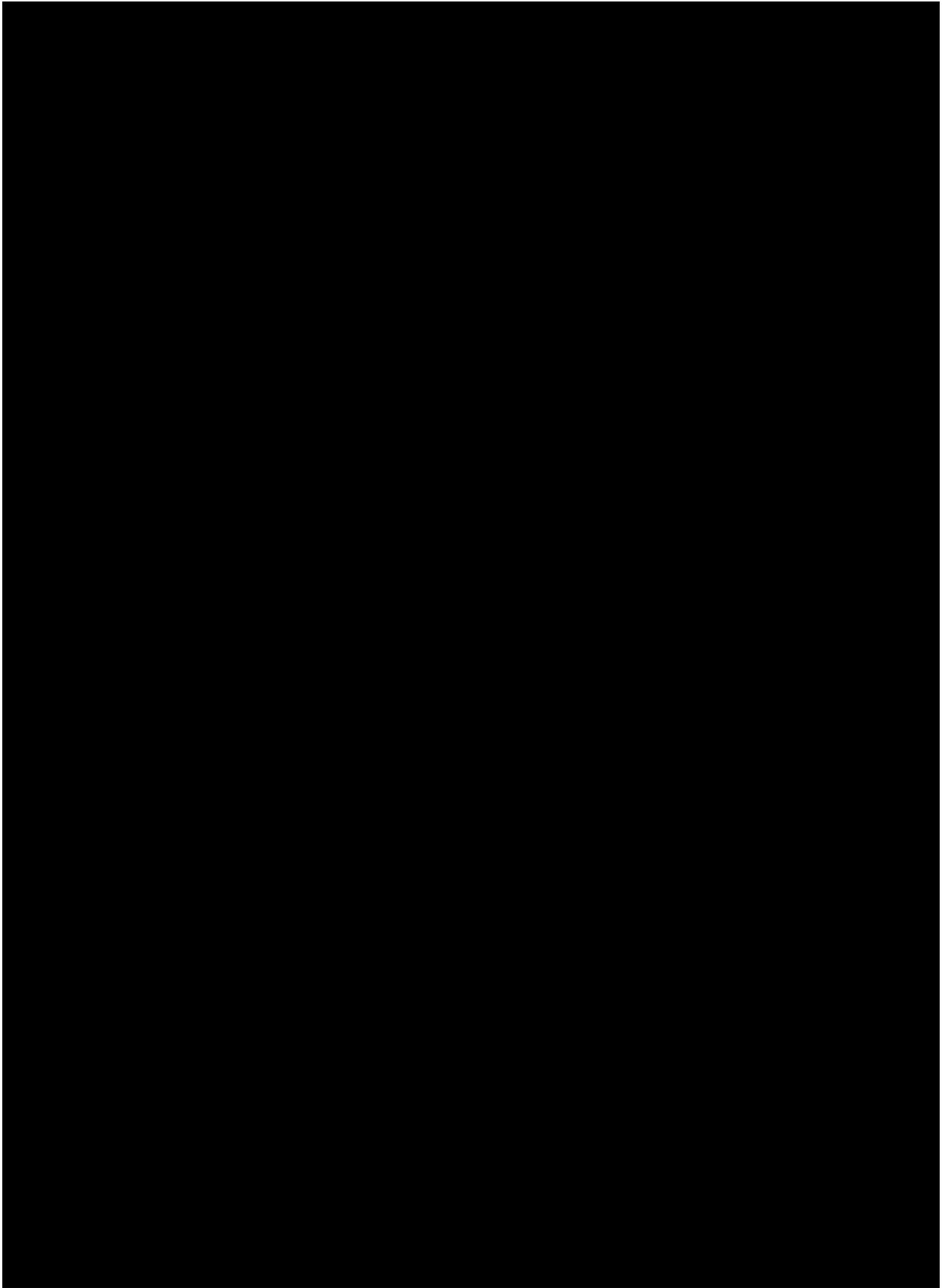


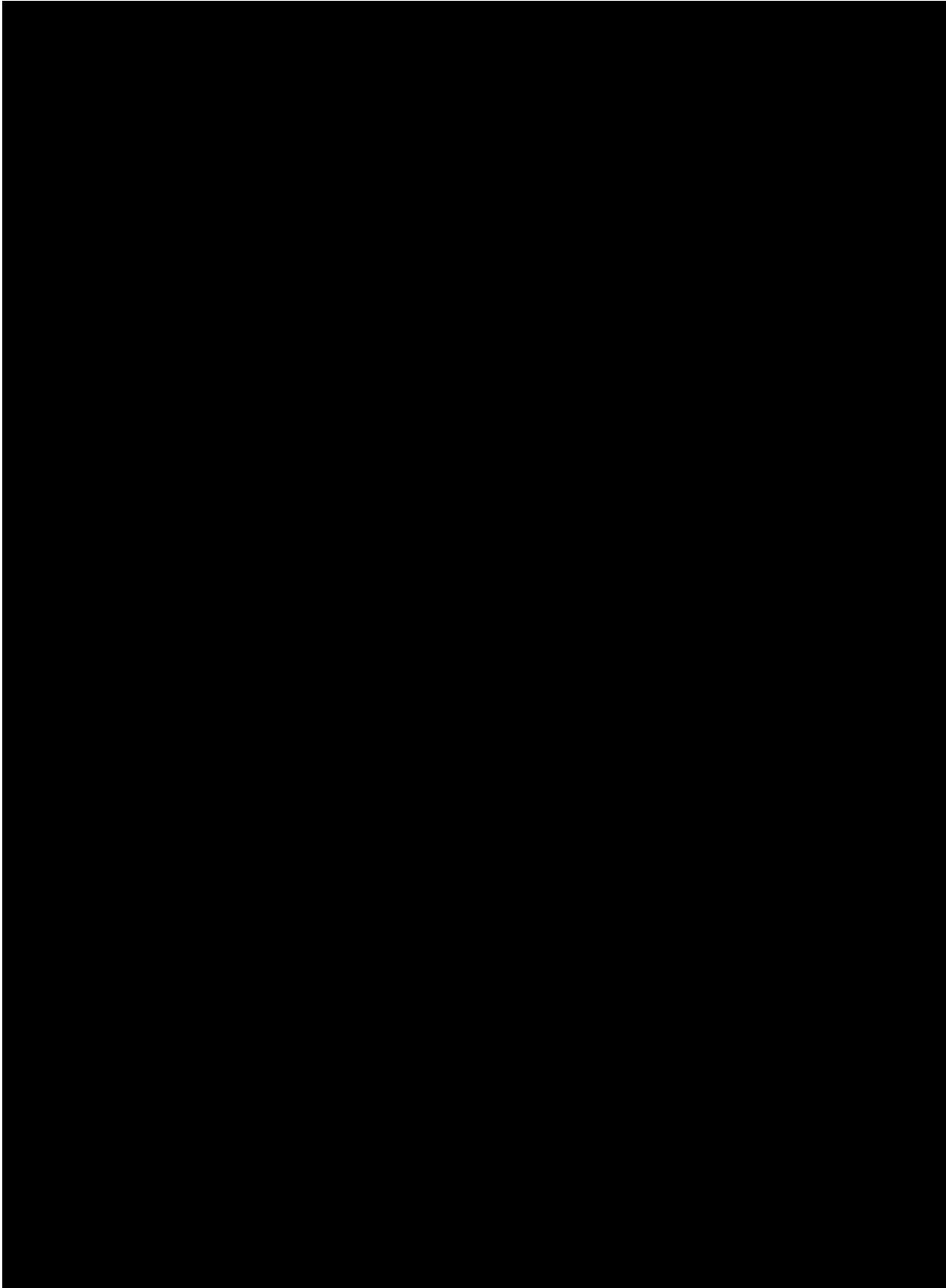


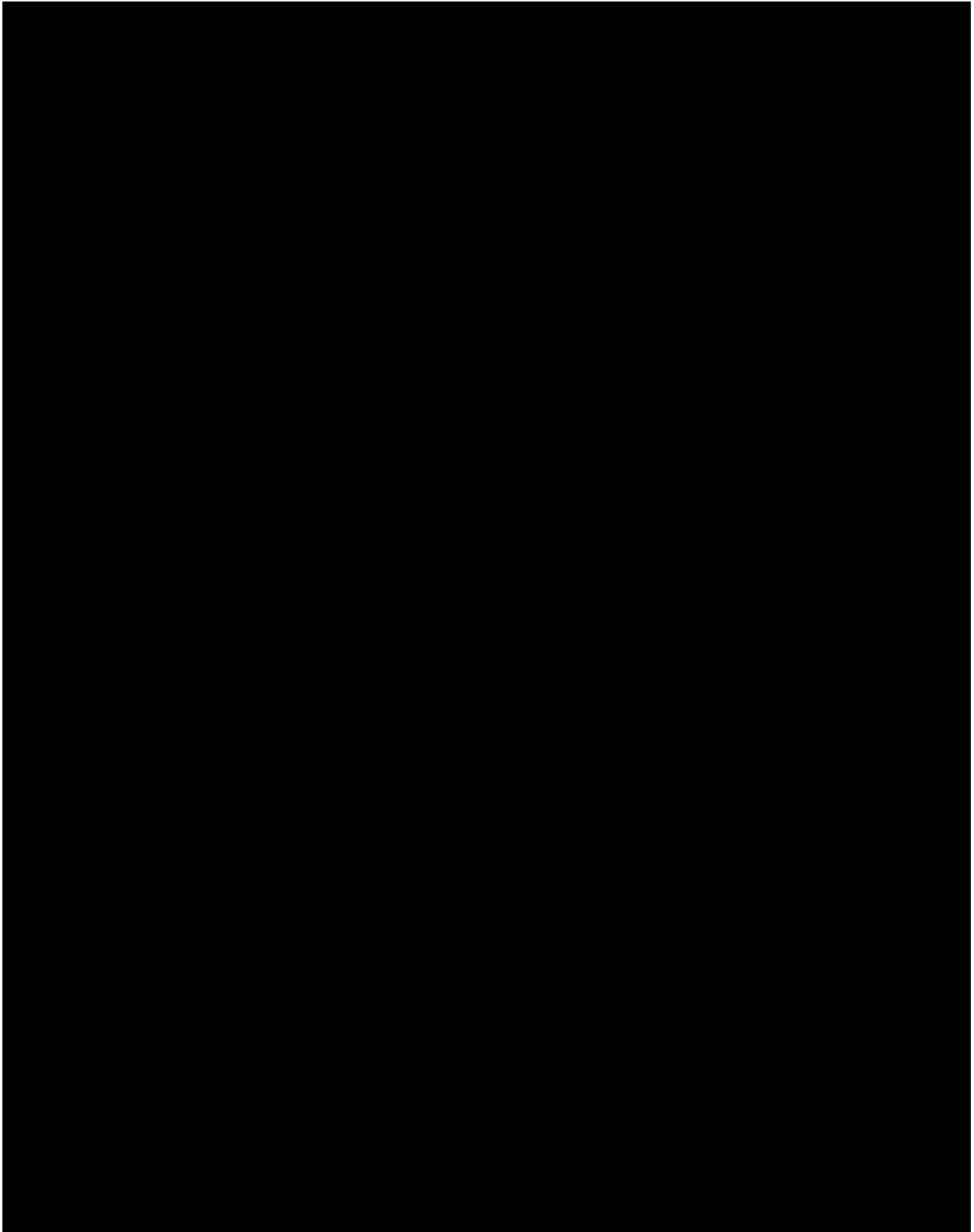












6 FAIRNESS OF SOLICITATION ADMINISTRATION

6.1 PRINCIPLES AND GUIDELINES USED TO DETERMINE FAIRNESS

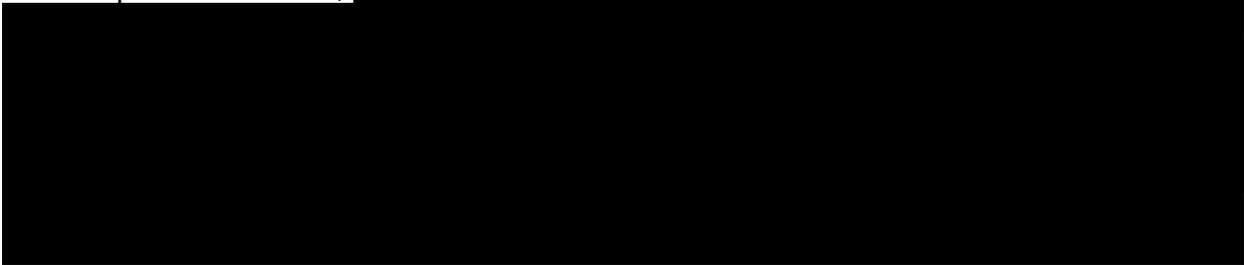
In evaluating PG&E’s performance in implementing the Mid-Term Reliability RFO – Phase 2 solicitation process, the IE has applied a number of principles and factors, which incorporate those suggested by the Commission’s Energy Division in previous Templates as well as additional principles that the IE 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, 



In the opinion of the IE, 



6.2 DESCRIPTION OF IE METHODOLOGY USED TO EVALUATE ADMINISTRATION OF PG&E'S SOLICITATION PROCESS, NOTABLY THE LCBF 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 and attended 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 summaries of all offers and the results of the bid evaluation and was fully engaged in the process throughout the solicitation. In addition, the IE and PG&E evaluation and transaction teams held regular conference calls to discuss the progress of the solicitation and any issues that arose during the process as new evaluation results were generated when shortlisted counterparties updated offer pricing.

With regard to the quantitative evaluation, the IE held discussions with the evaluation team to discuss the bid evaluation methodology prior to submission of bids to ensure the IE had an understanding of the evaluation methodology and presentation of evaluation results. PG&E provided copies of the evaluation results generated by the quantitative evaluation team to the IE on several occasions during the evaluation process, including prior to shortlisting as well as results associated with final offers and selection.

At the request of the IE, PG&E prepared an integration model for use by the IE to review and validate the results of PG&E's LCBF evaluation process.³⁴ The Integration Model provided input and output results for each offer by integrating several spreadsheet tabs to organize all relevant data for a specific project/offer. The model allows the IE to enter the number of a specific offer in a specific cell in the workbook. Once the project number was entered, the integration model provided an array of information about each offer including the following data:

- Offer Information
 - a. Agreement Type
 - b. Resource Type
 - c. Contract Term
 - d. Offer Pricing

³³ [REDACTED]

³⁴ PG&E had previously developed such a methodology for the CHP 2 and CHP 3 processes and the Energy Storage solicitations to allow Merrimack Energy to access all inputs and output results for each offer in an organized fashion to be able to verify the reasonableness of the offer evaluation results. Merrimack Energy requested expansion of the integration model for the first two Energy Storage solicitations. The model was again used for this solicitation.

- e. Commercial Operation Date
 - f. Contract MW
 - g. Generic, Local, and Flex RA Quantities
 - h. Network Upgrade Costs
 - i. Forward Curves
- Output Information
 - a. Total Benefits and Total Costs for each Offer on a Monthly Basis
 - b. Levelized Benefits and Costs
 - c. Net Market Value (\$/kW)
 - d. Adjusted NMV (\$PV/Mandated kW)

The integration model results allowed the IE to conduct a thorough review and assessment of the valuation results for the offers. In addition, the IE was able to use the integration model results to review and evaluate important metrics for each of the offers submitted. In addition, the IE used the model to review the calculation of the Energy Settlement values based on the contract provisions to ensure the evaluation methodology was consistent with the contract provisions.

For evaluating the LCBF process, the IE reviewed the evaluation results completed by the PG&E Quant team in October, 2022, after shortlist selection.

After review of the bid evaluation methodology and testing of the results of the evaluation provided by PG&E, the IE concluded that the evaluation methodology was reasonable for this type of RA assessment and effectively evaluated offers for different products, and different terms, and contract structures. The IE found no evidence of undue bias in the evaluation methodology that favored one type of product over another.

6.3 IDENTIFICATION OF NON-CONFORMING BIDS

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. Although PG&E's objective was to be more inclusive, PG&E did follow its eligibility and threshold requirements when classifying offers as non-conforming.

6.4 UTILITY EVALUATION AND OUTSOURCED EVALUATION

This section of the IE Template asks the IE to identify those parts of the process conducted by the utility, and to opine on how the parameters and inputs were used and whether they were reasonable. In addition, the Template asks the IE to identify any parts of the process that were outsourced to either the IE or a third party, what information did the utility communicate to that party and what controls did the utility exercise over the quality or specifics of the outsourced analysis.

In short, PG&E was primarily responsible for all aspects of the solicitation process, including all the evaluations of the offers received. The IE did not have any direct requirement to lead or conduct any specific aspect of the evaluation, except to validate the evaluation results compiled by PG&E. Instead, the IE's role was to primarily review and assess whether the results of the analysis undertaken by PG&E were accurate and whether the process was fair and consistent for all Participants.

Outside of noting that PG&E established separate teams to undertake the solicitation process for utility-owned options and third-party options consistent with the Internal Confidentiality Protocol established, the IE is not aware of PG&E outsourcing any aspects of the evaluation process to a third-party.

6.5 TRANSMISSION ANALYSIS PROCEDURES

The Mid-Term Reliability RFO – Phase 2 Solicitation Protocol requires that at the time of offer submittal, Participants must have Participating Transmission Operator (PTO) or Utility Distribution Company (UDC) documentation showing that the resource has requested or is expected to receive Full Capacity Deliverability Status (FCDS) in order to support delivery of the product, including RA, per the obligation of the corresponding agreement. At a minimum, resources must be in the queue and demonstrate that the project is in the queue. Seller must submit the most recent interconnection documentation provided by the PTO or UDC. PG&E will evaluate projects qualitatively based on their interconnection status and viability of coming online to meet the required COD. Participants must remain active in the applicable interconnection queue until the Resource's required network upgrades have been completed.

Sellers that have not yet received transmission upgrade cost estimates from the PTO or UDC in the form of RNUs and DNU's should provide Electric System Upgrades Cost Termination Rights value in the Offer Form. If projected upgrade cost from the PTO or UDC come in significantly higher than the input Electric System Upgrade Cost Termination Rights, PG&E may no longer consider the offer.

Import Offers are directed to provide evidence of their interconnection status and ability to meet the proposed online dates. Import Offers will also be required to provide additional evidence that Seller is able to secure transmission to get the energy and capacity from the project to the CAISO intertie that the project will deliver to. Seller should indicate in Appendix B which CAISO intertie the project will deliver to.

6.6 CRITERIA OR ANALYSIS USED TO CREATE THE SHORTLIST

PG&E included a description of its offer evaluation methodology and approach in both the Mid-Term Reliability RFO – Phase 2 Protocol and the Participants Webinar presentation. PG&E noted its evaluation methodology will apply “least-cost, best-fit” principles, using quantitative and qualitative criteria to evaluate the submitted Offers. PG&E stated that the final Net Market Value calculation would be used as the basis for ranking and selection.

[REDACTED]

6.7 OFFER EVALUATION RESULTS AND SHORTLIST ASSESSMENT

As noted, PG&E included both quantitative and qualitative factors in the evaluation. PG&E project teams conducted detailed evaluations for each of the quantitative and qualitative factors and created reasonably detailed documentation of the evaluation results for both factors.

The offers received were evaluated based on the methodology described in the previous section of this report.

[REDACTED]

As noted,

[REDACTED]

6.8 CONCLUSIONS REGARDING ADMINISTRATION OF THE BID EVALUATION PROCESS

Merrimack Energy agrees with PG&E’s shortlisting strategy

[REDACTED]

6.9 ANY OTHER RELEVANT INFORMATION

None at this time.

7 DOES THE CONTRACT MERIT CPUC APPROVAL

7.1 INTRODUCTION

This section of the Report addresses the issue “Does the Contract merit CPUC approval and is the contract reasonably priced and does it reflect a functioning market? To address these questions the IE Report Template requires that the following issues be addressed.

1. Provide a discussion and observation for each category and describe the project’s ranking relative to other bids from the solicitation; and from an overall market perspective;
 - a. Contract price, including cost adders (transmission, credit, etc.)
 - b. Portfolio fit
 - c. Project viability
 - i. Technology
 - ii. Bidder experience (financing, construction, operation)
 - iii. Credit and collateral
 - iv. Permitting, site control and other site-related matters
 - v. Fuel status
 - vi. Transmission upgrades
 - d. Any other relevant factors
2. Based on the complete bid process:
 - a. Does the IOU contract reflect a functioning market?
 - b. Is the IOU contract the best overall offer received by the IOU?
3. Is the contract a reasonable method of achieving the need identified in the RFO?
4. If the contract does not directly reflect a product solicited and bid in an RFO, is the contract superior to the bids received or the products solicited in the RFO?
5. Based on your analysis of the RFO bids and the bid process, does the contract merit Commission approval? Explain

7.2 NEED FOR PROCUREMENT

Through the 2022 Mid-Term Reliability RFO – Phase 2 solicitation process, PG&E sought offers from Participants for the purchase of eligible system resource adequacy (RA) or load reduction to come online by June 1, 2024, June 2, 2025 or June 1, 2026 pursuant to CPUC Decision D.21-06-035.³⁵ The Decision requires PG&E to procure 2,302 MW of additional Net Qualifying Capacity (“NQC”). Compliance would be measured based on September NQC calculations using marginal ELCCs calculated by the Commission for each resource type for each future online year. The additional MWs are to come online between August 1, 2023 and June 1, 2026. The Decision requires PG&E to procure and

³⁵ CPUC Decisions 21-06-035 and 23-02-040 (Decisions) require PG&E to procure 3,079 MW of capacity to be on line by June 1, 2028. D. 23-02-040 requires procurement of a total of 4,000 MW of NQC in addition to the 11,500 MW previously ordered in D. 21-06-035. The additional procurement is for 2026 and 2027. The CPUC 2023 Decision requires PG&E to procure an additional 777 MW.

have online, 400 MW by August 1, 2023, 1,201 MW by June 1, 2024, 300 MW by June 1, 2025, and 400 MW online by June 1, 2026.

Through the Mid-Term Reliability RFO – Phase 1, PG&E executed nine Long-Term Resource Adequacy Agreements (“LTRAA”)³⁶ for stand-alone Battery Energy Storage System (“BESS”) projects with six counterparties scheduled on line in 2023 and prior to June 1, 2024. The total capacity of the nine projects is 1,598.7 MW, which is 99.86% of the amount of capacity required for PG&E in the Final Decision.³⁷

PG&E also executed three agreements via the Mid-Term Reliability RFO – Phase 2 process including two LTRAA with Energy Settlement Agreements with Geysers Power for 38 MW and an agreement for 230 MW via an LTRAA with Energy Settlement agreement with Sunlight Storage II, for a total of 268 MW of Battery Energy Storage projects.

Execution of this agreement with Northern Orchard Solar PV, LLC can provide [REDACTED] towards PG&E’s requirements to procure 500 MW of Zero Emitting (ZE) resource by 2025.³⁸ This agreement is necessary for satisfying the requirements of the CPUC Decision [REDACTED].

7.3 CONTRACT PRICING AND PORTFOLIO FIT

[REDACTED]

[REDACTED]

³⁶ PG&E included both a Long-Term Resource Adequacy Agreement and a Long-Term Resource Adequacy Agreement with Energy Settlement on the webpage for the Mid-Term Reliability RFO – Phase 1. All but one of the Agreements executed was for a Long-Term Resource Adequacy Agreement with Energy Settlement.

³⁷ It is the IEs understanding that the total procurement from this solicitation as well as other eligible procurement efforts result in PG&E procuring in excess of the capacity requirements listed above for 2023 and 2024.

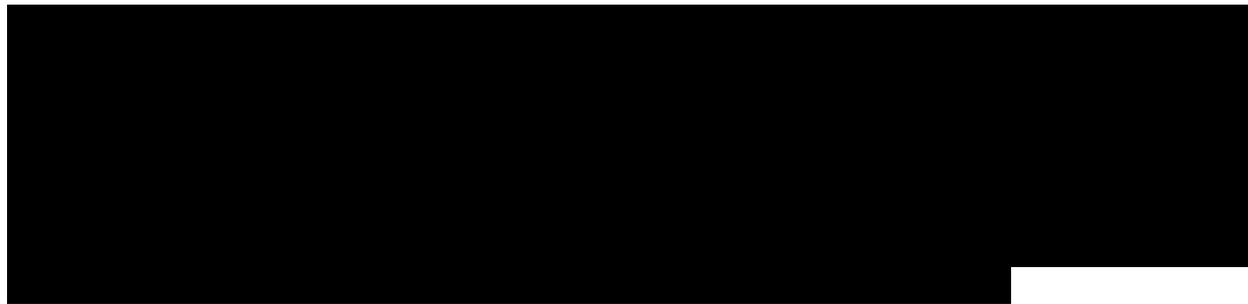
³⁸ [REDACTED]

7.4 PROJECT VIABILITY

7.4.1 Project Scrutiny

The 2022 Mid-Term Reliability RFO – Phase 2 Offer Package requires Participants to complete and submit documents pertaining to aspects of project development for their project. The Offer Form (Appendix A) includes information required from the Participant on project pricing, operational information, electrical interconnection information, developer experience, site control status, permitting status, and project finance status. In addition, Participants were required to submit Supplemental Project Information (Appendix B) which requested detailed information about the status of the project. PG&E relies on this information to conduct its own qualitative evaluation of the offers.³⁹ In addition, follow-up questioning during meetings and discussions with the Bidders covered topics ranging from project updates to manufacturing queues, procurement experience, permitting requirements and lead times, and the status of the interconnection process. As a result, the level of information about each project provided at the time of offer submittal as well as during follow-up discussions provides a solid base of information for both the PG&E team and IE to assess project viability for each of the shortlisted offers and contracts executed.

7.4.2 Northern Orchard Solar plus Storage Project Overview



³⁹ As noted in the RFO Protocol, PG&E may consider qualitative factors that could impact the value of an offer, including project viability, credit, safety history, agreement modifications, ability to meet the Initial Delivery Date, supply chain responsibility status, and completeness of the offer.

7.4.3 Technology and Procurement Issues

[REDACTED]

[REDACTED]

7.4.4 Experience (Financing, Construction, & Operation)

RWE operates a portfolio of 8 GW of renewable energy projects and has a development platform of more than 24 GW. RWE has more than 15 years of experience in the renewable energy business and has a track record in developing, constructing and operating renewable energy facilities. RWE has acquired Con Edison's clean energy assets and development pipeline. According to Appendix B, RWE is an experienced and qualified developer in WECC. It has developed and is currently operating over 80 MWs of solar and storage energy in WECC and CAISO combined. One of RWE's main offices is the US is in San Francisco.

7.4.5 Site Control

[REDACTED]

7.4.6 Interconnection

[REDACTED]

[REDACTED]

7.4.7 Permitting

[REDACTED]

7.4.8 Schedule

[REDACTED]

7.4.9 Conclusions

[REDACTED] the IE recommends approval of the Power Purchase Agreement For Zero Emissions Product from Hybrid Resource Projects with Northern Orchard Solar PV, LLC [REDACTED]

8 TREATMENT OF AFFILIATE BIDS AND UOG OWNERSHP PROPOSALS

For the Mid-Term Reliability RFO – Phase 2, PG&E used its existing Internal Confidentiality Protocol that was implemented in the previous Mid-Term Reliability RFO Phase one. The Mid-Term Reliability RFO – Phase 2 seeks offers from third parties for both third party-owned and utility-owned projects via a Build Own Transfer (“BOT”)

arrangement that will provide system-level net qualifying capacity (“NQC”). Prior CPUC decisions require PG&E to ensure the unbiased evaluation of all offers and to avoid providing an unfair advantage to Utility-owned offers when such offers compete for selection and execution in an RFO with third-party offers. PG&E is not submitting or reserving the right to submit its own bid into this RFO. Therefore, there are no PG&E employees involved in preparing bids for projects that would be owned by the utility. Instead, PG&E is seeking offers for BOT options for projects that would be constructed by a third-party on their own site. The utility-ownership team is responsible for developing the project specifications and evaluating, selecting, and negotiating third-party off-take offers.

The Internal Confidentiality Protocol is designed to ensure that an appropriate internal level of confidentiality of confidential RFO information is maintained. With this Confidentiality Protocol, PG&E is focusing on the type of information that PG&E employees must keep confidential in order to avoid external perceptions of any unfair advantages afforded to Utility-Owned Offers.⁴⁰ This Confidentiality Protocol shall be in place from April 15, 2022 until the date the final executed contracts are filed with the CPUC for approval. Confidentiality of confidential RFO information continues.

This Section of the Report addresses the Internal Confidentiality Protocol implemented by PG&E to undertake the Mid-Term Reliability RFO – Phase 2. The preparation of a Code of Conduct document is required by the CPUC for investor-owned utility (“IOU”) participation in the IOU’s own competitive procurement of electric energy resources. The CPUC’s 2008 LTPP Decision (D.07-12-052) included several references with regard to the requirements for utilities to develop a Code of Conduct for solicitations seeking utility ownership options.⁴¹ PG&E developed an Internal Confidentiality Protocol for this solicitation to ensure appropriate safeguards are in place to define the roles and responsibilities of the project teams and protect the confidentiality of sensitive confidential information. PG&E required all employees supporting the Mid-Term Reliability RFO – Phase 2 that require use of Confidential RFO information to acknowledge the Confidentiality Protocol. According to the IE Report Template, two issues are to be addressed in this Section of the Report:

⁴⁰ Examples of the type of information considered confidential RFO information includes: (1) Participant’s confidential information as described in the RFO Protocol; (2) Internal Evaluation Protocols including quantitative models, scoring and selection criteria, and actual input assumptions such as price curves; (3) Offer data including evaluation results and selection of Offers for the shortlist and execution, including deliberations and reasons for selections. This would include information on how many offers were received, how many MWs were offered and which Participants made offers; and (4) Status of PG&E’s negotiations and execution of agreements with shortlisted Participants.

⁴¹ On page 206 of D.07-12-052, the CPUC stated “As a precondition for conducting an RFO seeking utility ownership options, the IOU shall develop a strict code of conduct to be signed by any and all IOU personnel involved in the RFO process to prevent sharing of sensitive information between staff involved in developing utility bids and staff who create the bid evaluation criteria and select winning bids”. On page 236 the CPUC stated “If a utility were soliciting turnkey bids or EPC contracts as well as PPAs in a given solicitation, the individuals performing the bid evaluation would have to be functionally separated from the individuals preparing the bids (or the cost estimates) for projects that would ultimately be utility-owned. Under this restriction, the employees developing the utility-owned project would be barred from access to any evaluation protocols, input assumptions, or bid information not made generally available to outside bidders.”

Describe the design and implementation of the required Code of Conduct used by the IOU to prevent sharing of sensitive information between staff working with developers who submitted UOG bids and staff who create the bid evaluation criteria and select winning bids.

Describe any violation(s) of that code

As a precondition of holding a competitive solicitation in which offers resulting in partially or wholly utility-owned energy storage projects compete against third-party offers, a utility (in conjunction with the IE, PRG, and Energy Division Staff) must develop and adopt a strict Code of Conduct, to be signed by any and all IOU personnel in the RFO process, to prevent the sharing of sensitive information between staff involved in evaluating, selecting, and negotiating utility ownership offers (“Utility Ownership (UO) Employees”) and staff who evaluate, select and negotiate third-party off-take offers and prepare information for Decision-Makers, including the evaluation and selection of any type of offer (“Solicitation Employees”). PG&E’s Internal Confidentiality Protocol also includes a third category of employees referred to as Decision-Makers. These are employees who approve the selection of the offers submitted in response to PG&E’s RFO for shortlisting and and/or final execution. Only Decision-Makers and Solicitation Employees have full access to all confidential RFO information. Utility Ownership Employees can only have access to confidential RFO information with respect to UO offers. However, all Utility Ownership employees, Decision-Makers, and Solicitation employees must keep confidential RFO information confidential.

As noted, the Internal Confidentiality Protocol was designed to maintain an appropriate internal level of confidentiality of Confidential RFO Information and to avoid external perceptions of unfair advantage of utility ownership offers. The Confidentiality Protocol is being adopted because PG&E is evaluating utility-owned offers via a third-party EPC contract for a project at a utility-owned sub-station site and third-party offers in the RFO with both types of offers ultimately competing for the selection by PG&E and CPUC approval. Some of the key elements of the Confidentiality Protocol include:

A. Teams

- Utility-Owned (UO) – Employees evaluating, selecting and negotiating Utility-Owned offers;
- Solicitation Employees – Employees (a) evaluating, selecting, and negotiating third-party offers, and (b) preparing information for Decision Makers, including evaluation and selection of all offers;
- Decision Makers – Employees approving the selection of offers for shortlisting and/or final execution.⁴²

⁴² In addition to the above teams, to evaluate offers teams may engage Subject Matter Experts (“SME”) from within PG&E to assist with the evaluation of Offers. Such SMEs are subject to this Confidentiality Protocol and shall review and evaluate Offers using and accessing the Confidential RFO information only to the extent necessary to perform their review and evaluation for the respective team. Such SMEs should not be conduits for Confidential RFO information.

B. Confidential RFO Information includes:

- Participants confidential information;
- Internal Evaluation Protocols: quantitative models, scoring and selection criteria, actual input assumptions;
- Offer data, evaluation results and selection of offers for shortlisting and execution; deliberations and reasons for selections;
- Status of PG&E's negotiations and agreements with shortlisted participants

C. Teams' Obligations to Confidential RFO Information

- Solicitation and Decision Maker team members shall not disclose or share Confidential RFO information outside of their teams; provided that,
- UO offer team members may use, have access to or knowledge of Confidential RFO information with respect to the Utility-owned offers only.

D. Functional Separation of Information and Teams:

- Confidential RFO information – to be kept functionally separate per team type, with all electronic information to be located on separate shared drives or internal sites that can only be accessed by the respective team members. To the extent possible, Confidential RFO information should not be emailed even internally;
- Employees and Contractors for the RFO – Physical separation of teams is not required.
- Internal Subject Matter Experts: To evaluate offers, teams may engage SMEs from other LOBs to assist with the evaluation of offers. Such SMEs are subject to this Protocol and shall review and evaluate offers using and accessing the Confidential RFO information only to the extent necessary to perform their review and evaluation. SMEs must not act as conduits of Confidential RFO Information between teams;
- The Solicitation team will update the list of UO employees on a regular basis and send a reminder to the Solicitation team not to share information with UO team members.

E. Acknowledgement of Protocol – Required by employees and contractors on the RFO actively participating in the RFO process and/or who have a need to access the Confidential RFO Information through:

- Written verification of completion of review of and understanding of the training materials.

F. Duration of the Internal Confidentiality Protocol – From the date that offers are submitted to PG&E until selected offers are submitted for CPUC Approval. Following submission of executed offers for CPUC Approval, the Confidential RFO Information should remain confidential in accordance with Section A-E above, but is no longer subject to the restrictions of this Internal Protocol.

[REDACTED]. As a result, the IE Report Template requires the IE to address the following issues:

1. Describe other safeguards and methodologies implemented by the IOU including those stipulated in Commission decisions (e.g. D.04-12-048 and D.07-12-052) for head-to-head competition between utility ownership and independent ownership bids, to ensure that affiliate and UOG bids were analyzed and considered on as comparable a basis as possible to other bids, that any negotiations with such bids' proponents were conducted as comparably as possible to negotiations with other proponents, and that the utility's final selections in such cases did not favor an affiliate or UOG bid.
2. Describe compliance with the safeguards
3. If a utility selected a bid from an affiliate or a bid that would result in utility asset ownerships, explain and analyze whether the IOU's selection of such bid(s) was appropriate.

In terms of the safeguards implemented, as noted in the previous section of the report, PG&E implemented an Internal Confidentiality Protocol which included detailed information regarding the roles and responsibilities of the various teams involved in the solicitation and the type of information considered confidential. As noted, PG&E formed three separate teams for the process. Employees who evaluate, select and negotiate utility-owned EPC offers are classified as Utility Ownership Employees while employees who evaluate, select and negotiate third-party off-take offers and prepare information for Decision Makers, including the evaluation and selection of all Offers are classified as Solicitation Employees. The third team is Decision Makers who are employees approving the selection of offers for shortlisting and/or final execution.

In its Internal Confidentiality Protocol, PG&E also identified how during each step in the Energy Storage RFO process, Ownership Employees should perform different functions and be separated from Solicitation Employees involved in the evaluation of offers to avoid the sharing of sensitive information.

As we have previously noted, Merrimack Energy as IE was sensitive to comparability issues regarding the treatment of utility-owned and third-party offers from the beginning of the process since we view fairness and comparability of treatment of these different resource options to be one of the more challenging issues associated with undertaking a fair and equitable evaluation and selection process. We have had meetings and discussions with PG&E prior to release of the past few Energy Storage and System Reliability RFOs to discuss comparability associated with both the evaluation methodology and contract provisions. We were satisfied that the evaluation methodology and contract provisions should ensure a fair and equitable process without the presence of bias for one type of resource over another.

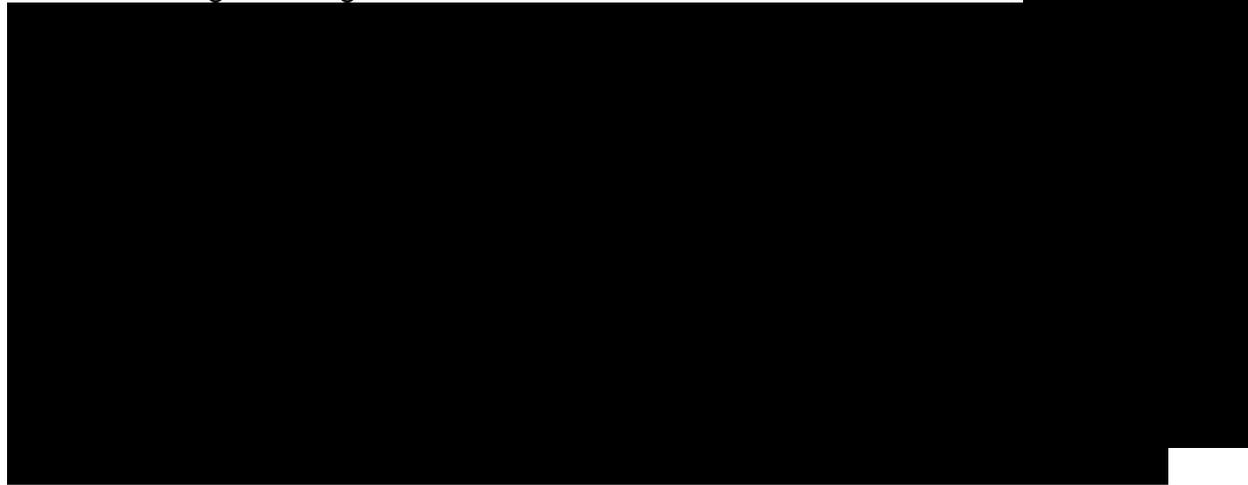
9 WAS THE RFO ACCEPTABLE

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 Mid-Term Reliability RFO – Phase 2 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.

As noted in this report, PG&E’s outreach activities were designed to encourage a wide range of resource types (including Zero-Emitting resources, Firm Zero-Emitting resources, long duration storage, and other types of non-fossil-fueled resources), potential participants, including those who had competed in recent solicitations, and contract structures.

The IE was in general agreement with PG&E’s overall shortlist selection, 



10 CONCLUSIONS & RECOMMENDATIONS

10.1 CONCLUSIONS & OBSERVATIONS

Merrimack Energy has the following conclusions and observations regarding the Mid-Term Reliability RFO – Phase 2 solicitation process based on its role as IE in this process:

1. PG&E implemented the Mid-Term Reliability RFO – Phase 2 solicitation process consistent with CPUC Final Decision in Rulemaking 20-05-003 issued on April 15, 2022 (Decision Requiring Procurement to Address Mid-Term Reliability (2023-

2026)), which requires PG&E to procure at least 2,302 MW of additional net qualifying capacity, including to procure and have online 1,601 MW by June 1, 2024. The Final Decision requires PG&E to procure and have online 400 MW by August 1, 2023, 1,201 MW by June 1, 2024, 300 MW by June 1, 2025, and 400 MW by June 1, 2026. In response to the Proposed Decision, PG&E issued its Mid-Term Reliability RFO – Phase 2 on April 15, 2022. Through the Mid-Term RFO – Phase 2, PG&E initially executed two contracts with Geysers Power Company for a total of 38 MW of Battery Energy Storage capacity scheduled on line by June 1, 2024 via Long-Term Resource Adequacy Agreements with Energy Settlement. In addition, PG&E executed a contract for storage with Sunlight Storage II for the Desert Sunlight Storage project submitted by NextEra for 230 MW which represents the third contract executed via the Mid-Term Reliability RFO – Phase 2. This contract with Northern Orchard Solar PV, LLC for a solar combined with storage project for 92 MW of storage and 172.1 MW AC of solar PV nameplate capacity;

2. PG&E’s Mid-Term Reliability RFO – Phase 2 resulted in a limited but reasonable response from the market, likely based on current power market conditions. PG&E received a total of 31 unique offers and 59 offer variants from 21 counterparties for a total of 4,553 MW, mostly from energy storage projects. [REDACTED]

3. 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 Participants Webinar. The IE monitored these communications and felt that all Participants were treated fairly and equitably. In addition, PG&E sent emails to all contacts on its email list for solicitations, which totals nearly 2,700 contacts. Overall, PG&E’s outreach activities were extensive;

4. PG&E developed the evaluation methodologies and process to reflect the products being solicited, and to conform to the “Least Cost Best Fit” methodology used for other recent similar RFOs. [REDACTED]

5. The IE generally found the solicitation documents to be reasonably transparent and well-structured to allow potential Participants to effectively decide whether and how they wished to compete. The Mid-Term Reliability RFO – Phase 2 Solicitation documents clearly defined the procurement targets, products solicited, eligibility requirements, evaluation process and criteria, information required of Participants and company objectives. In addition, PG&E included proforma contracts for some resource categories and Term Sheets for others, including Zero-Emitting and Firm Zero-Emitting resources. PG&E did eventually prepare a proforma contract for Zero-Emitting resources to assist in contract negotiations but the time required to prepare a proforma served to delay contract negotiations;

6. [REDACTED]

7. [REDACTED];

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

9. The IE concludes that the process was undertaken in a fair and equitable manner and all Participants were treated equally. The IE received no complaints or criticisms about the process;

10. The executed Northern Orchard Solar PV, LLC contract for the Northern Orchard Solar plus Storage project is with a generally mature and viable solar plus storage project that has several key facets of project development completed. [REDACTED]⁴³;

11. Based on the need for capacity over the 2024-2025 timeframe and the limited availability of Zero Emission resources available in the 2024-2025 timeframe, the IE recommends approval of the contract executed by PG&E with Northern Orchard Solar PV, LLC, [REDACTED].

⁴³ [REDACTED]

10.2 RECOMMENDATIONS

- Given the nature of the resources to be acquired combined with the current state of the power market, the IE believes that more refined project viability criteria should be included in the qualitative evaluation. As we noted in Section 4.6 of this report, [REDACTED]
[REDACTED] For future solicitations of this nature, the IE recommends PG&E consider applying more detailed project viability criteria for the project evaluation process.
- Given the very limited amount of capacity available to meet near-term reliability needs as well as the limited number of resources offered to meet zero emitting resource targets, PG&E should look to expedite the procurement process by shortening the evaluation and negotiation phases. In this solicitation, PG&E had not developed contracts for zero-emitting resources prior to launch, and the development of these contracts took several months in the middle of negotiations, which has extended negotiations with multiple counterparties. Based on execution of contracts via this Mid-Term Reliability RFO – Phase 2, the IE believes that PG&E should now be in a position to include a proforma Zero Emitting resource agreement in the next similar RFO process.

Appendix C

Contract Summary – Northern Orchard

(Confidential)

Appendix D

Quantitative Evaluation Results Workbook

(Confidential)

Appendix E

Evaluation Methodology

Appendix E: Evaluation Methodology

PG&E’s quantitative evaluation criteria included Net Market Value (NMV). PG&E’s evaluation also included qualitative criteria. These criteria are listed below:

Quantitative Criteria

1. NMV
 - a. Benefits (Energy, Ancillary Services, Capacity, REC Value)
 - b. Costs (Fixed Costs, Variable Costs, Metered Contract Cost, Transmission Network Upgrade Cost)

Qualitative Criteria

2. Financing
3. Environmental Characteristics
4. Development Plan
5. Safety
6. Prior Experience
7. Disadvantaged Communities
8. Location

Evaluation of the offers included the above criteria. For each of the criteria, a team of subject matter experts was formed to perform the evaluation. The evaluation teams consisted of PG&E employees. The teams met periodically to review progress and exchange information.

PG&E applied the quantitative and qualitative criteria to each conforming offer or offer variation as follows:

**TABLE E-1
EVALUATION CRITERIA, SCORING UNIT, AND APPLICATION**

Line No.	Evaluation Criteria	Scoring Unit	Application
1	Net Market Value	\$/kW	Shortlist Development
2	Financing	Required ^(a)	Post Shortlist Development
3	Environmental Characteristics	Required ^(a)	Informational Only
4	Development Plan	Required ^(a)	Shortlist Development
5	Safety	Required ^(a)	Informational Only
6	Prior Experience	+, -	Shortlist Development
7	Disadvantaged Communities	+, -	Shortlist Development
8	Location	+, -	Shortlist Development

(a) Additional requirements were imposed on participants to be added to the shortlist, or will be required during performance of the contract.

1. Net Market Value

For each Offer, Net Market Value (NMV) is calculated based on the summation of several components as follows:

$$\text{Net Market Value: NMV} = E + C + R - (V + F + MC + T)$$

Where:

E = Energy Value

C = Capacity Value

R = REC Value

V = Variable Cost

F = Fixed Cost¹

MC = Metered Contract Cost²

T = Transmission Network Upgrade Cost

The NMV calculations were applied consistently for the following agreement types accepted for the RFO as displayed in table³ below with variations depending on agreement option.

Category	Agreement Type
Zero-emitting Co-Located & Contractually Paired	Zero-emitting Term sheet
	LTRAA w/ES agreement
Zero-emitting Hybrid	Zero-emitting Term sheet
	LTRAA w/ES agreement
Firm Zero-emitting	Firm Zero-emitting Term sheet
Long duration storage	LTRAA w/ES agreement
Other non-fossil-fuel resources	LTRAA w/ES agreement

The subsequent Sections below describe the NMV calculations component by component, detailing the variations by agreement type.

a. Energy Value (E)

¹ The Fixed Cost is calculated using the “Proxy Contract Price” submitted in the offer form.

² Metered Contract Cost is calculated using the “Metered Contract Price” submitted in the offer form. It represents the Green Attribute cost.

³ Please reference “Mid-Term Reliability Request for Offers Phase 2 Solicitation Protocol (April 15, 2022)” Chapter III.H for the source.

Zero-emitting Term sheet Agreement Type (example: RPS PV Solar) and Firm Zero-Emitting Term Sheet Agreement Type (example: Geothermal baseload):

Energy Value is estimated by multiplying the quantity of energy delivery for each hour delivery times the forward energy price for that hour at the LMP. The LMP price is determined from the corresponding Trading Hub (i.e. NP15 or SP15), adjusted for congestion and losses for that hour (LMP Multipliers). The quantity of energy delivery for each hour is determined by the hourly generation profile of the Offer.

LTRAA w/ES Agreement Type:

The Energy Value for the Long-Term Resource Adequacy with Energy Settlement agreements is the Energy Settlement value as defined in the contract formula. This is a financial payment from the counterparty to PG&E.

b. Capacity Value (C)

Capacity Value is applicable for all Agreement Types. It is the net present value of monthly capacity values across all months during the delivery period.

The monthly Capacity value (C) is computed as the sum of two components: 1) the monthly Net Qualifying Capacity multiplied by the Local or System capacity price, and 2) the monthly Effective Flexible Capacity (EFC in MWs) provided by the project multiplied by the flexible RA price. These values are then discounted back by the discount factor for the month.

c. REC Value (R)

Zero-emitting Term sheet Agreement Type (example: RPS PV Solar) and Firm Zero-Emitting Term Sheet Agreement Type (example: Geothermal baseload):

The REC Value, for each hour of delivery, is estimated by multiplying the quantity of energy delivery for an hour times the REC Price. The quantity of energy delivery for each hour is determined by the hourly generation profile of the Offer.

d. Fixed Cost (F)

LTRAA with Energy Settlement Agreement Type:

The Fixed Cost represents the total fixed contract payment. It is determined by the net present value of monthly contract payments made under the contract. The

monthly contract payments were based on the Payment Quantity Price (\$/kilowatt-month) multiplied by the monthly Payment Quantity specified in the offer.

e. Variable Cost (V)

Zero-emitting Term sheet Agreement Type (example: RPS PV Solar) and Firm Zero-Emitting Term Sheet Agreement Type (example: Geothermal baseload):

The Variable Cost, for each hour of delivery, is estimated by multiplying the quantity of energy delivery for an hour times the Contract Price, and adjusted by the time-of-delivery (TOD) factor for the corresponding TOD period. TOD is assumed to 1. The quantity of energy delivery for each hour is determined by the hourly generation profile of the Offer.

f. Metered Contract Cost (MC)

Zero-emitting Term sheet Agreement Type (example: RPS PV Solar):

The Metered Contract Cost, for each hour of delivery, is estimated by multiplying the quantity of energy delivery for an hour times the Metered Contract (MC) Price. The quantity of energy delivery for each hour is determined by the hourly generation profile of the Offer.

g. Transmission Network Upgrade Cost

Applicable for all Agreement Types.

For all offers PG&E used the network upgrade cost included in the interconnection documentation to determine the transmission network upgrade cost adder. Network upgrades include all facilities necessary to: (i) reinforce the transmission system after the point where a project's electricity first interconnects with and enters the utility's transmission grid; and (ii) transmit or deliver the full amount of generation to or from the project. Transmission cost adders reflect the reimbursed portion of the cost of network upgrades potentially borne by customers.

2. Financing

PG&E may evaluate the financing viability of an Offer. The financial viability evaluation may include review of lender or investor commitment letters, the overall financing package, project pro-forma, and other relevant documents. Existing facilities will generally receive high scores unless there are identifiable on-going financing risks.

3. Environmental Characteristics

PG&E may evaluate the environmental characteristics and environmental impacts of a project. The evaluation will consider: permitting (e.g., identification of required permits, schedule for acquisition of all necessary permits and a reasonable demonstration of its ability to comply with all applicable environmental laws and regulations through contract term) and environmental resource reviews and approvals (including CEQA/NEPA review, endangered species and water resources).

4. Development Plan

PG&E may evaluate the development plan of a project. The evaluation will consider: site access (i.e., whether a project site has been identified and the status of the developer's access through ownership, lease, option or other arrangement), engineering (e.g., whether the technology has been proven in commercial operation or otherwise demonstrated to be viable, the thoroughness and level of detail in the description of the design package), procurement (e.g., to what extent the project equipment is commercially available, evidence of the developer's ability to manufacture or procure non-standard equipment, reasonableness of the proposed procurement schedule), construction (e.g., history of developer's other projects, if any, reasonableness of the proposed construction schedule), and interconnection (e.g., the status of the project's interconnection application and whether the project has a firm interconnection schedule, or the reasonableness of the projected interconnection schedule if the interconnection agreement has not yet been finalized).

5. Safety

PG&E may screen project proposals to assess whether there are safety risks associated with their particular technology. Projects that fail the safety screen will not be considered and the remainder of the viability evaluation will not be conducted.

6. Prior Experience

PG&E may consider previous adverse commercial experience with a Participant. When evaluating Offers, Participants with previous adverse commercial experience may receive a lower score in this category.

7. Disadvantaged Communities

PG&E may give preference to projects located in Disadvantaged Communities ("DACs") with similar quantitative rankings to projects not located in DACs.

8. Location

PG&E may give preference for projects located in PG&E's service territory.

Appendix F

Consistency with Commission Decision and Rules

(Confidential)

Appendix G

MTR Phase II Solicitation Overview and Results

(Confidential)

**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 Community Choice Association
California Cotton Ginners & Growers Assn
California Energy Commission

California Hub for Energy Efficiency
Financing

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

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

Chevron Pipeline and Power
City of Palo Alto

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

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

East Bay Community Energy Ellison
Schneider & Harris LLP

Electrical Power Systems, Inc.
Fresno
Engineers and Scientists of California

GenOn Energy, Inc.
Green Power Institute
Hanna & Morton
ICF

iCommLaw
International Power Technology
Intertie

Intestate Gas Services, Inc.

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

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

Modesto Irrigation District
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