



STATE OF CALIFORNIA

GAVIN NEWSOM, Governor

PUBLIC UTILITIES COMMISSION

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TO PARTIES OF RECORD IN APPLICATION 22-02-015:

This is the proposed decision of Administrative Law Judges' Elaine Lau and Leah Goldberg. Until and unless the Commission hears the item and votes to approve it, the proposed decision has no legal effect. This item may be heard, at the earliest, at the Commission's June 26, 2025 Business Meeting. To confirm when the item will be heard, please see the Business Meeting agenda, which is posted on the Commission's website 10 days before each Business Meeting.

Parties of record may file comments on the proposed decision as provided in Rule 14.3 of the Commission's Rules of Practice and Procedure.

The Commission may hold a Ratesetting Deliberative Meeting to consider this item in closed session in advance of the Business Meeting at which the item will be heard. In such event, notice of the Ratesetting Deliberative Meeting will appear in the Daily Calendar, which is posted on the Commission's website. If a Ratesetting Deliberative Meeting is scheduled, *ex parte* communications are prohibited pursuant to Rule 8.2(c)(4).

/s/ MICHELLE COOKE

Michelle Cooke

Chief Administrative Law Judge

MLC: hma

Attachment

Decision **PROPOSED DECISION OF ALJ L. GOLDBERG AND
ALJ E. LAU (Mailed 5/12/2025)**

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company for Compliance Review of Utility-Owned Generation Operations, Portfolio Allocation Balancing Account Entries, Energy Resource Recovery Account Entries, Contract Administration, Economic Dispatch of Electric Resources, Utility-Owned Generation Fuel Procurement, and Other Activities for the Record Period January 1 through December 31, 2021.

Application 22-02-015

**DECISION APPROVING PACIFIC GAS AND ELECTRIC
COMPANY'S 2021 ENERGY RESOURCE RECOVERY
ACCOUNT ENTRIES AND RELATED MATTERS**

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**DECISION APPROVING PACIFIC GAS AND ELECTRIC
COMPANY'S 2021 ENERGY RESOURCE RECOVERY
ACCOUNT ENTRIES AND RELATED MATTERS**

Summary

In this proceeding, the Commission evaluated whether Pacific Gas and Electric Company (PG&E) met the standard for compliance under the Energy Resources Recovery Account (ERRA) regulatory compliance process for the 2021 Record Year.

Except for two events or incidents, this decision finds that PG&E met the standard for compliance under the ERRA regulatory compliance process for the 2021 Record Year. Other than the events that caused forced outage four at Diablo Canyon Nuclear Power Plant, PG&E prudently managed its utility owned generation facilities. Except for the Vantage Wind Power Purchase Agreement, PG&E prudently administered its energy resource contracts. Additionally, PG&E complied with its Bundled Procurement Plan in procuring fuel, greenhouse gas compliance instruments, resource adequacy and dispatching energy in a least cost manner. The entries PG&E recorded in its ERRA and Portfolio Allocation Balancing Account, as well as other balancing and memorandum accounts reviewed in this Application, are reasonable and in compliance with Commission decisions and directives.

As noted above, this decision finds that there were two incidents in which PG&E imprudently managed a utility-owned generation facility and imprudently administered an energy resource contract in the 2021 Record Year. For these two incidents, this decision orders a disallowance of approximately \$46 million. The first disallowance is for forced outage four at Diablo Canyon Nuclear Power Plant, which PG&E failed to prevent by failing to manage vibrations from the Unit 2 generator. This decision additionally finds that PG&E

did not prudently administer the Vantage Wind Power Purchase Agreement under the Commission's Standard of Conduct 4, as set forth in Decision 02-10-062, by overpaying more than its fair share from 2010-2019.

Beginning with the 2021 ERRA Compliance proceeding, the Commission is also determining the appropriate amount of disallowance to impose on PG&E for the Public Safety Power Shutoff (PSPS) events that occurred during the Record Year. Decision 21-06-014 determined that PG&E is disallowed from retroactively collecting revenues that PG&E did not, but should have, collected from ratepayers during PSPS events (PSPS Unrealized Revenues). Decision 23-06-054 approved a methodology for calculating the appropriate amount of disallowed PSPS Unrealized Revenues. This decision finds that, using the approved methodology, PG&E is disallowed from collecting \$307,266 in Unrealized Revenues that resulted from the applicable 2021 PSPS events.

In addition to events in the 2021 Record Year, the Commission also reviewed three forced outages that occurred during the 2020 Record Year at the Diablo Canyon Nuclear Power Plant. The Commission previously deferred the review of these 2020 forced outages to this 2021 ERRA Compliance Proceeding. This decision finds that PG&E prudently managed its facilities throughout these three forced outages.

This proceeding is closed.

1. Background

The Commission established the Energy Resource Recovery Account (ERRA) balancing account mechanism in Decision (D.) 02-10-062 to track fuel and purchased power billed revenues against actual recorded costs of these items. The Commission also required regulated electric utilities in California to establish a fuel and purchased power (F&PP) revenue requirement forecast, a

trigger mechanism, and a schedule for ERRA applications. Subsequent decisions regarding the ERRA Balancing Account (BA) adopted minimum standards of conduct that regulated energy utilities must follow in performing their procurement responsibilities.

The ERRA regulatory process includes an annual forecast proceeding and an annual compliance proceeding. In the annual ERRA forecast application, a utility requests adoption of the utility's forecast of its expected annual F&PP costs for the upcoming 12 months. Approval of the forecast allows utilities to recover their ERRA revenue requirement in rates.

In the ERRA compliance proceeding, the Commission performs a compliance review of the ERRA BA and related regulatory accounts and certain non-ERRA accounts. The compliance review evaluates whether a utility complied with all applicable rules, regulations, Commission decisions, and laws. The Commission also conducts a reasonableness review of the ERRA and other relevant regulatory accounts to determine whether the entries in these accounts are accurate and in compliance with Commission directives and orders. Finally, the Commission reviews whether the utility prudently administered its contracts and generation resources and dispatched energy in a least-cost manner in compliance with Standard of Conduct Number Four (SOC 4).¹

1.1. Procedural Background

On February 28, 2022, Pacific Gas and Electric Company (PG&E) filed Application 22-02-015, for compliance review of Utility-Owned Generation Operations, Portfolio Allocation BA (PABA) Entries, ERRA Entries, Contract Administration, Economic Dispatch of Electric Resources, Utility-Owned

¹ Decision (D.) 02-10-062, at 50-52.

Generation Fuel Procurement, and Other Activities for the Record Period January 1 through December 31, 2021 (Record Year). This proceeding is also known as the Erra Compliance Review for the 2021 Record Year.

The Public Advocates Office at the California Public Utilities Commission (Cal Advocates), Alliance for Nuclear Responsibility (A4NR), and California Community Choice Association² (CalCCA) filed timely protests to the Application on April 6, 2022. PG&E filed a response to the protests on April 18, 2022.

On June 9, 2022, the assigned Administrative Law Judge (ALJ) held a prehearing conference. On August 9, 2022, the assigned Commissioner issued the Scoping Memo and Ruling (Scoping Memo). The Scoping Memo categorized this proceeding as ratesetting and set forth eight issues for the Commission to consider in this proceeding.

On December 23, 2022, the assigned ALJ issued a ruling regarding a status conference and evidentiary hearings. The Parties filed a joint statement on January 4, 2023, stating that an evidentiary hearing is not necessary since there are no material facts in dispute, and that issues of disagreement may be argued in opening and reply briefs.

On January 6, 2023, the assigned ALJ held a status conference and issued a Ruling amending the proceeding schedule.

² California Community Choice Association represents the interests of 23 community choice electricity providers in California: Apple Valley Choice Energy, Central Coast Community Energy, Clean Energy Alliance, Clean Power Alliance, CleanPowerSF, Desert Community Energy, East Bay Community Energy, Lancaster Choice Energy, Marin Clean Energy, Orange County Power Authority, Peninsula Clean Energy, Pico Rivera Innovative Municipal Energy, Pioneer Community Energy, Pomona Choice Energy, Rancho Mirage Energy Authority, Redwood Coast Energy Authority, San Diego Community Power, San Jacinto Power, San José Clean Energy, Santa Barbara Clean Energy, Silicon Valley Clean Energy, SonomaClean Power, and Valley Clean Energy.

On February 27, 2023, Cal Advocates, CalCCA, A4NR, and PG&E filed opening briefs addressing issues one to seven in the scoping memo relating to the ERRA, PABA and program specific BAs as well as utility owned generation and contract administration. On March 17, 2023, Cal Advocates, A4NR, and PG&E filed reply briefs on the same set of issues.

On September 27, 2023, the assigned ALJ issued a ruling via email to amend the procedural schedule and directed parties to serve the prepared testimony and the reply testimony addressing issue eight in the scoping memo relating to public safety power shutoffs by October 13, 2023, and October 27, 2023, respectively.

On October 23, 2023, PG&E filed a motion to strike portions of Cal Advocates' testimony. On November 7, 2023, Cal Advocates filed a response to PG&E's motion. On February 9, 2024, the assigned ALJ granted PG&E's motion to strike Cal Advocates' testimony.

On November 9, 2023, an ALJ email ruling further amended the procedural schedule, setting the submission dates for opening briefs and reply briefs on issue eight on December 7, 2023, and December 21, 2023, respectively.

On October 11, 2024, the assigned ALJ issued a Ruling to admit testimony and exhibits into the evidentiary record and ruled on the confidential treatment of testimony, opening and reply briefs for issues one to seven.

On October 23, 2024, the assigned ALJ issued a Ruling granting the Joint Motion to enter exhibits relating to issue eight into evidence.

1.2. Submission Date

This matter was submitted on December 21, 2023, upon the submission filing of reply briefs on issue eight.

2. Standard of Review and Jurisdiction

The Commission exercises jurisdiction over the activities of public utilities,³ including electrical corporations.⁴ PG&E is an investor-owned utility (IOU) providing electrical service in California. PG&E is therefore an IOU “subject to our jurisdiction, control and regulation.”⁵ The Commission has jurisdiction to review an IOU’s ERRA compliance applications.⁶

In this Application, the Commission evaluates whether PG&E met the standard for compliance under the ERRA regulatory compliance process. In order for PG&E to meet the standards of ERRA compliance, PG&E must demonstrate that it prudently administered all contracts and generation resources and dispatch energy in accordance with SOC 4 and the Commission’s longstanding procurement priorities of reliability, least-cost, and environmental sensitivity during the Record Year.⁷ Established in Decision (D.)02-10-062, SOC 4 provides that “utilities shall prudently administer all contracts and generation resources and dispatch the energy in a least-cost manner.”⁸ For failure to uphold the utilities’ duty to prudently administer contracts and achieve least-cost-dispatch, the Commission adopted a maximum potential disallowance for violations of SOC 4 at twice the utility’s annual procurement administrative

³ Pub. Util. Code § 216(a).

⁴ Pub. Util. Code § 218 defines an electrical corporation as every corporation “owning, controlling, operating, or managing any electrical plant.”

⁵ Pub. Util. Code § 216(b).

⁶ Pub. Util. Code § 454.5.

⁷ D.02-10-062 at 17-18.

⁸ D.02-10-062 at 74 (Conclusion of Law 11).

expenditures, as set in a utility's General Rate Case.⁹ The maximum potential disallowance relates solely to the administration of electric procurement contracts and generation resources and to the dispatch of energy in a least cost manner, including contract negotiation and management, dispatch of Utility-Owned Generation (UOG) and third party generation resources, and fuel costs to UOG facilities. Potential disallowances that would not be included in the maximum potential disallowance cap would include expenses such as the costs for UOG replacement energy. For 2021, PG&E's annual procurement administrative expenditure is \$37,708,000, and its maximum disallowance is \$75,416,000.¹⁰

The Commission reviews ERRA applications under a reasonable manager standard, whereby it evaluates PG&E's actions based on whether they "comport with what a reasonable manager of sufficient education, training, experience, and skills using the tools and knowledge at his or her disposal would do when faced with a need to make a decision and act."¹¹

PG&E has the burden of proof in this proceeding.

3. Issues Before the Commission

The Scoping Memo identified the following issues to be determined in this proceeding:

1. Whether PG&E, during the Record Year, prudently administered and managed, in compliance with all applicable rules, regulations and Commission decisions, including but not limited to SOC 4, the following:
 - a. UOG facilities;

⁹ D.03-06-067 at 6.

¹⁰ Exhibit PG&E-01 at 14-2 and 14-3.

¹¹ D.11-10-002 at 11.

- b. Qualifying Facilities (QF) Contracts; and
- c. Non-QF Contracts.

If not, what adjustments, if any, should be made to account for imprudently managed or administered resources?

2. Whether PG&E achieved least cost dispatch of its energy resources and economically-triggered demand response programs pursuant to SOC 4.
3. Whether the entries recorded in the ERRA and the Portfolio Allocation Balancing Account (PABA) are reasonable, appropriate, accurate, and in compliance with Commission decisions.
4. Whether PG&E's greenhouse gas compliance instrument procurement complied with its Bundled Procurement Plan (BPP).
5. Whether PG&E administered resource adequacy procurement and sales consistent with its BPP.
6. Whether the costs incurred and recorded in the following accounts are reasonable and in compliance with applicable tariffs and Commission directives:
 - a. Green Tariff Shared Renewables Memorandum Account;
 - b. Green Tariff Shared RenewablesBA;
 - c. Disadvantaged Communities - Single Family Solar Affordable Homes BA;
 - d. Disadvantaged Communities - Green Tariff BA;
 - e. Community Solar Green TariffBA; and
 - f. Centralized Local Procurement Sub-Account of the New System GenerationBA.
7. Whether there are any safety considerations raised by this Application.
8. What is the revenue requirement equal to the estimated unrealized volumetric sales and unrealized revenue resulting from the Public Safety Power Shutoff (PSPS)

events in 2021 that PG&E must forgo in accordance with Decision 21-06-014? What is the appropriate methodology for calculating PG&E's unrealized volumetric sales and unrealized revenues resulting from 2021 PSPS events?

4. PG&E's Administration of its Utility-owned Generation and Qualifying Facilities Contracts and Non-Qualifying Contracts

PG&E operates the following UOG types: hydroelectric, fossil fuel, fuel cell, solar, and nuclear. This decision considers each electricity generation source below:

4.1. Hydroelectric Generation

PG&E's utility-owned hydroelectric portfolio consists of 63 powerhouses with 102 generating units and ancillary support facilities that include reservoirs, diversions, dams and water conveyance apparatus.

PG&E operated its hydroelectric portfolio in a reasonable manner during the record period by maintaining a comprehensive management structure, prudently overseeing operation of the large and geographically dispersed, and aging hydroelectric system. Although PG&E sought to manage outages sufficiently in advance, the system experienced unanticipated outages caused by wildfires, public safety power shutoffs and storm events. These unanticipated outages accounted for half of the outage events during the Record Year.

We find that PG&E operated its hydroelectric portfolio in a reasonable manner, in compliance with all applicable rules, regulations and Commission decisions, during the record period by maintaining a comprehensive management structure and by prudently overseeing the operation of its hydroelectric system.

PG&E demonstrated that it has completed all but one of the corrective actions required under Ordering Paragraph 6 in D.20-02-006, which approved

the Settlement Agreement between PG&E, Cal Advocates and CalCCA in PG&E's 2018 ERRRA Compliance Proceeding. Under the Settlement Agreement, PG&E agreed to report on the progress of its corrective actions associated with the Beldon Thrust Bearing Wipe Cause Evaluation Report and the Auto Testing Frequency and Over Speed Testing slide presentation, dated December 10, 2018. In this proceeding, PG&E detailed the work that PG&E completed to address the Beldon Thrust Bearing Wipe Cause Evaluation Report,¹² and the corrective actions PG&E completed that were identified on page 5 of the Auto Testing Frequency and Over Speed Testing slide presentation.¹³ The only outstanding corrective action is the implementation of a pilot for electronic speed sensing to evaluate effectiveness. PG&E completed the design work and site selection with implementation to be completed in 2023. The Commission agrees that PG&E has fulfilled its reporting obligations and no longer needs to report in detail on fulfillment of its settlement agreement obligations but must report the final completion of the pilot for electronic speed sensing.

4.2. Fossil Fuel Generation, Fuel Cell Facilities and Solar Generation

During the Record Year, PG&E owned, operated and maintained three fossil fuel generating stations, two fuel cell facilities, and 10 ground-mounted PV solar stations. PG&E operated the two fuel cell facilities only periodically from January 1, 2021, through May 31, 2021, at which time they were retired.

¹²Exhibit PG&E-01 at chapter 2, pp 2-39.

¹³ Exhibit PG&E-01 at chapter 2, pp 2-40.

PG&E's fossil fuel generating facilities experienced five forced outages during the Record Year. A forced outage is defined as an unplanned outage due to equipment failures, or the need for an urgent repair.¹⁴

The Humbolt Bay Generating Station experienced four forced outages during the Record Year. During February 2021, Humbolt Bay Generating Station unit 2 was forced out of service for seven days due to the emission control system failing to operate as required. After investigation, PG&E determined that the programable logic controller (PLC), which operates the emissions control, system failed. PG&E had a spare PLC, but it required programming. PG&E had the PCL programmed promptly allowing the Humbolt Bay Generating Station to return to service relatively quickly. Additionally, PG&E purchased spare pre-programmed PCLs to reduce downtime should another PCL fail. The Commission favors this type of proactive action. Accordingly, the Commission finds that PG&E acted prudently in managing the Humbolt Bay Generating Station unit 2 outage.

The Commission likewise concludes that PG&E acted reasonably in resolving the other three forced outages in a timely manner.

In summary, the Commission finds that PG&E prudently managed its utility-owned fossil fuel generation, fuel cell generation and solar generation facilities, in compliance with all applicable rules, regulations and Commission decisions.

4.3. Nuclear Generation

PG&E owns and operates the Diablo Canyon Nuclear Power Plant (Diablo Canyon) located in San Luis Obispo County, northwest of Avila Beach. Diablo

¹⁴ A forced outage differs from a planned outage, which is a scheduled outage usually for maintenance purposes.

Canyon consists of two twin pressurized water reactors, referred to as Units 1 and 2 rated at a nominal 1,122 megawatts (MW) and 1,118 MW, respectively.

In addition to evaluating PG&E's management of Diablo Canyon during the 2021 Record Year, we also evaluate, in this proceeding, three forced outages of the Diablo Canyon Unit 2 generator during the 2020 Record Year in this proceeding.¹⁵ The review of these 2020 Unit 2 forced outages were postponed to this proceeding because the Root Cause Evaluations¹⁶ of these forced outages were not completed in time for review when PG&E filed Application 21-03-008, PG&E's 2020 ERRR Compliance proceeding.¹⁷

In total, there were six forced outages of the Unit 2 generator during the 2020 and 2021 Record Years. Forced outage one commenced on July 17, 2020, and extended until August 2, 2020. Forced outage two commenced on October 15, 2020, and extended until November 26, 2020. Forced outage three commenced on December 2, 2020, and extended until January 12, 2021. Forced outage four commenced on February 2, 2021, and extended until March 1, 2021.¹⁸

A4NR recommends disallowance of \$150,498,003, representing the power replacement costs for five of the six forced outages.¹⁹ While A4NR states that it

¹⁵ D.22-04-041 at 5.

¹⁶ PG&E's Root Cause Evaluation Process is a formal and rigorous investigation that uses industry-accepted analysis methods to identify the root cause of a problem and identifies corrective actions in order to prevent or reduce the likelihood of a recurrence of the problem from the same or similar root cause. PG&E Utility Procedure: GOV-6102P-06, January 4, 2022, at 27.

¹⁷ See Assigned Commissioner's Scoping Memo and Ruling (Application 21-03-008) at 5-6.

¹⁸ Unit 2 did not go back on-line on March 1, 2021. Instead, the status converted from a forced outage to a planned outage because the unit was scheduled for refueling at that time.

¹⁹ A4NR dropped its request for a \$28,070,513 disallowance for replacement power costs after PG&E's factual clarifications included in its rebuttal testimony. (See A4NR Opening Brief at 1.)

does not challenge PG&E's post outage conduct, A4NR cites to the Root Cause Evaluations prepared by PG&E after the forced outages to support its conclusion that PG&E and its contractor, Siemens, failed to satisfy the reasonable manager standard in the design and testing phase of the Unit 2 rebuild.²⁰

4.3.1. Root Cause Evaluation Evidence

Before evaluating the forced outages and whether PG&E prudently and reasonably managed its contractor and the repairs to Unit 2, the parties dispute the evidentiary value of the Root Cause Evaluations. The parties disagree about the evidentiary value of the conclusions reached in the Root Cause Evaluations.

PG&E contends that the Commission's review should focus on the facts as they were reasonably known by PG&E at the time of the outages and not the conclusions and opinions that were developed thereafter.²¹ PG&E cites D.10-07-049, D.16-04-006 and D.19-10-039 to support its argument.

Conversely, A4NR argues that the cited decisions expressly allow reliance on conclusions reached in Root Cause Evaluations to determine whether PG&E acted prudently. A4NR further relies on D.11-10-002 for the premise that the Root Cause Evaluations are an appropriate tool for a reasonableness evaluation.

In D.11-10-002, the Commission reiterated its holding from D.10-07-049 that Root Cause Evaluation conclusions were not in and of themselves evidence that the utility acted unreasonably. The Commission continued, however, to state "[b]ut it is entirely appropriate for the Commission to use the facts and

²⁰ A4NR Opening Brief at 8 and 11.

²¹ PG&E Opening Brief, p. 5; PG&E Reply Brief at 2 and 4-6.

underpinning of the RCE [Root Cause Evaluations] in our analysis of whether [the utility] complied with the reasonable manager standard.”²²

D.16-04-006 concluded likewise, but went a step further to “recognize that inappropriate actions, root causes, or apparent causes that are identified in a post-incident evaluation may not translate directly into unreasonable actions on the part of the utility.” Instead, “the utility’s actions and identified root causes must be evaluated in conjunction with the “reasonable manager” standard in determining whether the outage is reasonable or unreasonable and whether a disallowance based upon replacement costs is warranted.”²³

Consistent with D.16-14-006, we determine whether a disallowance is warranted by evaluating PG&E’s actions and the identified root causes under the lens of the reasonable manager standard.

4.3.2. PG&E’s Reasonableness Prior to and During Forced Outages

A4NR argues that within two years after PG&E installed the new Unit 2 generator equipment, extensive forced outages in 2020 and 2021 resulted in replacement power costs that exceeded the capital investment.²⁴ According to A4NR, the Root Cause Evaluations attribute the forced outages to contractor error, compounded by several pre-outage lapses by PG&E. A4NR argues that PG&E’s responsibilities as a prudent manager cannot be delegated to its contractor,²⁵ and that both PG&E and its contractor should be held to the

²² D.11-10-002 at 7., section 5.1.1.

²³ D. 16-04-006 at 31-32.

²⁴ A4NR Opening Brief at2.

²⁵ See A4NR Exhibit-01-C at 4. Additionally, In A4NR’s reply brief, it cites D.15-11-006 for the proposition that PG&E cannot “shirk its obligation-which is non-delegable- to prudently administer and manage its DCNPP [Diablo Canyon Nuclear Power Plant] Unit 2 generation

Footnote continued on next page.

standard of reasonableness and prudence – although the ultimate responsibility lies with PG&E.²⁶

Without question, the operation of Diablo Canyon imposes safety considerations that are non-delegable. Conversely, the design and technical expertise necessary to rebuild the Unit 2 generator are not skills that a typical power plant operator would have. In this proceeding, however, we need not delve farther into the intricacies of statutory or common law duties because the standard in this proceeding is that of the reasonable manager.

PG&E challenges A4NR's usage of *Snyder v. Southern California Edison*,²⁷ which held that public utilities may not delegate work within the scope of their operations to a contractor to avoid statutory liability.²⁸ PG&E urges the Commission to adopt a standard that distinguishes between the activities that the utility could have undertaken on its own and those that require specialized expertise, such as rebuilding portions of a nuclear plant.²⁹ Instead, PG&E argues, a reasonableness review should focus on the utility's conduct in selecting the contractor. If the utility's conduct in hiring the contractor is reasonable, then any errors by the contractor do not amount to imprudence by the utility.³⁰

asset by scapegoating it contractor. . . ." The citation does not support the argument. The citation refers to maintaining facilities in a safe manner. The issue in this proceeding is not whether Unit 2 was operated or maintained in a safe manner, but whether PG&E reasonably and prudently managed its contractor in addressing and rectifying the causes of the outages. No party has raised any concerns about the safety of the public or employees resulting from the Unit 2 outages.

²⁶ A4NR Opening Brief at 5.

²⁷(1955) 44Cal.2d 793, 799-801.

²⁸ PG&E Reply Brief at. 6.

²⁹ Id. at 7.

³⁰ Id.

The Commission declines to adopt PG&E's proposed modifications of the standard for evaluating reasonableness that would limit the inquiry to the utility's hiring practices. But the Commission agrees that utilities should hire specialists to assist in technical areas in which the utility does not reasonably have qualified staff. This does not mean that utilities can choose not to hire staff with technical expertise but is instead an acknowledgement that it is impractical to maintain staff with specialized skills or knowledge in areas outside of day-to-day operations. Periodically, the utility will need to engage consultants or contractors with specialized knowledge or skills for discrete activities; however, hiring technical expertise does not obviate the long-standing rule of nondelegable duties for safety issues, or those imposed by statutory or common law.

PG&E contends that it acted as a reasonable and prudent manager in hiring Siemens, which is the successor in interest to Westinghouse that originally constructed Diablo Canyon.³¹ We do not contend that PG&E acted unreasonably and imprudently in hiring Siemens. But our evaluation of whether PG&E was a reasonable and prudent manager does not end there.

PG&E further contends that Siemens acted prudently in developing the design and installation procedure for rebuilding the stator³² in Unit 2 based on the information it had available to it at the time.³³ PG&E asserts that Siemens had used similar designs at other facilities that did not face the same excessive

³¹ PG&E Opening Brief at 7.

³² A stator is the stationary component found in electric motors and generators. It consists of a laminated core and coils of insulated wire known as the windings. When alternating current is applied to a stator, it creates a rotating magnetic field.

³³ Id. at 7-8.

vibrations.³⁴ PG&E further asserts that it worked closely with and oversaw Siemens's work.³⁵

A4NR cites to the Root Cause Evaluations' discussion of deviations from Siemens' contractual obligations as evidence that PG&E was not a prudent manager.³⁶ For example, A4NR identifies the following as "major non-conformances" by Siemens: 1) failure to design the stator core so that it does not have excitable natural frequency near operating frequency (60Hz) or twice operating frequency (120 Hz)³⁷; 2) failure to design the new components to minimize the occurrence of non-conformances, required maintenance, inspection, testing or other events that require Diablo Canyon to operate at less than full capacity; 3) failure to design the new components to last until 2045, the anticipated operational life of the Unit 2 generator; and 4) failure to perform a frame survey and bump test the stator frame.³⁸ A4NR asserts that a reasonable and prudent manager would have more closely monitored Siemens' design, work and testing.³⁹ PG&E countered that contractual non-conformances do not establish imprudence because when elements of Siemens' work did not meet contractual obligations, PG&E received services at no cost to resolve those non-conformances.

We evaluate not whether Siemens complied with its contractual indemnity or repair obligations, but what a reasonable manager would have done at the

³⁴ Id. at 7.

³⁵ Exhibit PG&E-04-C at 4-29; See also PG&E Reply Brief at 9.

³⁶ Exhibit A4NR – 1 at 2-5.

³⁷ A4NR Opening Brief at 8.

³⁸ Id at 9.

³⁹ Exhibit A4NR – 1 at 2-5.

time with the information it had available to it. The Root Cause Evaluations inform the analysis, but do not in and of themselves prove imprudence.

Accordingly, we evaluate all six forced outages under this lens.

4.3.3. Forced Outages One Through Four

The Unit 2 generator was rebuilt and placed into service in December 2019. Siemens upgraded the Unit 2 generator with a Bonded Stator Core “Donut” technology. Unit 2 has a history of vibrations. Unit 2 relies on a series of circumferential bands, called bore rings to rigidly connect the stator frame to the core and prevent vibrations. The rebuild design was purposed to alleviate the vibrations. However, Unit 2 experienced excessive vibrations resulting in the first four forced outages.

According to PG&E, the first four forced outages resulted from gradual loosening of the bore rings under the stick-slip phenomenon: The bore rings would stick in place and then slip into a new position under the vibration induced by operation of the generator. This in turn caused excessive frame vibration, which had never previously occurred in a generator using Siemens’ chosen stator design.⁴⁰ PG&E describes this as a latent defect that it could not have detected through on-site supervision of Siemens.⁴¹ PG&E further contends that solving this problem required an iterative process.⁴²

A4NR does not contest the actions PG&E took after the vibrations shut down the Unit 2 generator but urges the Commission to reject PG&E’s assertion that it could not have anticipated the vibrations. A4NR cites to Siemens’

⁴⁰ Exhibit PG&E-01 chapter 4 at .4-14.

⁴¹ PG&E Reply Brief at 9.

⁴² *Id.*, at 12. *See also*, Exhibit A4NR-01-C, Attachment A at 41.

contractual non-compliances in the design of the rebuild and the post-construction testing, PG&E's over reliance on Siemens, PG&E's failure to detect omissions from the Design Verification Testing, and PG&E's acceptance process as proof that PG&E did not satisfy the reasonable manager standard.⁴³ The relief A4NR seeks is a disallowance for replacement energy costs only and not the costs of the repairs.⁴⁴

A4NR relies solely on the Root Cause Evaluations for its evidence. Indeed PG&E's Root Cause Evaluations identify certain design flaws and omissions or inadequate design verification testing. After listing the design flaws and design verification testing deficiencies, the Root Cause Evaluations assert that these issues were not factors in the first three of the four vibration-caused outages.⁴⁵

The Commission concurs with A4NR that PG&E failed to recognize that the design verification testing did not integrate the performance of stator end winding and parallel ring vibration resonance into the design change proposed by Siemens, which was a factor in forced outage four.

PG&E is not expected to have in-house knowledge of each of the design elements, but our conclusion focuses instead on PG&E's failure to either notice the lack of testing or to insist upon it. The first three forced outages resulted from excessive vibrations that required an iterative process of tightening the bolts. PG&E was able to achieve sustained bore ring bolt tightness after the third forced outage.⁴⁶ During the post-forced outage three testing, however, the end windings and parallel rings were not adequately tested by Siemens for modal frequency.

⁴³ Exhibit A4NR Exhibit-01-C.

⁴⁴ A4NR Opening Brief at 2.

⁴⁵ Exhibit A4NR-01-C, Attachment A at 14.

⁴⁶ Exhibit PG&E-04, chapter 4 at 4-5, line 10, *see* also table at 4-8.

Accordingly, during forced outage four, the parallel ring was bump tested and found natural frequencies close to the 120 Hz operating frequency.⁴⁷

The Root Cause Evaluations point to the lack of testing on certain components, primarily the building bolts, after forced outages one through three.⁴⁸ It was only after the testing during forced outage four that PG&E ameliorated the causes of the excess vibrations and high frequencies. Based on the testing deficiencies, we have determined that PG&E did not satisfy the reasonable manager standard leading to forced outage four.

We find that PG&E acted reasonably with respect to the first three forced outages but failed to act as a reasonable and prudent manager to prevent or lessen forced outage four. Accordingly, we disallow \$43,208,116 for the replacement power costs associated with forced outage four.

4.3.4. Forced Outage Five

Forced outage five resulted from incorrect installation of two hoses inside the Unit 2 main generator that interrupted the start up from the previously planned refueling outage (2R22⁴⁹). Commencing on April 19, 2021, this forced outage lasted for approximately five days.

When restarting Unit 2 following the planned outage in March 2021, PG&E's operational testing identified a misconnected hose that required Unit 2 to be shut down again. PG&E investigated the matter and learned that the

⁴⁷ Exhibit A4NR-01-C at 22, lines 5-10.

⁴⁸ The testing deficiencies are contained in the confidential portions of the Root Cause Evaluations. See A4NR Exhibit-01-C at 38-41.

⁴⁹ This is the reference number for the planned refueling outage that commenced on March 1, 2021. As noted above this planned outage transitioned from a forced outage that commenced on February 3, 2021.

misconnection resulted from human error.⁵⁰ PG&E asserted that the mistake occurred during an acute staffing shortage due to an outbreak of COVID 19 amongst the Siemens work crew. This forced outage occurred just over a month into the COVID 19 shelter-in-place orders. Siemens' staff not subject to the quarantine requirements had less experience with the tasks necessary to restart Unit 2 following the scheduled outage. Additionally, engineering staff occupied multiple roles to fill in for their sick counterparts. PG&E contends that navigating proper re-assembly of Unit 2 required detailed drawings labeling the many different hoses and connection points. Moreover, the hoses were in a congested area with limited visibility. All these factors lead to the incorrect installation during the connection process.⁵¹

The post maintenance testing did not detect the error because the testing relied on the flow rate to determine any blockages or incomplete connections, but did not monitor flow in the opposite direction, which is what occurred with this mistaken connection.⁵²

A4NR points to PG&E's Root Cause Evaluations stating that the Siemens work package template changed between forced outages resulting in the removal of instructions that referenced controlling documents and objective evidence needed to satisfy work completion sign-off. A4NR also cites to the Root Cause Evaluations for the premise that the inadequate post-maintenance flow test was a contributing factor to the forced outage.⁵³

⁵⁰ PG&E Opening Brief at 22-23.

⁵¹ Exhibit PG&E-04, chapter 4 at 4-31 and 4-32.

⁵² Id. at 4-32.

⁵³ Exhibit A4NR-01 at 35-45.

The Commission acknowledges that the staffing situation due to COVID 19 presented an unprecedented challenge that PG&E could not have foreseen. Additionally, Siemens staff had reconnected the hoses several times since Unit 2 was rebuilt. PG&E prudently relied on Siemens to reconnect the hoses correctly following the planned outage. Accordingly, we find that PG&E acted prudently with respect to forced outage five and decline to deduct the replacement power costs.

4.3.5. Forced Outage Number Six

Forced outage six commenced on October 15, 2021, and extended to November 3, 2021. This forced outage was caused by a failure of the feedwater heater tube and was unrelated to the Unit 2 generator.⁵⁴ No party to this proceeding disputed whether PG&E acted reasonably or prudently with respect to this forced outage. Weighing the evidence, we determine that PG&E acted reasonably with respect to forced outage six and allow PG&E to recover its costs, including the necessary replacement power costs incurred while resolving this forced outage.

4.3.6. Conclusion

With the exception of forced outage 4 at Diablo Canyon, we find that PG&E managed its utility owned nuclear generation facilities prudently, in compliance with all applicable rules, regulations and Commission decisions.

5. Administration of Qualifying and Non-Qualifying Facilities Contracts

Of the 802 power contracts PG&E managed in 2021, Cal Advocates contests PG&E's reasonableness in managing the Vantage Wind Power Purchase Agreement (VWPPA) and argues that PG&E did not comply with SOC 4.

⁵⁴ Exhibit PG&E – 04 at 4-1.

In 2019, PG&E discovered that the cost sharing mechanism in the VWPPA had not been properly applied since October 2010, which was the beginning of the VWPPA delivery term. Instead of cost sharing above certain thresholds, PG&E mistakenly paid the full costs from October 2010 through 2019.⁵⁵ PG&E did not discover the error until 2019 at which time PG&E sought to recover the past overpayments. PG&E obtained full recovery of the overpayments for the 2018-2019 contract year and partial recovery for the prior year under the terms of a settlement agreement.⁵⁶

PG&E asserts that the VWPPA had unique terms different from other PG&E power purchase agreements. PG&E further argues that it made contract administration modifications as a result of a root cause evaluation of the failure of the cost sharing mechanism to be applied in the VWPPA and that it should not be held to a standard of perfection. PG&E also claims that it self-reported the error.⁵⁷

Cal Advocates asserts that even if this contract contained unique terms different from other PG&E power contracts, this does not excuse PG&E's failure to comply with SOC 4. Cal Advocates further argued that as the counterparty, PG&E should have exercised more diligence and implemented additional safeguards to ensure proper administration of a contract containing unique and non-standard terms.⁵⁸

⁵⁵ It should be noted that the thresholds for cost sharing were not met until 2013.

⁵⁶ Exhibit PG&E-01 at 9-18 and 9-19.

⁵⁷ PG&E Opening Brief at 29.

⁵⁸ Public Advocates Opening Brief at 6

While we concur that SOC 4 does not require perfection,⁵⁹ PG&E, however, failed to establish that it complied with SOC 4 in administering the VWPPA. Allowing the error to occur annually for at least eight years is contrary to how a prudent manager would administer the power purchase agreement. Neither the settlement agreement nor the after-the-fact modified contract administration⁶⁰ procedures compensate the ratepayers for nearly a decade of mismanagement of the VWPPA. Accordingly, we agree with Cal Advocates that PG&E failed to prudently administer the VMPPA in accordance with SOC 4. We therefore disallow PG&E from recovering costs equivalent to the amount identified in Confidential Exhibit PAO-01-C, chapter 5, pages 5-8, line 10 for mismanaging the VWPPA. This is the amount Cal Advocates calculated by taking the total amount of uncollected payments of the cost sharing mechanism from the contract execution of the 2018-2019 contract year and subtracting the partial recovery under the Settlement Agreement between PG&E and Vantage Wind Energy, LLC.

With the exception of the management of the VWPPA, we find that PG&E prudently administered and managed its qualifying and non-qualifying facilities energy resource contracts, in compliance with all applicable rules, regulations and Commission decisions.

6. Least Cost Dispatch

Least cost dispatch refers to a utility's dispatch of resources in a least-cost manner by using the most cost-effective mix of total resources and scheduling dispatch efficiently and strategically. In an ERRA compliance proceeding, the

⁵⁹ See D.17-03-016 at.8.

⁶⁰ See D.17-03-016 and D.18-10-031.

Commission considers whether the utility complied with SOC 4 that requires consideration of 1) whether the utility dispatched contacts under its control, 2) whether it disposed of economic long power, and purchased short power in a manner that minimizes ratepayer costs, and 3) whether the utility used the most cost-effective mix of total resources, thereby minimizing the cost of delivering electric services.

For the Record Year, PG&E provided the following: 1) an overview of the least cost dispatch in the CAISO Markets; 2) a description of the least-cost dispatch business process that includes billing and scheduling processes; 3) a summary of reports and tables documenting dispatchable thermal resources aggregated annual exception rates for incremental cost bid calculations, self-commitment decisions, master file data changes, and market and business process changes; and 4) a discussion of economically-triggered demand response programs including a discussion of economically dispatched demand response, the capacity bidding program with an annual summary of results, and the smart air conditioning program available to residential customers.

PG&E's execution of least-cost dispatch is not a disputed issue in this proceeding, and no party requests a disallowance related to PG&E's least-cost dispatch activities.

PG&E's testimony demonstrated that it achieved least-cost dispatch of its energy resources and economically-triggered demand response programs pursuant to SOC 4 in the Record Year. Accordingly, the Commission finds that PG&E's least-cost dispatch in the Record Year was in compliance with Commission requirements, including SOC4.

7. ERRA and PABA Balancing Accounts

7.1. Reasonableness of ERRA and PABA account entries

PG&E's testimony demonstrates that it complied with all Commission decisions in recording entries in the PABA appropriately and accurately. Upon review, we find that the entries recorded in the ERRA and PABA are reasonable, appropriate, accurate, and in compliance with Commission decisions.

7.2. Transparency of the ERRA entries

CalCCA urged PG&E to provide 1) greater transparency in vintaging new UOG facilities by submitting a Tier 1 Advice Letter; 2) disposition of new processes developed resulting from the 2020 PABA audit recommendation for Regulatory Inventory Data; and 3) an audit of processes and procedures over customer vintaging determinations. PG&E responded that it would in fact provide the information requested in favor of transparency but suggested that instead of filing a Tier 1 Advice letter, that the rationale for vintage assignments for any newly approved UOG facilities be presented in the first ERRA Compliance proceeding immediately following Commission approval of a new UOG. With agreement to these terms, the parties entered into a stipulation.

7.3. Terms of Stipulation

The parties moved to enter the stipulation into the record. The stipulation was admitted into the record through the October 11, 2024 ALJ Ruling. The stipulated terms between CalCCA and PG&E are as follows⁶¹:

- a. PG&E will specifically identify and submit testimony addressing vintaging of new UOG in the next ERRA Compliance application after the Commission approval of any new UOG facility. To the extent that UOG expenditures for new UOG facilities have not been

⁶¹ Exhibit PG&E-07.

recorded to SAP Project Orders at the time that PG&E files its first ERRA Compliance application after Commission approval of the new UOG facility, PG&E will submit testimony providing an update on the vintaging of the facility in subsequent PG&E ERRA Compliance applications.

- b. The information provided by PG&E in its rebuttal testimony addressed CalCCA's concerns regarding the resolution of audit findings related to the Regulatory Data Inventory (RDI) audit remediation efforts.
- c. PG&E has satisfactorily demonstrated appropriate transfer of 2021 and 2022 interim pool resource costs from the PABA to the Green Tariff Shared Renewables Balancing Account, and 2021 and 2022 CAISO market revenues from the PABA to the Energy Resource Recovery Account Balancing Account.

7.4. Approval of Stipulation

The Commission concurs that increasing transparency of PG&E's vintaging of its UOG facilities in subsequent ERRA Compliance proceedings is reasonable and supported by the record in this proceeding. Therefore, the Commission accepts the stipulation and directs PG&E to submit testimony addressing vintaging of new UOG in the next ERRA Compliance application after the Commission approval of any new UOG facility.

8. Procurement of Greenhouse Gas Compliance Instruments and Resource Adequacy

The extensive record developed in this proceeding includes the parties' testimony and workpapers. This evidence provided a sufficient showing that PG&E's procurement of Greenhouse Gas Compliance Instruments and procurement and sales of Resource Adequacy are in compliance with its BPP, Commission directives and applicable tariffs. Accordingly, we find that PG&E's

procurement of Greenhouse Gas Compliance Instruments and procurement and sales of Resource Adequacy procurement are in compliance with its BPP.

8.1. Green House Gas Compliance Instruments

PG&E's BPP, as modified by Advice Letter 5473-E, details PG&E procurement authority to comply with the Cap-and-Trade Program managed by the California Air Resources Board. We find that PG&E demonstrated that it complied with its BPP in its procurement of greenhouse gas compliance instruments during the Record Year.

8.2. Resource Adequacy

Like all load serving entities, PG&E must procure sufficient resource adequacy to meet the system, flexible and local resource adequacy requirements. Additionally, PG&E serves as a central procurement entity for resource adequacy. The Commission modified the resource adequacy requirements in 2021, effective 2022, including obligations to procure additional capacity to prepare for extreme heat during the summer months. We find that PG&E satisfied the requirements for purchase and sale of resource adequacy consistent with PG&E's BPP. PG&E also serves as the central procurement entity for PG&E's distribution service area for the multi-year local resource adequacy program.

9. Recorded Entries in the Other BAs and Memorandum Accounts

9.1. Disadvantaged Communities – Single Family Solar Affordable Homes BA and Memorandum Account

The Disadvantaged Communities – Single Family Solar Affordable Homes BA records the costs of the Disadvantaged Communities – Single Family Solar Affordable Solar Housing program. This program supports the development of

alternatives and adoption and growth of renewable generation in disadvantaged communities. None of the entries in this account were contested. The evidentiary record in this proceeding supports the conclusion that the expenses PG&E recorded in the Disadvantaged Communities – Single Family Solar Affordable Homes BA were reasonable.⁶² We find that the costs incurred and recorded in the Disadvantaged Communities – Single Family Solar Affordable Homes BA during the Record Year are reasonable and in compliance with applicable tariffs and Commission directives, and that it is reasonable for PG&E to recover the 2021 program management expenses as recorded.

PG&E recorded the startup costs for the Disadvantaged Communities - Single Family Solar Affordable Homes program in the Disadvantaged Communities – Single Family Solar Affordable Homes Memorandum Account. D.21-07-013 approved the recorded costs, and PG&E has not recorded and does not intend to record any additional startup costs. The Commission directs PG&E to close the Disadvantaged Communities – Single Family Solar Affordable Homes Memorandum Account, after it transfers any remaining funds in the Disadvantaged Communities – Single Family Solar Affordable Homes Memorandum Account to the Disadvantaged Communities – Single Family Solar Affordable Homes BA.

9.2. Disadvantaged Community – Green Tariff BA

The Disadvantaged Community – Green Tariff BA (DCGTBA) records the costs of the Disadvantaged Community – Green Tariff program. This program offers eligible customers the choice of using clean energy without installing generation equipment or owning a home. It is available to customers in

⁶² Exhibit PG&E-01, chapter 15.

disadvantaged communities who meet income eligibility requirements for the California Alternate Rates for Energy (CARE) and Family Electric Rate Assistance (FERA) programs. The DCGTBA gives customers an additional 20 percent discount on their electricity bills in addition to the CARE and FERA discounts. PG&E demonstrated compliance with the Commission directives related to this program, including CPUC Res. 4-999 and D.18-06-027.^{63,64}

In 2021, with Commission approval, PG&E transferred \$0.74 million from the Greenhouse Gas allowance proceeds to the DCGTBA.

We find that PG&E's testimony demonstrated that its entries recorded in the DCGTBA during the Record Year are reasonable and are in compliance with applicable tariffs and Commission directives.⁶⁵

9.3. Green Tariff Shared Renewables Memorandum Account and the Green Tariff Shared Renewables BA

Under D.15-01-051, PG&E must track administrative and marketing costs for the Green Tariff Shared Renewables program in a memorandum account. PG&E offers two Green Tariff Renewables programs. The first is a green tariff program for customers under the name "PG&E's Solar Choice." The second is the "Regional Renewable Choice" program for developers. In 2021, no customers took service under the Regional Renewable Choice program tariff.

Revenues received and actual expenses incurred from the Green Tariff Shared Renewables Program must be tracked in the Green Tariff Shared Renewables BA (GTSRBA). In 2021, PG&E's Solar Choice program was

⁶³ CPUC Res. 4-999 required semi-annual request for offers to procure the full program capacity.

⁶⁴ D.18-06-027 required PG&E to file Advice Letters, which PG&E did to establish the DCGTBA and the Community Solar Green Tariff Balancing Account (CSGTBA) and to fund the BAs.

⁶⁵ Exhibit PG&E-01, chapter 5 at 5-1 to 5-5.

oversubscribed, meaning that the resources required exceeded those dedicated to the program. D.21-12-036 authorized PG&E to add interim pool resources that will be recorded in the 2022 GTSRBA. Upon review, we find that PG&E's testimony demonstrated that its entries in the GTSRBA recorded during the Record Year are reasonable and in compliance with applicable tariffs and Commission directives.⁶⁶

9.4. Community Solar Green Tariff Balancing Account

The CSGTBA records the costs of the Community Solar Green Tariff program. This program is available to CARE and FERA customers but opens participation to non-CARE and non-FERA customers once 50 percent or greater of the project has been subscribed to low-income customers. The CSGTBA gives participants a 20 percent discount. This program is designed to engage communities in developing solar projects within five miles of the participating customer's community. The Community Solar Green Tariff program had no customers during the Record Year because the first community solar project was not available for enrollment until 2022.

For 2021, the Commission approved transferring \$2.89 million from the greenhouse gas proceeds to the community solar program.⁶⁷ We find that PG&E's testimony demonstrated that its entries recorded in the CSGTBA during the Record Year are reasonable and in compliance with applicable tariffs and Commission directives.⁶⁸

⁶⁶ Exhibit PG&E-01, chapter 11.

⁶⁷ D.20-12-038.

⁶⁸ Exhibit PG&E-01, chapter 5, at 5-5 to 5-7.

9.5. Centralized Local Procurement Sub-Account of the New System Generation BA

As the central procurement entity for the local resource adequacy program, PG&E may record and recover procurement and administrative costs. PG&E has recorded these costs in the Centralized Local Procurement Sub-Account of the New System BA. In 2021, PG&E held its first solicitation for local resource adequacy for the 2023 and 2024 compliance period, which was overseen by an independent evaluator as required by D.20-06-002. The Commission finds PG&E's testimony demonstrated that its recorded costs in the Centralized Local Procurement Sub-Account of the New System Generation BA during the Record Year to be reasonable and in compliance with Commission decisions.⁶⁹

10. Revenue Attributed to 2021 Public Safety Power Shutoff (PSPS) Events

D.21-06-014 ordered PG&E to forgo collection in rates all authorized revenue requirement equal to the estimated unrealized volumetric sales and unrealized revenue resulting from PSPS events that were called after the effective date of the decision.^{70,71} D.23-06-054 set forth the methodology that PG&E must use to calculate the unrealized sales and unrealized revenues caused by PSPS events.⁷² D.23-06-054 also ordered PG&E to submit supplemental testimony in its 2021 Erra Compliance proceeding to present an estimate of unrealized sales and unrealized revenues caused by PSPS events in 2021 that were called after the effective date of D.21-06-004.⁷³

⁶⁹ Exhibit PG&E-01, chapter 16.

⁷⁰ D.21-06-014 at Ordering Paragraph 1.

⁷¹ The effective date of D.21-06-014 was June 3, 2021.

⁷² D.23-06-054 at Ordering Paragraph 1.

⁷³ D.23-06-054 at Ordering Paragraph 2.

Under D.23-06-054, the unrealized revenues during a PSPS event are calculated using the following methodology⁷⁴:

- (a) The unrealized volumetric electric sales shall be calculated using the following steps:
 - i. The utility identifies the specific customer accounts that were impacted by each PSPS event in a given record year;
 - ii. For each affected customer of a PSPS event, the utility develops an electric consumption baseline using hourly load data from the seven days before and the seven days after each PSPS event (excluding data from other PSPS events during those two seven-day periods). For net energy metering (NEM) accounts, kilowatt-hour (kWh) net values are used; for non-NEM accounts, kWh delivered values are used;
 - iii. For each affected customer of a PSPS event, the utility calculates a weekday baseline profile for Mondays through Fridays and a weekend baseline profile for Saturdays, Sundays, and holidays for each hour (not just the hours affected by the PSPS event) by averaging the data from the two seven-day periods described in step ii above, resulting in 24 hourly weekday baseline profiles and 24 hourly weekend baseline profiles for each affected customer of a PSPS event;
 - iv. The utility identifies each affected customer's hourly load data for each hour of each day of a PSPS event (not just the hours affected by the PSPS event). For customer accounts without hourly load data, the utility calculates the ratio of the total hourly load for the affected customer's class to the total hourly baseline profile for that class and then multiplies that ratio by the customer's hourly baseline profile to obtain that customer's imputed hourly load; and

⁷⁴ D.23-06-054 at Ordering Paragraph 1.

- v. For each affected customer of a PSPS event, the hourly load data for each hour of each day of a PSPS event as described in step iv above are subtracted from the corresponding weekday or weekend hourly baseline profile described in step iii above to calculate unrealized volumetric sales, and those customer level unrealized sales are then aggregated by customer class.
- (b) The electric rate that will be used to calculate a utility's unrealized revenues consists of all rate components that are under the jurisdiction of the California Public Utilities Commission and are charged based on volumetric sales, except rate components that do not recover any revenue shortfalls or variances resulting from PSPS events and rate components that provide a credit to ratepayers during the PSPS event. PG&E, Southern California Edison Company, and San Diego Gas & Electric Company must include all applicable rate components in the electric rate based on the utility's rate structure at the time the PSPS event was initiated.
- (c) Unrealized wholesale generation revenues are excluded from the calculation of unrealized revenues.
- (d) When applying the methodology adopted in this decision to calculate a utility's unrealized revenues, shareholders for PG&E, Southern California Edison Company, and San Diego Gas & Electric Company shall fund all revenue shortfalls recorded in each of their respective balancing accounts resulting from Public Safety Power Shutoff events.

10.1. PSPS Events in 2021

In 2021, PG&E called four PSPS events after the effective date of D.21-06-014⁷⁵:

- 1) August 17-19, 2021 (35.4 hours), 48,155 customers affected;

⁷⁵ PG&E Opening Brief (2021 PSPS Ratemaking Remedy) at 3.

- 2) September 20-21, 2021 (14.1 hours), 2,968 customers affected;
- 3) October 11-12, 2021 (32.1 hours), 23,504 customers affected; and
- 4) October 14-16, 2021 (36.7 hours), 660 customers affected.

10.2. Calculation of Unrealized Sales and Unrealized Revenues

PG&E calculated the unrealized sales amount by comparing the baseline usage for the affected customers with each customers' usage during the PSPS events. The baseline usage for each affected customer is derived based on the hourly load data from the seven days before and the seven days after each PSPS event. PG&E calculated that the unrealized sales for each of the relevant 2021 PSPS events to be:⁷⁶

- 5) August 17-19, 2021 (35.4 hours), 1,587,199 kWh;
- 6) September 20-21, 2021 (14.1 hours), 29,439 kWh;
- 7) October 11-12, 2021 (32.1 hours), 735,600 kWh; and
- 8) October 14-16, 2021 (36.7 hours), 25,749 kWh.

After applying the rate components to the unrealized sales, PG&E calculated that the unrealized revenues for the above PSPS events to be \$305,429.⁷⁷

10.3. Stipulation between Cal Advocates and PG&E

Cal Advocates opposed PG&E's calculation of the baseline usage for customers with fewer than 14 days of usage data. Cal Advocates also recommended removal of the \$1,837 of net positive sales from Standby

⁷⁶ PG&E Opening Brief (2021 PSPS Ratemaking Remedy) at 5.

⁷⁷ PG&E Opening Brief (2021 PSPS Ratemaking Remedy) at 7.

customers during the PSPS events that were included in PG&E's calculation and that decreased the total amount of disallowed unrealized revenues.⁷⁸

PG&E and Cal Advocates later reached a stipulation in which both parties agreed to a) PG&E's calculation of the customers' baseline usage and b) increasing the total disallowance of unrealized revenues by the \$1,837 in sales from Standby customers during the PSPS events.

Cal Advocates' original position asserted that PG&E did not properly calculate the baseline usage for customers that had fewer than 14 days of customer usage data.⁷⁹ PG&E uses 14 days of customer data to calculate the baseline usage during the seven-day period the week before and the week after the PSPS event. In rebuttal testimony, PG&E asserted that the methodology it uses to calculate the baseline usage of customers with less than 14 days of usage data is consistent with the methodology approved in D.23-06-054.⁸⁰ According to PG&E, there were only 738 customers with less than 14 days of data. They accounted for less than one percent of the total number of impacted customers. PG&E explained that for over 95 percent of these customers, there were less than 14-days of usage data because either the customer's start date occurred within seven-days before the PSPS start date or the customer's end date occurred within seven-days after the PSPS event.⁸¹ Based on PG&E's explanation, Cal Advocates withdrew its opposition and does not contest PG&E's calculation of customers'

⁷⁸ PAO-03 at 10-13.

⁷⁹ PAO-03 at 10-11.

⁸⁰ PGE-09 at 13.

⁸¹ PGE-09 at 10-11.

baseline usage, including the baseline usage of customers with less than 14 days of data.⁸²

In addition, Cal Advocates' original position recommended that PG&E remove \$1,837 in net positive sales, which PG&E collected from Standby customers during the PSPS events, from the calculation of the unrealized revenues. According to Cal Advocates, the net positive sales decreased the total amount of disallowed unrealized revenues by \$1,837.⁸³ In rebuttal testimony, PG&E did not dispute that Standby customers had a net positive usage and explained that they used more energy during the PSPS events than on a typical day. PG&E also did not dispute that including this positive net usage in the calculation of unrealized sales had decreased the total amount of disallowed unrealized revenues. In the stipulated agreement between PG&E and Cal Advocates, PG&E agreed to exclude the net positive sales from Standby customers from the calculation of unrealized sales.⁸⁴

10.4. Discussion

We find that PG&E's calculation of unrealized sales and unrealized revenues for the applicable 2021 PSPS events follows the methodology approved in D.23-06-054.⁸⁵ The total amount of unrealized revenues resulting from the applicable 2021 PSPS events is \$305,429. After excluding the net positive sales of \$1,837 from Standby customers during those PSPS events, PG&E agrees to an

⁸² Cal Advocates Opening Brief (2021 PSPS Ratemaking Remedy) at 5-6; PGE-10 at 1.

⁸³ PAO-03 at 12-13.

⁸⁴ PGE-09 at 16-17.

⁸⁵ The applicable 2021 PSPS events are the PSPS events that occurred in 2021 and after the effective date of D.21-06-014.

adjusted disallowance amount of \$307,266 to be funded by shareholders.⁸⁶ The \$307,266 is the total unrealized revenues of \$305,429 plus the \$1,837 of Standby customer sales.

Accordingly, we find it reasonable to disallow PG&E from collecting \$307,266, which is the adjusted disallowance amount of unrealized revenues resulting from the applicable 2021 PSPS events. Within 60 days after the effective date of this decision, PG&E shall file a Tier 1 advice letter with the Commission's Energy Division to return this disallowance amount to ratepayers by applying this disallowance, with interests, to the appropriate balancing accounts.

11. Conclusion

With the exception of the management of the Diablo Canyon that contributed to forced outage four in 2021 and the administration of the VWPPA, we find that PG&E met the standard for compliance under ERRA regulatory compliance process for the Record Year. The disallowances from forced outage four at Diablo Canyon and the administration of the VWPPA, is approximately \$46 million in revenues.

Additionally, PG&E is disallowed from collecting \$307,266 in unrealized revenues that resulted from the 2021 PSPS events.

In conclusion, we find it reasonable to approve PG&E's 2021 ERRA Compliance Application.

12. Safety Considerations

No safety considerations were raised in the Application. A4NR argued that the outages at Diablo Canyon could have had an impact on safety. PG&E

⁸⁶ PG&E Opening Brief (2021 PSPS Ratemaking Remedy) at 7.

refuted this allegation. The evidentiary record contains no evidence supporting A4NR's allegations of safety issues related to the outages at Diablo Canyon.

No other safety considerations were raised by any of the parties. Accordingly, the Commission finds that there are no safety considerations raised by the Application.

13. Summary of Public Comment

Rule 1.18 allows any member of the public to submit written comment in any Commission proceeding using the "Public Comment" tab of the online Docket Card for that proceeding on the Commission's website. Rule 1.18(b) requires that relevant written comment submitted in a proceeding be summarized in the final decision issued in that proceeding. There are no relevant public comments provided for this proceeding.

14. Procedural Matters

This decision affirms all rulings made by the assigned ALJs and assigned Commissioner in this proceeding. All motions not ruled on are deemed denied.

15. Comments on Proposed Decision

The proposed decision of ALJs Elaine Lau and Leah Goldberg in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. Comments were filed on _____, and reply comments were filed on _____ by _____.

16. Assignment of Proceeding

John Reynolds is the assigned Commissioner, and Elaine Lau and Leah Goldberg are the assigned ALJs in this proceeding.

Findings of Fact

1. The 2021 Record Year (Record Year) extended from January 1, 2021 through December 31, 2021.
2. PG&E operates the following utility owned generation types: 1) hydroelectric, 2) fossil fuel, 3) fuel cell, 4) solar, and 5) nuclear.
3. PG&E's utility-owned hydroelectric portfolio consists of 63 powerhouses with 102 generating units with ancillary support facilities that include reservoirs, diversions, dams and water conveyance apparatus.
4. With respect to its management of its utility-owned hydroelectric facilities, PG&E performed all but one remaining corrective action required in D.20-02-006; the only outstanding corrective action is the implementation of a pilot for electronic speed sensing, which will not be completed until 2023.
5. PG&E has fulfilled its reporting obligations on the progress of its corrective actions associated with the Beldon Thrust Bearing Wipe Cause Evaluation Report and the Auto Testing Frequency and Over Speed Testing slide presentation, dated December 10, 2018.
6. During the Record Year, PG&E owned, operated and maintained three fossil fuel generating stations, two fuel cell facilities, and 10 ground-mounted PV solar stations.
7. PG&E's Humbolt Bay Generating Station, a fossil fuel generating facility, experienced four forced outages during the Record Year.
8. During February 2021, Humbolt Bay Generating Station unit 2 was forced out of service for seven days because the programable logic controller, which operates the emission's control, failed.
9. PG&E proactively purchased a spare pre-programmed PCL to reduce downtime in case of a future PLC failure at the Humbolt Bay Generating Station.

10. PG&E owns and operates the Diablo Canyon Nuclear Power Plant.
11. Diablo Canyon Nuclear Power Plant experienced three forced outages resulting from issues with the Unit 2 generator during the 2020 Record Year, which were postponed for evaluation to the 2021 ERRA Compliance proceeding.
 - a. Forced outage one commenced on July 17, 2020, and extended until August 2, 2020.
 - b. Forced outage two commenced on October 15, 2020, and extended until November 26, 2020.
 - c. Forced outage three commenced on December 2, 2020, and extended until January 12, 2021.
12. Diablo Canyon Nuclear Powerplant experienced three forced outages of the Unit 2 generator during the 2021 Record Year.
 - a. Forced outage four commenced on February 2, 2021, and extended until March 1, 2021.
 - b. Forced outage five commenced on April 19, 2021, and extended until April 25, 2021.
 - c. Forced outage six, commenced on October 15, 2021, and extended until November 3, 2021.
13. The Unit 2 generator was rebuilt and placed into service in December 2019. Siemens upgraded the Unit 2 generator with a Bonded Stator Core “Donut” technology.
14. The cause of the first four forced outages at the Diablo Canyon Nuclear Powerplant was excessive vibrations.
15. Design flaws and design verification testing deficiencies were not factors in the first three of the four vibration-caused forced outages at the Diablo Canyon Nuclear Powerplant.

16. Although bolt tightness was achieved after the first three forced outages, PG&E failed to require Siemens to adequately test the parallel ring for modal frequency during the post-forced outage three testing.

17. PG&E failed to recognize that the design verification testing did not integrate the performance of the stator end winding and parallel ring vibration resonance into the design change proposed by Siemens, which was a factor in the fourth forced outage at the Diablo Canyon Nuclear Powerplant.

18. It was only after the testing during forced outage four that PG&E ameliorated the causes of the excess vibrations and high frequencies.

19. Proper verification testing on certain components after the first three forced outages could have prevented the fourth forced outage at the Diablo Canyon Nuclear Powerplant.

20. The replacement power costs for outage four at the Diablo Canyon Nuclear Powerplant are \$43,208,116.

21. PG&E could not have foreseen the Siemens' staffing problems resulting from the COVID 19 pandemic and the resulting human error that caused forced outage five at the Diablo Canyon Nuclear Power Plant.

22. Forced outage six was caused by a failure of the feedwater heater tube and was unrelated to the Unit 2 generator, and none of the parties dispute whether PG&E acted reasonably and prudently with respect to forced outage six.

23. The Vantage Wind Power Purchase Agreement required cost sharing between the parties, but PG&E overpaid its share of costs from 2010 through 2019.

24. PG&E received full recovery of overpayments on the Vantage Wind Power Purchase Agreement for the 2018-2019 contract year and partial recovery for the 2017-2018 contract year.

25. PG&E's testimony demonstrates that it complied with all Commission decisions in recording entries in the PABA appropriately and accurately.

26. PG&E's testimony demonstrated that it achieved least cost dispatch of its energy resources and economically-triggered demand response programs pursuant to SOC 4 in the 2021 Record Year.

27. The extensive record in this proceeding has provided a sufficient showing that PG&E's procurement of Greenhouse Gas Compliance Instruments and procurement and sales of Resource Adequacy are in compliance with its BPP, Commission directives and applicable tariffs.

28. The Disadvantaged Communities – Single Family Solar Affordable Homes Balancing Account records the costs of the Disadvantaged Communities – Single Family Solar Affordable Solar Housing program.

29. Decision 21-07-013 approved the costs recorded in the Disadvantaged Communities Single Family Solar Affordable Homes Memorandum Account, and PG&E does not intend to record any additional costs in the account.

30. PG&E's testimony demonstrated that its entries recorded in the Disadvantaged Communities Green Tariff Balancing Account during the Record Year are reasonable and are in compliance with applicable tariffs and Commission directives.

31. PG&E transferred \$0.74 million from the Greenhouse Gas allowance proceeds to the Disadvantaged Community Green Tariff Balancing Account with Commission approval.

32. PG&E's testimony demonstrated that its entries in the Green Tariff Shared Renewables Balancing Account recorded during the Record Year are reasonable and in compliance with applicable tariffs and Commission directives.

33. PG&E's testimony demonstrated that its entries recorded in the Community Solar Green Tariff Balancing Account during the Record Year are reasonable and in compliance with applicable tariffs and Commission directives.

34. PG&E has recorded the procurement and administrative costs it incurred as a central procurement entity for local resource adequacy in the Centralized Local Procurement Sub-Account of the New System Balancing Account.

35. PG&E's testimony demonstrated that its recorded costs in the Centralized Local Procurement Sub-Account of the New System Generation BA during the Record Year to be reasonable and in compliance with Commission decisions.

36. D.21-06-014 ordered that PG&E forgo collection in rates all authorized revenue requirement equal to the estimated unrealized volumetric sales and unrealized revenue resulting from PSPS events that were called after the effective date of the decision.

37. D.23-06-054 set forth the methodology that PG&E is directed to use to calculate the unrealized sales and unrealized revenues caused by PSPS events.

38. PG&E's calculation of unrealized sales and unrealized revenues for the 2021 PSPS events that occurred after the effective date of D.21-06-014 follows the methodology approved in D.23-06-054.

39. The total amount of unrealized revenues resulting from the 2021 PSPS events that occurred after the effective date of D.21-06-014 is \$305,429.

40. PG&E collected \$1,837 in net positive sales from Standby customers during the 2021 PSPS events that occurred after the effective date of D.21-06-014.

41. The net positive sales PG&E collected from Standby customers decreased the total amount of disallowed unrealized revenues.

42. PG&E agrees to exclude the net positive sales of \$1,837 from Standby customers from the calculation of unrealized revenues.

43. After excluding the net positive sales of \$1,837 from Standby customers from the calculation of unrealized revenues, the adjusted disallowed amount of unrealized revenues for the 2021 PSPS events that occurred after D.21-06-014 is \$307,266.

44. No safety considerations were raised in the Application.

Conclusions of Law

1. PG&E operated its hydroelectric portfolio in a reasonable manner during the record period by maintaining a comprehensive management structure and by prudently overseeing operation of its hydroelectric system.

2. There is no longer a need for PG&E to report on the progress of its corrective actions associated with the Beldon Thrust Bearing Wipe Cause Evaluation Report and the Auto Testing Frequency and Over Speed Testing slide presentation, as required in D.20-02-006.

3. PG&E should report the final completion of the pilot for electronic speed sensing, as part of the reporting requirements set in D.20-02-002 on the management of its hydroelectric facilities.

4. PG&E acted reasonably in resolving the four forced outages at Humbolt Bay Generating Station, its fossil fuel generating facility, during the Record Period.

5. PG&E reasonably and prudently managed its utility-owned fossil fuel generation, fuel cell generation and solar generation facilities, in compliance with all applicable rules, regulations and Commission decisions.

6. Hiring third party technical expertise does not obviate the long-standing rule of nondelegable duties for safety issues at Diablo Canyon Nuclear Powerplant, or those imposed by statutory or common law.

7. PG&E acted reasonably in hiring Siemens for third party technical expertise in rebuilding the Unit 2 generator at Diablo Canyon Nuclear Power Plant.

8. Based on the testing deficiencies, PG&E failed to act as a reasonable and prudent manager to prevent forced outage four and should be disallowed from collecting \$43,208,116 for the replacement power costs associated with forced outage four.

9. With the exception of forced outage four, PG&E acted reasonably with respect to forced outages one, two, three, five and six at the Diablo Canyon Nuclear Power Plant.

10. With the exception of forced outage four at Diablo Canyon Nuclear Power Plant, PG&E managed its utility owned nuclear generation facilities reasonably and in compliance with all applicable rules, regulations and Commission decisions.

11. PG&E failed to comply with Standard of Conduct Number 4 in administering the Vantage Wind Power Purchase Agreement, and should be disallowed from recovering costs equivalent to the amount identified in Confidential Exhibit PAO-01-C, chapter 5, pages 5-8, line 10: this is the amount Cal Advocates calculated by taking the total amount of uncollected payments of the cost sharing mechanism from the contract execution of the 2018-2019 contract year and subtracting the partial recovery under the Settlement Agreement between PG&E and Vantage Wind Energy, LLC.

12. The entries recorded in the ERRA and PABA are reasonable, appropriate, accurate, and in compliance with Commission decisions.

13. Increasing transparency of PG&E's vintaging of its UOG facilities in subsequent ERRA Compliance proceedings is reasonable and supported by the record in this proceeding.

14. PG&E achieved least cost dispatch of its energy resources and economically-triggered demand response programs pursuant to SOC 4 in the 2021 Record Year.

15. PG&E's procurement of Greenhouse Gas Compliance Instruments and procurement and sales of Resource Adequacy procurement during the 2021 Record Year are in compliance with its BPP, Commission directives and applicable tariffs.

16. The costs incurred and recorded in the Disadvantaged Communities – Single Family Solar Affordable Homes Balancing Account during the Record Year are reasonable and in compliance with applicable tariffs and Commission directives, and it is reasonable for PG&E to recover the 2021 program management expenses as recorded.

17. PG&E should transfer any remaining funds in the Disadvantaged Communities – Single Family Solar Affordable Homes Memorandum Account to the Disadvantaged Communities – Single Family Solar Affordable Homes Balancing Account.

18. The Disadvantaged Communities – Single Family Solar Affordable Homes Memorandum Account should be closed after transferring any remaining funds to the Disadvantaged Communities - Single Family Solar Affordable Homes Balancing Account.

19. PG&E's entries recorded in the Disadvantaged Communities Green Tariff Balancing Account during the Record Year are in compliance with applicable tariffs and Commission directives and are reasonable.

20. PG&E's entries in the Green Tariff Shared Renewables Memorandum Account and the Green Tariff Shared Renewables Balancing Account recorded during the Record Year are in compliance with applicable tariffs and Commission directives and are reasonable.

21. PG&E's entries recorded in the Community Solar Green Tariff Balancing Account during the Record Year are in compliance with applicable tariffs and Commission directives and are reasonable.

22. PG&E's recorded costs in the Centralized Local Procurement Sub-Account of the New System Generation Balancing Account during the Record Year are reasonable and in compliance with Commission decisions.

23. It is reasonable to disallow PG&E from collecting \$307,266, which is the adjusted disallowance amount of unrealized revenues for the PSPS events that occurred in 2021 but after the effective date of D.21-06-014.

O R D E R

IT IS ORDERED that:

1. Application 22-02-015 is approved, consistent with the conclusions of law adopted in this decision and as modified by the other Ordering Paragraphs, including the revenue recovery reductions in Ordering Paragraphs, 4, 5 and 8 of this decision.

2. Pacific Gas and Electric Company shall no longer report in future Energy Resources Recovery Account Compliance applications on the progress of its corrective actions associated with the Beldon Thrust Bearing Wipe Cause Evaluation Report and the Auto Testing Frequency and Over Speed Testing slide presentation, dated December 10, 2018.

3. Pacific Gas and Electric Company shall continue to report in future Energy Resources Recovery Account Compliance applications on the implementation of

a pilot for electronic speed sensing to evaluate effectiveness, consistent with Decision 20-02-006.

4. Pacific Gas and Electric Company shall not recover \$43,208,116.00, which is the cost of replacement power for outage four at the Diablo Canyon Nuclear Powerplant.

5. Pacific Gas and Electric Company shall not recover the amount identified on Exhibit PAO-01-C, page 5-8, line 10.

6. Pacific Gas and Electric Company (PG&E) shall specifically identify and submit testimony addressing vintaging of new utility owned generation in the next Energy Resources Recovery Account (ERRA) Compliance application after Commission approval of any new utility owned generation facility. To the extent that utility owned generation expenditures for new utility owned generation facilities have not been recorded to Systems, Applications and Products Project Orders at the time that PG&E files its first ERRA Compliance application after Commission approval of the new utility owned generation facility, PG&E shall submit testimony providing an update on the vintaging of the facility in subsequent PG&E ERRA Compliance applications.

7. The Disadvantaged Communities-Single Family Solar Affordable Homes Memorandum Account shall be closed.

8. Pacific Gas and Electric Company shall be disallowed from collecting \$306,266 in revenue requirement from its 2021 total revenue requirement. The disallowance amount of \$307,266 is the amount of adjusted unrealized revenues calculated for the Public Safety Power Shutoff events that occurred in 2021 but after the effective date of Decision 21-06-014.

9. Within 60 days after the effective date of this decision, Pacific Gas and Electric Company shall file a Tier 1 advice letter with the Commission's Energy

Division to return the disallowance amounts adopted in this decision, which include:

- (a) \$43,208,116.00, which is the cost of replacement power for outage four at the Diablo Canyon Nuclear Power Plant;
- (b) the amount identified on Exhibit PAO-01-C, page 5-8, line 10 for the Advantaged Wind Power Purchase Agreement; and
- (c) \$307,266, with interests, to the appropriate balancing accounts.

10. The determination that hearings are necessary is changed to no hearings needed.

11. All rulings by the assigned Commissioner and the assigned Administrative Law Judges are affirmed.

12. Application 22-02-015 is closed.

This order is effective today.

Dated _____, at Sacramento, California