

Decision 18-05-004 May 10, 2018

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, Electric Energy Resource Recovery Account Entries, Contract Administration, Economic Dispatch of Electric Resources, Utility Owned Generation Fuel Procurement, Diablo Canyon Seismic Studies Balancing Account, and Other Activities for the Period January 1 through December 31, 2016 (U39E).

Application 17-02-005

DECISION GRANTING WITH MODIFICATIONS THE PACIFIC GAS AND ELECTRIC COMPANY 2016 ERRR COMPLIANCE APPLICATION

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DECISION GRANTING WITH MODIFICATIONS THE PACIFIC GAS AND ELECTRIC COMPANY 2016 Erra Compliance Application

Summary

This decision approves the application of Pacific Gas and Electric Company (PG&E) for compliance review of utility-owned generation operations, electric energy resource recovery account entries, contract administration, economic dispatch of electric resources, utility-owned generation fuel procurement, Diablo Canyon Seismic Studies Balancing Account, and other activities for the period January 1 through December 31, 2016, with modifications. We find that PG&E complied with its Bundled Procurement Plan; prudently managed its utility-owned generation facilities, except in two cases as described herein; prudently administered contracts and generation resources, except in one case as described herein; and made reasonable entries in its Diablo Canyon Seismic Studies Balancing Account and Green Tariff Shared Renewables Balancing and Memorandum Accounts. Accordingly, PG&E is authorized cost recovery of \$ 5.343 million, which reflects \$345,496 in disallowances.

Additionally, PG&E is required to abide by the agreements with the Office of Ratepayer Advocates with respect to the utility-owned fossil generation and related outages, as modified herein. These agreements include the preparation of incident reports and providing a status report on the implementation of the Environex Report recommendations.

This proceeding is closed.

1. Background

The California Public Utilities Commission (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. In that decision, the Commission required regulated electric utilities to establish a fuel and purchased power revenue requirement forecast, a trigger mechanism to address balances exceeding certain benchmarks, and a schedule for ERRA applications. Each year each utility is required to file an annual ERRA Forecast application and a separate ERRA Compliance application.

In the annual ERRA Forecast application, the utility requests adoption of the utility's forecast of its expected annual fuel and purchased power costs for the upcoming calendar year. In the annual ERRA Compliance application, a utility requests a determination of whether it is in compliance with applicable rules governing energy resource contract administration, prudent maintenance of utility-retained generation, least cost dispatch conducted during a prior year, and whether the recorded entries in its ERRA were appropriate, correctly stated, and in compliance with applicable Commission decisions.

On February 28, 2017, Pacific Gas and Electric Company (PG&E) filed its application for a compliance review of its ERRA, and review of entries in its Diablo Canyon Seismic Studies Balancing Account and its Green Tariff Shared Renewables Memorandum Account for the record period from January 1 through December 31, 2016. The Office of Ratepayer Advocates (ORA) filed a protest to the application on April 3, 2017.

The assigned Administrative Law Judge held a prehearing conference on April 25, 2017 during which time the service list was established and the scope and schedule were discussed. On May 8, 2017, the assigned Commissioner issued a Scoping Memo and Joint Ruling of the Commissioner and Administrative Law Judge (Scoping Memo) that set forth the schedule and scope

of issues for this proceeding. The Scoping Memo established the dates of September 6-7, 2017 for an evidentiary hearing.

By an August 28, 2017 e-mail, PG&E and ORA each contacted the Administrative Law Judge waiving cross-examination of all scheduled witnesses. An August 31, 2017 Ruling concluded that an evidentiary hearing was no longer necessary in this proceeding and should be taken off the calendar.

PG&E and ORA filed opening briefs on October 9, 2017 and reply briefs on November 3, 2017.

2. Issues in this Proceeding

The following issues to be addressed in this proceeding were established in the Scoping Memo:

- Whether PG&E administered and managed its utility-owned generation prudently;
- Whether PG&E prudently and safely managed utility-owned generation outages and associated fuel costs;
- Whether PG&E prudently administered and managed its qualifying facility and non-qualifying facility contracts in accordance with the contract provisions;
- Whether PG&E achieved least cost dispatch of its energy resources;
- Whether PG&E's entries in the ERRR for 2016 are reasonable;
- Whether the costs incurred and recorded in the Diablo Canyon Seismic Safety Balancing Account, including costs for the long term seismic plan, are reasonable and whether PG&E met its burden of proof regarding its claim for cost recovery;
- Whether the costs incurred and recorded in the Green Tariff Shared Renewables Memorandum Account in 2016 are reasonable;

- Whether PG&E's Greenhouse Gas Compliance Instrument procurement complies with the 2014 bundled procurement plans;
- Whether the costs incurred and the entries recorded in the Green Tariff Shared Renewables Balancing Account in 2016 are in compliance with applicable tariffs and Commission directives; and
- Whether the request to recover the \$5.689 million, not including interest and franchise fees and uncollectables through December 31, 2016, should be approved.¹

3. Positions of the Parties

3.1. Applicant: PG&E

In its application, PG&E requests the Commission determine that, during the record year, PG&E: 1) complied with its Commission-approved Bundled Procurement Plan for fuel procurement, administration of power purchase contracts, greenhouse gas compliance instrument procurement, and least cost dispatch of electric generation resources; 2) managed its utility-owned generation facilities reasonably; 3) made reasonable expenditures in its Diablo Canyon Seismic Studies Balancing Account and the Green Tariff Shared Renewables Memorandum Account; and 4) ensured entries in the Green Tariff Shared Renewables Balancing Account were consistent with applicable tariffs and Commission directives. PG&E requests recovery of revenue requirements

¹ This amount is comprised of \$5.496 million in the Diablo Canyon Seismic Studies Balancing Account through the Utility Generation Balancing Account and \$0.193 million in the Renewable Portfolio Cost Memorandum Account through the Energy Resource Recovery Account.

totaling \$5.689 million, not including the associated interest and franchise fees and uncollectibles.²

PG&E makes the following contentions in its application:

- PG&E's least cost dispatch showing is consistent with requirements in D.15-05-006, D.15-12-015, and the settlement approved in D.16-12-045, from the 2014 ERRA Compliance proceeding.
- PG&E managed its utility-owned generation facilities reasonably.
- With respect to its operation of utility-owned generation resources, PG&E's work papers satisfy its burden of proof that it operated its facilities in compliance with the Commission's reasonable manager standard.
- PG&E prudently administered its procurement contracts and complied with contract provisions. PG&E acted as a reasonable manager, with respect to its fuel costs, remaining consistent with its Bundled Procurement Plan authority. PG&E's electric portfolio hedging activities were also consistent with its hedging authority under its approved Bundled Procurement Plan.
- PG&E's testimony and work papers included an accurate accounting of amounts incurred and recorded in its Diablo Canyon Seismic Studies Balancing Account, which are consistent with Application 10-01-014. Long-Term Seismic Program costs are reasonable and should be recovered in the Diablo Canyon Seismic Studies Balancing Account. The costs associated with PG&E's Green Tariff Shared Resources program are reasonable and accurately reflected in the memorandum account.

² The final amounts for interest and franchise fees and uncollectibles are dependent upon the final decision in this proceeding. PG&E shall update the amounts for these elements accordingly upon issuance of the final decision.

- PG&E has complied with the following Commission decisions requiring inclusion of specific items in the annual ERRA Compliance filing:

Table 1 ERRA Compliance Requirements³	
Specific Item Required	Source of Requirement
Fuel cost information	D.05-09-006, Attachment A (Settlement Agreement, ¶ 4)
Include a “high level discussion of [PG&E’s] internal procedures and controls for ensuring compliance with Commission-approved hedging plans.”	D.11-07-039, Ordering Paragraph (OP) 3
STARS ⁴ Alliance activities and operating costs	D.12-05-010, OP 3
Recover balances in the DCSSBA, ⁵ including balances recorded in the Independent Peer Review Panel subaccount	D.12-09-008, OPs 4 and 10
Provision of a draft audit plan to ORA in November and meetings to review the draft audit plan	D.14-01-011, Attachment A, §2.4.1
Review and document material changes to Least Cost Dispatch business processes	D.14-01-011, Attachment A, §2.4.2
Document review and justify changes to Least Cost Dispatch models	D.14-01-011, Attachment A, §2.4.2
Audit of ERRA balancing account	D.14-01-011, Attachment A, §2.4.3
PG&E will address UOG ⁶ outages and associated fuel costs, if applicable, in future ERRA Compliance proceedings	D.14-01-011, Attachment A, §2.4.4
Include LTSP ⁷ costs in DCSSBA for review in ERRA Compliance proceeding	D.14-08-032 at 411

³ Application at 9-11.

⁴ Strategic Teaming and Resource Sharing.

⁵ Diablo Canyon Seismic Studies Balancing Account.

⁶ Utility-Owned Generation.

Table 1 ERRA Compliance Requirements³	
Specific Item Required	Source of Requirement
Include Least Cost Dispatch showing and metrics for economically triggered demand response programs	D.15-05-006 and D.15-12-015
Review GTSR ⁸ Program administration and marketing costs for the record period	D.15-01-051 at 113
Review GTSR balancing account entries, including true-ups of costs and revenues	D.15-01-051, Conclusion of Law 59
Specified demand response program metrics included in least cost dispatch chapter	D.16-12-045, Settlement Section 2.1 ⁹
Independent review by outside party of PG&E's process for short term load and price forecasts (review to be on a one-time basis, not annual)	D.16-12-045, Settlement Section 2.2
Evaluation of price forecast accuracy for all days of record period	D.16-12-045, Settlement Section 2.3
Description of decision-making process re use of proxy or registered costs for resources	D.16-12-045, Settlement Section 2.4
Information regarding resources that did not have bids submitted	D.16-12-045, Settlement Section 2.5
Independent review by outside party of PG&E's hydro dispatch model (review to be on a one-time basis, not annual)	D.16-12-045, Settlement Section 2.6
PG&E and ORA to work informally to address hydro-self-scheduling documentation and information concerning dispatchable renewable resources to be included in future ERRA Compliance applications	D.16-12-045, Settlement Section 2.7 – 2.8
Definition of “operational constraints” as a reason not to dispatch when demand response	D.16-12-045, Settlement Section 3.2

⁷ Long-Term Seismic Program.

⁸ Green Tariff Shared Renewables.

⁹ 2014 ERRA Settlement.

Table 1 ERRA Compliance Requirements³	
Specific Item Required	Source of Requirement
program economic triggers are met	
General set of guidelines for situations in which “customer fatigue” may occur in connection with demand response programs	D.16-12-045, Settlement Section 3.2
Definition of “opportunity cost” as a reason not to dispatch demand response programs when economic triggers are met	D.16-12-045, Settlement Sections 3.6
Develop quantitative opportunity cost measure as a metric	D.16-12-045, Settlement Sections 3.8 – 3.9
Standard of Conduct 4 ¹⁰ maximum disallowance amount and associated workpapers	D.16-12-045, Settlement Section 5.3
Review and recovery of incentive payments for certain distributed energy resources ¹¹	D.16-12-036, OP 22

3.2. ORA

ORA reviewed the application and recommends the Commission adopt disallowances related to two utility-owned generation facility outages:

1) \$113,472 replacement power costs for the June 2016 outage at Cresta Powerhouse Unit 2; and 2) \$211,325 replacement power costs for the February 2016 outage at Kerckhoff 1 Powerhouse Unit 3. Additionally, ORA recommends a third disallowance of \$20,699 for failure to prudently administer a contract for economic bidding of renewable resources. Furthermore, ORA recommends that the Commission require PG&E to: A) adopt strategies for monitoring and inspecting pressure relief valves at all hydro facilities with

¹⁰ Standard of Conduct No. 4 requires utilities to prudently administer all contracts and generation resources and dispatch the energy in a least cost manner.

¹¹ Not applicable to this ERRA Compliance application. Application at 11.

similar components; B) memorialize PG&E's new transformer inspection program, which includes visual inspections of phase bushings; C) develop and maintain records on the operational lifespan and condition of essential components at hydro facilities; D) memorialize PG&E's agreement related to August and November 2016 outages at Humboldt Bay Generation Station; E) summarize all Nuclear Regulatory Commission findings beginning with the 2017 record period; and F) report corrective actions taken in response to the Nuclear Regulatory Commission findings beginning with the 2017 record period.

The recommendations made by ORA, including the recommended disallowances, are the only topics in dispute. We address each of these recommendations in the Section 4, below.

4. Discussion

This decision approves the application of PG&E and finds PG&E complied with its Bundled Procurement Plan; reasonably managed its utility-owned generation facilities, except in two cases as described below; prudently administered contracts and generation resources, except in one case as described below; and made reasonable entries in its Diablo Canyon Seismic Studies Balancing and Green Tariff Shared Renewables Memorandum Accounts.

Accordingly, PG&E is authorized cost recovery of \$ 5.343 million, which reflects a disallowance of \$113,472 for the replacement fuel costs associated with the Cresta Powerhouse Unit 2 outage and \$211,325 for the replacement fuel costs associated with the Kerckhoff 1 Powerhouse Unit 3 outage, and \$20,699 for one noncompliance incident of a contract for economic bidding of renewable resources. Additionally, PG&E shall abide by the agreements with ORA, as described herein. This proceeding is closed.

4.1. Utility-Owned Generation Facilities

PG&E states that it has demonstrated that it prudently administered and managed its utility-owned generation facilities. Below, we discuss two hydro facility outages and recommendations related to fossil and nuclear facilities, as suggested by ORA. Aside from these matters, ORA does not disagree that PG&E prudently administered and managed its utility-owned generation facilities.

4.1.1. Cresta Powerhouse Unit 2 Outage

As further described below, we find that PG&E failed to meet the requirements of a reasonable manager by not maintaining sufficient information on aging Cresta Powerhouse equipment. We disallow \$113,472 in replacement power costs resulting from the June 2016 Cresta Powerhouse Unit 2 outage.

PG&E and ORA agree that the Cresta Powerhouse Unit 2 was forced out of service when the pivot valve seal hardened and cracked with age, causing the pressure relief valve not to operate properly.¹² ORA contends that PG&E's failure to maintain records and properly inspect and maintain equipment at Cresta Powerhouse Unit 2 requires the Commission to disallow the replacement power costs resulting from the outage. Arguing that "a reasonable manager would act proactively to investigate, gather and record the appropriate background information" to make the best decisions and develop preventive measures and a maintenance program,¹³ ORA maintains that PG&E's lack of knowledge on the actual age of the pressure relief valve seal is evidence that PG&E failed to meet the reasonable manager standard. Furthermore, noting that the pressure relief valve seal had exceeded its life expectancy, ORA concludes

¹² PG&E Opening Brief at 6.

¹³ ORA Opening Brief at 8.

that “PG&E could and should have prevented the failure with an appropriate maintenance program, even if the failure never happened before.”¹⁴

PG&E confirms that maintenance records show annual inspections and maintenance on the valve and seal had been conducted since 1998, with one such inspection occurring eight months prior to the outage and no prior pattern of pressure relief valve failure.¹⁵ Stating that many pieces of equipment operate well beyond their useful lives,¹⁶ PG&E contends it would be unreasonable for ratepayers to pay for continuous monitoring of every piece of equipment to ensure no failure.¹⁷ PG&E also underscores that there is no evidence indicating that “if PG&E had conducted more inspections, or had replaced the [pressure relief valve] at some earlier point in time, the rubber seal at issue would not have cracked.”¹⁸

Considering that Cresta Powerhouse Unit 2 has components that *could* date as far back as 1950,¹⁹ we agree with ORA that a reasonable manager should have inquired about the age of the pressure relief valve seal when records could not provide any indication of the valve seal’s approximate age. A reasonable manager should have collected additional information on such things as the cost of replacement or even considered replacement of the potentially 66 year-old valve seal. In the end, PG&E had not attempted to collect sufficient information

¹⁴ *Id.* at 10.

¹⁵ PG&E Opening Brief at 7 citing ORA-1 at 3-9.

¹⁶ PG&E-3 at 2-8.

¹⁷ PG&E Reply Brief at 8-9.

¹⁸ *Id.* at 9.

¹⁹ ORA-1 at 3-8 and Attachment 3.1 at 10.

with which to determine the age of the seal and whether it should be replaced. Hence, we find that PG&E did not prudently administer and manage this utility-owned generator prior to the outage. PG&E states that the failure led PG&E to improve its maintenance practices and develop a better seal failure detection system, including periodic visual inspections using a time-saving borescope.²⁰ While we commend PG&E for improving its maintenance practices, subsequent remedial measures do not justify its prior imprudence. Furthermore, if the age of the valve seal had been known, the information could help determine an inspection schedule that would have a reasonable chance of reducing future unplanned outages. Accordingly, it is reasonable to disallow the \$113,472 replacement power costs resulting from the June 2016 Cresta Powerhouse Unit 2 outage.

As noted above, in response to the Cresta Powerhouse Unit 2 outage, PG&E adopted new measures to improve the ability to detect and prevent similar failures from occurring in the future.²¹ PG&E also underscores the use of its Asset Management Program that “provides a system-wide look into the condition of the hydro system equipment.”²² In addition to the disallowance, ORA recommends that the Commission require PG&E to: 1) adopt these new strategies at all hydro facilities with similar components, and 2) develop and

²⁰ PG&E-3 at 2-5.

²¹ PG&E installed taps and pressure gauges in the balancing chamber for systems of seal failure, along with implementing periodic visual inspections of the seal using a borescope, which allows visual inspection without requiring time-consuming disassembly of the valve collar. See PG&E Opening Brief at 15 citing PG&E-3 at 2-11.

²² *Ibid.*

maintain records on the operational lifespan and condition of essential components at hydro facilities.

With respect to the first recommendation, PG&E asserts there is no need for the Commission to order PG&E to adopt its new strategies at all hydro facilities that use the pressure relief valves because “PG&E routinely updates its standards and procedures, resulting in changes ... that improve the safety and reliability of the hydro portfolio.”²³ PG&E presents two arguments to justify its assertion: 1) there is insufficient evidence regarding the costs, benefits and cost recovery of implementing these new measures at other hydro facilities; and 2) an ERRA Compliance proceeding is not the appropriate venue to examine and revise facility maintenance practices.

The record of this proceeding indicates a range of \$2,500 to \$5,000 as an estimated cost of using a borescope to visually inspect the pilot valve seal for the pressure relief valve.²⁴ However, there have been no other costs or benefits presented to allow the Commission to properly analyze the reasonableness of ORA’s recommendation. Furthermore, as indicated above, the purpose of an ERRA Compliance proceeding is to determine whether a utility is in compliance with applicable rules governing energy resource contract administration, prudent maintenance of utility-owned generation, least cost dispatch conducted during a prior year, and whether the recorded entries in its ERRA were appropriate, correctly stated, and in compliance with applicable Commission decisions. An ERRA Compliance proceeding is not the appropriate venue to examine and revise facility maintenance practices. Accordingly, it is reasonable

²³ *Ibid.*

²⁴ ORA Opening Brief at 12.

to deny, in this proceeding, ORA's request that the Commission require PG&E to adopt the new measures across all hydro facilities.

In response to ORA's second recommendation, PG&E contends that in light of its existing processes, no further review of its record keeping system is necessary. While acknowledging that it could not provide original documents concerning the valve seal at Cresta Powerhouse Unit 2 or the transformer at the Kerckhoff 1 Powerhouse Unit 3, PG&E argues that given the age of those facilities, it is more important that PG&E has maintenance reports back to 1998 for the valve seal and years of maintenance data for the transformer. Furthermore, PG&E explains that it uses its Asset Management Program to track the "key characteristics and nameplate data for each hydro asset," which then provides the foundation for maintenance planning, asset management and engineering.²⁵

PG&E maintains that its record-keeping is appropriate given the age of its portfolio. However, it is the age of the portfolio that makes the current record-keeping practices less than adequate. PG&E argues the Asset Management Program already examines the condition of components and evaluates the probability of failure.²⁶ But as highlighted by ORA, PG&E's maintenance records do not contain essential information on the manufacture dates of components, installation dates, expected service list and active service

²⁵ PG&E Opening Brief at 17.

²⁶ PG&E Reply Brief at 16. PG&E's Asset Management Program process includes: 1) an asset registry that tracks "key characteristics and nameplate data;" 2) design and performance criteria used to assess existing equipment; 3) assessment standards; 4) assessments; 5) quantification of asset risk, including failure probability and consequence scores; and 6) asset risk mitigation/control. See PG&E Opening Brief at 15-16.

list at specific sites.²⁷ Furthermore, ORA contends that PG&E never explains why the Asset Management Program – the foundation for maintenance planning, asset management and engineering – does not include the age of components, their operational lifespan, and current condition.²⁸ PG&E argues that ORA’s recommendations go beyond the scope of the proceeding, do not relate to the information that PG&E might provide in a compliance proceeding; and are not specific.²⁹ The age of components, operational lifespan and current condition are specific recommendations and exactly at the heart of this issue. Accordingly, we find it reasonable to require PG&E to include a memorandum in its next general rate case application describing the advantages and disadvantages, as well as the cost, to record the following additional information for the components currently contained in its Asset Management Program: the age of the component, the expected operational lifespan of the component according to industry standards, and the current condition of the component. PG&E shall reference this decision in the memorandum.

4.1.2. Kerckhoff 1 Powerhouse Unit 3 Outage

As detailed below, we find that PG&E did not act as a reasonable manager with respect to the maintenance of the Kerckhoff 1 Powerhouse Unit 3 by failing to: 1) determine that a piece of equipment has neared or possibly exceeded its life expectancy; and 2) implement measures to attempt to prevent an outage. We disallow \$211,325 for the cost of replacement power stemming from the February 2016 outage at Kerckhoff 1 Powerhouse Unit 3.

²⁷ ORA Reply Brief at 3.

²⁸ *Ibid.*

²⁹ PG&E Reply Brief at 16.

PG&E explains that the Kerckhoff 1 Powerhouse Unit 3 tripped offline due to an outage on the Kerckhoff-LeGrand 115 kilovolt (kV) Line. During the trip event the main transformer bank C phase bushing failed. Phase bushings are 115 kV high voltage insulators that allow one phase of the three-phase system, 115 kV transmission line, to be connected to the transformer without shorting to the ground. PG&E states that after the outage, the bushing was replaced by a spare bushing. Following post-outage diagnostic testing, both the A and C phase bushings failed and the B phase bushing was considered “barely serviceable.”³⁰ New bushings were ordered; but for a period of six weeks, replacement bushings were utilized until the new bushings arrived.

ORA concludes that PG&E’s failure to keep adequate records and sufficiently inspect and maintain equipment at Kerckhoff 1 Powerhouse Unit 3 requires the Commission to disallow the replacement power costs for the February 2016 outage at Unit 3. Asserting that PG&E fails to meet the reasonable manager standard, ORA relies on three arguments: insufficient record keeping, insufficient performance tests, and failure to perform close-up visual inspections.

With respect to record keeping, PG&E provided records regarding the testing and inspection program for the transformers and bushings at Kerckhoff 1 Powerhouse Unit 3. When ORA inquired as to the age of the bushings, PG&E was unable to provide maintenance records showing when or if the bushings in question were ever replaced.³¹ Furthermore, PG&E indicates that the phase bushings at Kerckhoff I Powerhouse Unit 3 were likely a part of the original

³⁰ PG&E Opening Brief at 10-11.

³¹ ORA Opening Brief at 14.

transformers, which were manufactured in 1919.³² PG&E contends that ORA does not demonstrate that knowing the age of the bushings would have prevented the outage and that testing and inspection record are more important than knowing the replacement date.³³

It is not unreasonable that PG&E does not have records for every piece of equipment installed in 1919. However, as submitted by ORA, a reasonable manager should consider the fact that bushings, with possibly as much as 98 years of service, might require a more stringent inspection to ensure failure is not imminent.³⁴ Moreover, ORA contends that if PG&E knew the age and replacement history of the bushings, PG&E would not have relied on visual checks and periodic oil tests alone but used the Doble Power test, which tests for moisture and determines the operability of bushings.³⁵ As described by PG&E, following the Kerckhoff 1 Powerhouse Unit 3 outage the third-party contractor performed a Doble Power test indicating the bushings were “barely serviceable or not serviceable at all.”³⁶ However, PG&E highlights that in 2012 the company performed the Doble Power test on all five transformers and the results indicated all five transformers were in “good working condition.”³⁷ ORA asserts that because the active service life of the bushings was unknown and therefore not considered, PG&E could not make reasonable assumptions of the condition of

³² ORA-1 at 3-13.

³³ PG&E Reply Brief at 13.

³⁴ ORA-1 at 3-15 and ORA-1 at 3-13.

³⁵ *Id.* at 14.

³⁶ PG&E Opening Brief at 11.

³⁷ PG&E Reply Brief at 13.

the bushings following the 2012 test or consider the equipment's deterioration over time.³⁸ We agree that a reasonable manager, knowing that a piece of equipment could be up to 98 years old, should have taken additional steps to ensure a complete inspection of the aged equipment.

Lastly, ORA argues that PG&E failed to perform close-up visual inspections, which ORA testified could have detected a cracked insulator and water intrusion. PG&E states that it conducted daily visual checks of the bushings, but also acknowledges the visual checks were made at greater than ten feet away due to safety considerations.³⁹ Maintaining it acted as a reasonable manager, PG&E argues that safety concerns should be given equal weight in comparison to any potential information gained from closer visual inspections. Furthermore, PG&E notes that the third-party contractor hired to conduct the Doble Power test in 2012 also completed a visual examination on the Kerckhoff 1 Powerhouse Unit 3 transformers and a close-up visual inspection of each transformer was conducted in December 2015. Pointing to the extreme age of the equipment, ORA notes that none of the activities described by PG&E address what the company could have and should have done unique to dealing with parts that may have been operating since 1919. PG&E contends that nothing in the record indicates it should have had unique maintenance practices associated with the older transformers or bushings.

We agree with ORA that PG&E did not have the information necessary for it to determine the best inspection program to prevent forced outages simply because it did not know that it was dealing with a 98-year-old piece of

³⁸ ORA Opening Brief at 14.

³⁹ PG&E Reply Brief at 14.

equipment. As was the case with the Cresta Powerhouse Unit 2 outage, a reasonable manager should have maintained sufficient information on aging equipment. Furthermore, we find that: 1) a reasonable manager should treat a piece of equipment well past its life expectancy differently from a newer piece of equipment with the same life expectancy;⁴⁰ 2) a reasonable manager should consider the fact that extremely aged equipment might require a more stringent inspection so as to better respond to the actual condition of the equipment; and 3) a reasonable manager, knowing that a piece of equipment could be well past its life expectancy, should have taken additional steps to ensure a complete inspection of the aged equipment. We recognize that, even with this additional information, PG&E may not have ultimately prevented the outage. But these are steps a reasonable manager would have taken. We conclude that PG&E did not act as a reasonable manager with respect to the maintenance of the Kerckhoff 1 Powerhouse Unit 3. Accordingly, we disallow \$211,325 for the cost of replacement power stemming from the February 2016 outage.

Related to the Kerckhoff outage, ORA requests the Commission memorialize PG&E's new transformer inspection program, which includes visual inspections of phase bushings. PG&E states that in December 2015, it initiated the High Voltage Transformer Condition Evaluation Standard, which includes a close-up visual inspection of each transformer at all utility-owned generation facilities.⁴¹ PG&E discloses that at the time of this outage, the Kerckhoff 1 Powerhouse Unit 3 had not been inspected using this test,⁴² but insists that under

⁴⁰ ORA-01, Attachment 3.1 at 10. PG&E Response to ORA Data Request #3 Question 11.

⁴¹ PG&E-3 at 2-14.

⁴² See PG&E-3 at 2-10

this program, Unit 3 will be periodically subjected to close-up visual inspections in the future. Hence, PG&E contends that because the program incorporates visual inspections, “no further Commission order is needed” as recommended by ORA.⁴³ We disagree. Furthermore, because there is nothing in the record that enables us to define the term, “periodically,” it is reasonable to require PG&E to report the dates and results of all inspections performed under the new transformer inspection program in its future ERRR Compliance filings, including descriptions of the results of all visual inspections. PG&E shall also provide a report describing any national industry standards of similar tests, including standards for inspection periods, e.g., annual, semi-annual, etc. This information can be used in future ERRR proceedings to enable the Commission to determine how often inspections should be conducted.

4.1.3. Utility-Owned Generation – Fossil

ORA filed no objection to PG&E’s contention that it prudently managed its utility-owned fossil fueled generation facilities. We find that PG&E prudently managed its utility-owned fossil fueled generation facilities, and responsibly managed the outages and the associated fuel costs.

Related to the utility-owned fossil generation and related outages, ORA made four recommendations, listed below, which ORA states were agreed to by PG&E. ORA requests the Commission to memorialize PG&E’s agreement.⁴⁴ PG&E does not dispute agreement to these recommendations but , offers refinements and clarifications.

⁴³ PG&E Opening Brief at 18.

⁴⁴ ORA Opening Brief at 19-21.

1. PG&E agrees to prepare an incident report following the forced outage of any unit at any one of its generating facilities over 25 megawatts.⁴⁵
2. PG&E had originally agreed to include supplemental testimony regarding an outage at the Humboldt Bay Generation Station (Humboldt). Instead, PG&E corrected the master data response and, thus, ORA is satisfied with the correction and no longer requests a supplemental filing.⁴⁶
3. ORA recommends the Commission require PG&E to update the Commission on the company's implementation of the Environex Report recommendations.⁴⁷ Instead, PG&E proposes that it provide a report to ORA in response to a data request in next year's proceeding.⁴⁸
4. ORA recommends PG&E perform a cost-effectiveness analysis of whether Humboldt should be shut down by Instrumentation and Control devices instead of manually.⁴⁹ PG&E explains that the use of these devices would increase outages thereby increasing costs.⁵⁰ ORA accepted PG&E's explanation and requested the Commission find PG&E in compliance with industry standard when an

⁴⁵ ORA Opening Brief at 19 and PG&E Reply Brief at 17. *See also*, PG&E-3 at 3-8.

⁴⁶ ORA Opening Brief at 19 and PG&E Reply Brief at 17.

⁴⁷ The Environex Report for the August 2016 outage at Humboldt Bay Generation Station recommended that PG&E: 1) address gaps between the catalyst which create an opportunity for exhaust gas to bypass the catalyst; 2) reduce Selective Catalyst Reduction temperature below 850 degrees Fahrenheit; 3) install different hardware to allow for wider range of ammonia control; 4) identify a replacement catalyst type that is less susceptible to thermal damage; and 5) identify the source of the chemical contaminants found on the catalyst. *See* ORA Opening Brief at 20 citing PG&E-3 at 3-4.

⁴⁸ PG&E Reply Brief at 17-18.

⁴⁹ ORA Opening Brief at 20.

⁵⁰ *Id.* at 20-21. The increase outages would be due to intermittent increases in emission measurements.

Instrumentation and Control device indicates high emissions.⁵¹

We address recommendation numbers three and four, as there appears to be some need for clarity.

For recommendation number three above, there appears to be a difference of opinion with respect to how the Commission should be updated on PG&E's implementation of the Environex Report: ORA recommends PG&E provide a report in the next ERRA Compliance filing versus PG&E's preference that a report be provided to ORA in response to a data request. PG&E maintains that the information was already provided in rebuttal testimony.⁵² Furthermore, PG&E contends that the information contained in such a report is not typically discussed in direct testimony.⁵³ ORA underscores that PG&E previously disclosed that the implementation of the recommendations has presented challenges and, consequently, the Commission and ORA should be apprised of the status of implementation.⁵⁴

The Commission should receive a status update on the implementation to ensure that the previously mentioned challenges have been resolved. Hence, it is reasonable to require PG&E to include such a report in the next ERRA Compliance application. However, the ERRA Compliance application for the year 2017 has already been filed as of the date of this decision; instead PG&E should file supplemental testimony in that proceeding providing an update to

⁵¹ ORA Opening Brief at 21.

⁵² PG&E Opening Brief at 19.

⁵³ PG&E Reply Brief at 18.

⁵⁴ ORA Reply Brief at 8 citing PG&E Opening Brief at 19.

the Commission on the implementation of the Environex Report recommendations.

With respect to recommendation number four above, ORA requests the Commission find PG&E in compliance with industry standard when an Instrumentation and Control device indicates high emissions. There is no evidence in this proceeding providing the industry standard. Hence, it is reasonable to deny the request to make such a finding.

4.1.4. Utility-Owned Generation – Nuclear

The record of this proceeding indicates that PG&E prudently administered and managed its utility-owned nuclear generation resources. PG&E reported no outages at its single nuclear facility, the Diablo Canyon Power Plant (Diablo) and contends that Diablo was operated in a reasonable fashion.⁵⁵ ORA does not dispute these claims.

ORA makes two recommendations related to the operation of Diablo:

- 1) PG&E should summarize all Nuclear Regulatory Commission (NRC) findings in future ERRA filings beginning in 2017; and 2) PG&E should report corrective actions taken in response to NRC findings in future ERRA filings beginning in 2017.⁵⁶ ORA states that PG&E has agreed to these requests and, thus, requests “the decision in this proceeding reflect PG&E’s agreement,”⁵⁷ in order to eliminate any potential ambiguities.⁵⁸ PG&E states that it has agreed to:
 - 1) provide a summary/list of all findings that relate to [Diablo] outages in its

⁵⁵ PG&E-1 at 4-8 to 4-11.

⁵⁶ ORA Opening Brief at 21-22.

⁵⁷ *Ibid.*

⁵⁸ ORA Reply Brief at 9.

response to the Master Data Requests propounded by ORA, rather than in testimony;⁵⁹ and 2) report on corrective actions taken in response to NRC findings in its future ERRA Compliance testimony.⁶⁰

With respect to the first recommendation, PG&E explains that it should only provide findings related to outages because many NRC findings and resulting corrective actions do not relate to outages, and those are beyond the scope of ERRA Compliance proceedings.⁶¹ However, ORA argues that NRC findings may also indicate whether PG&E reasonably managed Diablo.⁶² Indeed, in PG&E's testimony, the company begins the chapter on utility-owned nuclear generation by stating: "In compliance with Decision 14-01-011, this chapter addresses the *operation* (emphasis added) of [PG&E's] utility-owned nuclear facility, *and the outages* (emphasis added) that occurred at the facility during the 2016 record year."⁶³ The operations, as well as the outages, related to Diablo are in scope for ERRA Compliance proceedings. Hence, it is reasonable to require that all NRC findings be provided by PG&E in future ERRA filings.

With respect to the second recommendation, ORA reiterates its request that the Commission require PG&E provide the summary/list of NRC findings in its ERRA Compliance filing testimony in addition to providing it in response to the Master Data Requests.⁶⁴ If PG&E is able to provide a report on corrective

⁵⁹ PG&E Reply Brief at 18.

⁶⁰ *Id.* at 18-19.

⁶¹ PG&E Opening Brief at 22.

⁶² ORA Opening Brief at 22.

⁶³ PG&E-1 at 4-1.

⁶⁴ ORA Reply Brief at 9.

actions taken in response to NRC findings in its future ERRA Compliance testimony, PG&E should also be able to provide the summary/list of NRC findings in its ERRA Compliance filing testimony. The two documents together provide a complete record for the Commission. Accordingly, it is reasonable to require PG&E to provide both a summary/list of NRC findings and a report on corrective actions taken in response to the NRC findings in future ERRA Compliance filing testimony. Because this decision has been issued after PG&E's ERRA Compliance filing for the period 2017, PG&E shall file supplemental testimony for that ERRA Compliance proceeding to comply with this requirement.

4.2. Contract Management

With respect to its least-cost dispatch practices and procedures, PG&E did not prudently administer all contracts and generation resources, as required by Standard of Conduct 4. A reasonable manager would ensure that all relevant contract information is contained in its contract tracking systems, including contract expiration dates. A disallowance of \$20,699 is approved.

PG&E provides testimony on its least-cost dispatch practices and procedures used to meet customers' electric requirements in a least-cost manner during the 2016 record period. PG&E states that it complied with the Commission's Standard of Conduct 4, which mandates that PG&E utilize its portfolio of existing resources and market purchases to meet its electric load obligations. PG&E states that it also complies with relevant Commission decisions and PG&E's Bundled Procurement Plan. ORA's sole objection to PG&E's testimony relates to economic bidding of renewable resources and the inadvertent curtailment of a facility after PG&E's economic bidding rights expired. ORA recommends a disallowance of \$20,699 for the infraction.

PG&E explains that it had economic bidding rights under a contract until a specified date but PG&E continued to exercise the rights for this resource past that date, for a total of 33 hours over the course of more than a month.⁶⁵ This resulted in a ratepayer impact of \$20,699. To prevent future such occurrences, PG&E states that it enacted increased communications between contract management and bidding teams.⁶⁶

ORA argues that Standard of Conduct 4 requires that PG&E prudently administer all contracts and generation resources and dispatch the energy in a least cost manner.⁶⁷ ORA maintains that prudent administration of contracts means tracking expired contracts to ensure they are not included in the operating portfolio.⁶⁸ Acknowledging the improvements PG&E made after the incident, ORA surmises that PG&E should have already been doing this. ORA notes that although the cost of the incident is small, it should be borne by PG&E shareholders because the incident was avoidable.⁶⁹

PG&E maintains that the recommended disallowance should not be granted as the incident was inadvertent and the error only occurred for 33 hours and had an “insignificant” impact on ratepayers. PG&E further defends its actions by stating that the error “had its origins in a contractual provision intended to reduce customer costs.”⁷⁰ Moreover PG&E highlights that, in

⁶⁵ The name of the contract and the expiration date are confidential. This information can be found in confidential exhibit PG&E-1C at 1-31.

⁶⁶ PG&E-1 at 1-31.

⁶⁷ ORA Opening Brief at 22.

⁶⁸ ORA Opening Brief at 23.

⁶⁹ ORA Opening Brief at 24.

⁷⁰ PG&E Reply Brief at 19-20.

response to the discovery of the error, it has increased communications and collaborative efforts to ensure that changes in contract terms are properly reflected.⁷¹

We find that PG&E did not prudently administer all contracts and generation resources, as required by Standard of Conduct 4. A reasonable manager would ensure that all relevant contract information is contained in its systems, including a contract expiration date. Furthermore, PG&E's statement that the error only occurred for 33 hours is disingenuous, as the expired contract continued to be bid over the course of more than one month. We agree with ORA that the lack of awareness of a contract's expiration date for over a month clearly shows an insufficient tracking system. Accordingly, a disallowance of \$20,699 should be granted.

4.3. Greenhouse Gas Entries

We find PG&E in compliance with its 2014 Bundled Procurement Plan, with respect to its greenhouse gas entries. ORA's recommendations for future ERRA Compliance filing additions are denied as inapplicable or unnecessary.

PG&E provides an overview of its greenhouse gas compliance instrument procurement activities pursuant to its 2014 Bundled Procurement Plan during the 2016 record period. ORA agrees that PG&E is in compliance with its Bundled Procurement Plan. However, ORA recommends the Commission should require PG&E, in future ERRA Compliance applications, to:

- 1) explain how its methodology for calculating direct greenhouse gas costs is in compliance with D.14-10-033, as amended by D.15-01-024;

⁷¹ *Ibid.*

- 2) demonstrate that its change from physical to financial benefits for its tolling agreements does not result in an increase in total greenhouse gas costs for ratepayers; and
- 3) submit Template C of Attachment C and Template D-2 of Attachment D of D.14-10-003, as corrected by D.15-01-024, in future ERRA Compliance applications.

The request to require PG&E to explain how its methodology for calculating direct greenhouse gas costs is in compliance with D.15-01-024 is denied because D.15-01-024 does not establish requirements for ERRA Compliance applications. The request to demonstrate that the change from physical to financial benefits for its tolling agreements is not adverse to ratepayers is denied; PG&E satisfied its burden of proof. Lastly, the requirement to submit templates from D.14-10-003, as amended by D.15-01-024, in future ERRA Compliance applications is granted. While this data may be incomplete for purposes of the ERRA Forecast application filing, it is reasonable for the Commission to rely upon it for a determination in the ERRA Compliance proceeding. Furthermore, PG&E and ORA shall continue to work together to develop an agreement on the data necessary to allow ORA to verify PG&E's greenhouse gas emissions and Weighted Average Costs for future ERRA Compliance filings. These determinations are discussed in further detail below.

4.3.1. Compliance with D.14-10-033 and D.15-01-024

ORA contends that PG&E adjustments to the direct greenhouse gas costs are based on the requirements of accrual accounting but are not in compliance with D.14-10-033, as amended by D.15-01-024. PG&E argues that the reliance on these two decisions is inappropriate because D.14-10-033 and D.15-01-024

requirements are for filing ERRA Forecast applications.⁷² PG&E points to D.14-10-033, which states that: “the cost reconciliation addressed in the ERRA Forecast proceeding is not the same as the reconciliation performed for the three large utilities for procurement cost recovery purposes in their respective ERRA [Compliance] proceedings.”⁷³

D.14-10-033 adopts methods for calculating *forecast* greenhouse gas allowance revenue and greenhouse gas costs, and also for calculating *recorded* greenhouse gas allowance revenue and greenhouse gas costs.⁷⁴ However, nowhere in the ordering paragraphs of D.14-10-033 is there a requirement for the utilities to use the methods when developing applications for ERRA Compliance proceedings. For example, Ordering Paragraph 2 of D.14-10-033 permits PG&E to use its Market Data System procurement model to forecast greenhouse gas costs in its *forecast* ERRA application. Furthermore, in Ordering Paragraph 5, the Commission adopts the “calculations and methodologies in Attachment B to this decision for *forecasting* greenhouse gas-related costs, revenues, and expenses, and the procedures in Attachment B for reconciling those amounts.” No Ordering Paragraph makes any reference to ERRA Compliance filings. These filings are not required to be in compliance with D.14-10-033, as amended by D.15-01-024. Accordingly, it is reasonable to deny ORA’s request to direct PG&E to show, in future ERRA Compliance filings, how it complies with D.14-10-033, as amended by D.15-01-024.

⁷² PG&E Reply Brief at 21-22.

⁷³ *Id.* at 22 citing D.14-10-033 at 4.

⁷⁴ D.14-10-033 at 2.

4.3.2. Change from Physical to Financial Settlements

ORA asserts that PG&E failed to demonstrate that the change from physical to financial settlement of greenhouse gas costs for its tolling agreements met the reasonable manager standard. Both PG&E and ORA agree that PG&E has the option to settle its contract obligations through either means.

Explaining that, during the 2016 record period, certain tolling agreements could have been subject to a change from physical to financial settlement,⁷⁵ ORA maintains that PG&E did not present evidence indicating problems with certain agreements and/or the benefits arising from the change in settlement. PG&E disputes this allegation, pointing to a detailed explanation in rebuttal testimony of why it changed from physical to financial settlements. PG&E contends forecasts indicate that customers will have reduced costs over a multi-year period as a result of the change to financial settlements. Furthermore, PG&E states that the change will allow PG&E to effectively manage its greenhouse gas compliance instrument inventory and the Air Resources Board compliance instrument holding limit applicable to the bundled electric portfolio.⁷⁶

ORA asserts that PG&E did not provide evidence that it acted as a reasonable manager when revising its tolling agreements from physical to financial settlements. However, PG&E provided a detailed discussion of the inventory issue and the negative impact that physical settlements have on

⁷⁵ PG&E explains that payment to a generator who then procures its own greenhouse gas compliance instrument is called a financial settlement whereas when PG&E directly purchases greenhouse gas compliance instruments for the generator and then transfers those instruments to the generator it is called physical settlement. *See* PG&E Opening Brief at 24-25.

⁷⁶ PG&E Reply Brief at 27 citing PG&E-3C at 5-8.

managing the applicable Air Resources Board holding limit.⁷⁷ We find that PG&E acted as a reasonable manager in revising the terms of its tolling agreements “in light of the facts known to PG&E at the time the decision was made.”⁷⁸ We further find that PG&E showed how its election to change from physical to financial settlement for its tolling agreements affects greenhouse gas emissions costs.

4.3.3. Need for Additional Templates in Future ERRA Compliance Proceedings

ORA requests the Commission require PG&E to submit, in future ERRA Compliance proceeding applications, completed Template C of Attachment C and Template D-2 of Attachment D of D.14-10-033, as amended by D.15-01-024. ORA states this will facilitate the review process.⁷⁹ ORA underscores that PG&E has already agreed to provide this information on June 1, when it files the ERRA Forecast application.

PG&E argues the data for these two templates are not available until shortly before it files the forecast application. ORA asserts the data is available in February because: 1) PG&E would have collected and recorded its greenhouse gas emissions data in order to calculate the greenhouse costs recorded in its ERRA balancing accounts; and 2) the utilities are required to track greenhouse gas emissions using Template D-2 pursuant to D.14-10-033.⁸⁰ PG&E concedes that the data regarding the record period are available in February but true-ups,

⁷⁷ PG&E Reply Brief at 27. *See also* PG&E-3 at 5-8.

⁷⁸ PG&E-3 at 5-6 to 5-7.

⁷⁹ ORA Opening Brief at 34.

⁸⁰ ORA Opening Brief at 34-35. *See also* D.14-10-033 at 30 and 35.

which occur after the record period, are included in the June filing. PG&E argues that the information available in February is not complete.⁸¹ PG&E underscores that it is currently working with ORA to develop an agreed-upon verification method for PG&E's greenhouse gas emissions and weighted average costs for future ERRA filings beginning with PG&E's 2017 ERRA Compliance filing. PG&E also suggests that a longer ERRA Compliance schedule could also resolve the issue.

PG&E states that the data contained in the two templates are not complete because PG&E continues to record true ups on a monthly basis where better information has become available for direct greenhouse gas costs or emissions volumes.⁸² We agree that the data contained in the two templates when it becomes available in February are not complete for purposes of the ERRA Forecast proceeding. However, the data contained in the two templates are sufficient for use in a ERRA Compliance proceeding as they are the most up to date data available. Accordingly, we find it reasonable to direct PG&E to include the data contained in the two templates in its ERRA Compliance application.

5. Conclusion

We find that: PG&E prudently administered and managed its utility-owned generation, except for the cases described herein; PG&E prudently and safely managed utility-owned generation outages and associated fuel costs; PG&E prudently administered and managed its qualifying and non-qualifying facility contracts in accordance with the contract provisions; PG&E achieved least

⁸¹ PG&E Reply Brief at 29.

⁸² PG&E-3 at 6-2.

cost dispatch of its energy resource and prudently managed its procurement contracts, except as described herein; PG&E's entries in the ERRA for 2016 are reasonable; costs incurred and recorded in the Diablo Canyon Seismic Studies Balancing Account and the Green Tariff Shared Renewables Memorandum Account are reasonable and compliant with Commission decisions; and PG&E's greenhouse gas compliance instrument procurement complies with the 2014 Bundled Procurement Plan.

Accordingly, it is reasonable to grant cost recovery of \$5.344 million. This amount reflects a disallowance of \$113,472 for replacement power costs for the June 2016 outage at the Cresta Powerhouse Unit 2 and \$211,325 for the replacement power costs for the February 2016 outage at the Kerckhoff Unit 3, and \$20,699 for one noncompliance incident with respect to its obligation to prudently administer all contracts for its least cost dispatch of resources.

Additionally, PG&E shall:

- a) Include a memorandum in its next generation rate case describing the advantages, disadvantages and costs to record the age, operational lifespan, and current condition of components currently contained in its Asset Management Program. PG&E shall reference this decision in the memorandum.
- b) Report the dates and results of all inspections performed under the new transformer inspection program in its future ERRA Compliance filings, including descriptions of the results of all visual inspections. PG&E shall also provide a report in each filing describing any national industry standards of similar tests for a comparison, including standards for inspection periods.
- c) Prepare an incident report following the forced outage of any unit at any one of its generating facilities over 25 megawatts.

- d) File testimony in its ERRRA Compliance proceedings providing an update to the Commission on the implementation of the Environex Report recommendations. For the 2018 ERRRA Compliance proceeding for record period 2017, PG&E shall file supplemental testimony.
- e) Summarize all NRC findings in future ERRRA filings beginning in 2018 for the record period 2017 and report corrective actions taken in response to NRC findings in future ERRRA filings beginning in 2018 for the record period 2017.
- f) Include in its future Energy Resource Recovery Account Compliance proceedings the data, available as of February 1, in Templates C of Attachment C and Template D-2 of Attachment D of Decision 14-10-033.

6. Categorization and Need For Hearing

In Resolution ALJ-176-3394 dated March 24, 2017, the Commission preliminarily categorized this application as ratesetting as defined in Rule 1.3(e) and anticipated that this proceeding would require hearings. An August 31, 2017 Ruling determined that an evidentiary hearing is no longer necessary in this proceeding and should be taken off the calendar. The determination of the Commission as to the categorization of this proceeding is affirmed.

7. Comments on Proposed Decision

The proposed decision of the Administrative Law Judge 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 April 10, 2018 by ORA and PG&E. Reply comments were filed on April 16, 2018 by ORA and PG&E. In response to the comments, corrections and clarifications are made throughout this decision.

8. Assignment of Proceeding

Martha Guzman Aceves is the assigned Commissioner and Kelly A. Hymes is the assigned Administrative Law Judge in this proceeding.

Findings of Fact

1. Cresta Powerhouse Unit 2 has components that could date as far back as 1950.
2. A reasonable manager would have inquired about the age of the pressure relief valve seal when records could not provide any indication of the valve seal's approximate age.
3. A reasonable manager would have collected additional information on, or even considered replacement of, the potentially 66-year-old valve seal.
4. PG&E did not prudently administer and manage the Cresta Powerhouse Unit 2 utility-owned generation facility prior to the outage.
5. PG&E improved its maintenance practices after the Cresta Powerhouse Unit 2 outage.
6. Improving maintenance practices after an outage does not justify a prior lapse of maintenance.
7. The record of this proceeding indicates a range of \$2,500 to \$5,000 as an estimated cost of using a borescope to visually inspect the pilot valve seal for the pressure relief valve.
8. There have been no other costs or benefits presented to allow the Commission to properly analyze the reasonableness of the request that the Commission require PG&E to adopt the new measures across all hydro facilities.
9. The purpose of an ERRA Compliance proceeding is to determine whether a utility is in compliance with applicable rules governing energy resource contract administration, prudent maintenance of utility-retained generation, least

cost dispatch conducted during a prior year, and whether the recorded entries in its ERRAs were appropriate, correctly stated, and in compliance with applicable Commission decisions.

10. An ERRAs Compliance proceeding is not the appropriate venue to examine and revise facility maintenance practices.

11. The age of the portfolio makes PG&Es current record-keeping practices less than adequate.

12. PG&Es Asset Management Program does not contain essential information on the age, operational lifespan and current condition of facility components.

13. The age, operational lifespan and current condition of facility components are specific recommendations for additional data to maintain in the Asset Management Program.

14. It is not unreasonable that PG&E does not have records for every piece of equipment installed in 1919.

15. A reasonable manager would consider the fact that bushings with possibly as much as 98 years of service might require a more stringent inspection to ensure failure is not imminent.

16. Following the Kerckhoff Powerhouse 1 Unit 3 outage, PG&E performed a Doble Power test indicating the bushings were “barely serviceable or not serviceable at all.”

17. A reasonable manager, knowing that a piece of equipment could be up to 98 years old, would have taken additional steps to avoid a forced outage.

18. PG&E did not have the information necessary for it to determine the best inspection program to prevent forced outages, because it did not know that it was dealing with a 98-year-old piece of equipment.

19. A reasonable manager would treat a piece of equipment well past its life expectancy differently from a piece of equipment within its life expectancy.

20. A reasonable manager would consider the fact that extremely-aged equipment might require a more stringent inspection to ensure failure is not imminent.

21. A reasonable manager, knowing that a piece of equipment could be well past its life expectancy, would have taken additional steps to ensure a complete inspection of the aged equipment.

22. PG&E did not act as a reasonable manager with respect to the maintenance of the Kerckhoff Powerhouse.

23. In December 2015, PG&E initiated the High Voltage Transformer Condition Evaluation Standard, which includes a close-up visual inspection of each transformer.

24. At the time of the Kerckhoff Powerhouse outage, Kerckhoff Unit 3 had not yet been inspected using the High Voltage Transformer Condition Evaluation Standard.

25. There is nothing in the record that allows us to define “periodically.”

26. A report describing national industry standards of similar tests, including standards for inspection periods, e.g., annual, semi-annual, etc., can be used in future ERRA proceedings to enable the Commission to determine how often close-up visual inspections should be conducted.

27. PG&E agrees to prepare an incident report following the forced outage of any unit at any one of its generating facilities over 25 megawatts.

28. PG&E had originally agreed to include supplemental testimony regarding an outage at the Humboldt Bay Generation Station Humboldt. Instead, PG&E

corrected the master data response and, thus, ORA is satisfied with the correction and no longer requests a supplemental filing.

29. ORA recommends PG&E provide a report on the implementation of the Environex Report in the next ERRA Compliance filing; PG&E prefers that a report be provided to ORA in response to a data request.

30. PG&E previously disclosed that the implementation of the Environex Report recommendations has presented challenges.

31. The Commission should receive an update on the implementation to ensure that the previously mentioned challenges have been resolved.

32. There is no evidence in this proceeding indicating an industry standard of when an Instrumentation and Control device indicates high emissions.

33. The operations, as well as the outages, related to the Diablo Canyon Power Plant are in scope for ERRA Compliance proceedings.

34. PG&E reported no outages at its single nuclear facility, and contends that Diablo was operated in a reasonable fashion.

35. ORA does not dispute PG&E's claims regarding its Diablo facility.

36. PG&E prudently administered and managed its utility-owned nuclear generation resources.

37. If PG&E is able to provide a report on corrective actions taken in response to NRC findings in its future ERRA Compliance testimony, PG&E should also be able to provide the summary/list of NRC findings in its ERRA Compliance filing testimony.

38. The two documents together, a summary/list of NRC findings and a report on the corrective actions taken in response to the findings, should provide a complete record for the Commission.

39. PG&E did not prudently administer all contracts and generation resources, as required by Standard of Conduct 4.

40. A reasonable manager would ensure that all relevant contract information is contained in its systems, including a contract expiration date.

41. The lack of awareness of a contract's expiration date for over a month shows an inadequate tracking system.

42. PG&E and ORA are in agreement that PG&E is in compliance with its Bundled Procurement Plan.

43. PG&E is in compliance with its 2014 Bundled Procurement Plan.

44. D.14-10-033 adopts methods for calculating *forecast* greenhouse gas allowance revenue and greenhouse gas costs and *recorded* greenhouse gas allowance revenue and greenhouse gas costs.

45. Nowhere in the ordering paragraphs of D.14-10-033 is there a requirement for the utilities to use the adopted methods when developing and filing applications for ERRA Compliance proceedings.

46. No Ordering Paragraph in D.14-10-033 makes reference to ERRA Compliance filings.

47. ERRA Compliance filings are not required to comply with the requirements for greenhouse gas forecasts set forth in D.14-10-033, as amended by D.15-01-024.

48. PG&E provided a detailed discussion of the inventory issue and the negative impact that physical settlements have on managing the applicable Air Resources Board holding limit.

49. PG&E acted as a reasonable manager in revising the terms of its tolling agreements in light of the facts known to PG&E at the time the decision was made.

50. The record shows how the change from physical to financial settlement for its tolling agreements impacts greenhouse gas emissions costs.

51. The information contained in Template C of Attachment C and Template D-2 of Attachment D of D.14-10-033, as amended by D.15-01-02, is not complete in February for the annual ERRA Forecast proceeding.

52. The data available in February in Template C of Attachment C and Template D-2 of Attachment D of D.14-10-033, as amended by D.15-01-02 is sufficient for Commission review purposes in an ERRA compliance proceeding.

53. The data available in February for Template C of Attachment C and Template D-2 of Attachment D of D.14-10-033 is the most up to date data available.

54. It is reasonable to require PG&E to provide the data available in February in Template C of Attachment C and Template D-2 of Attachment D of D.14-10-033, as amended by D.15-01-02 in its ERRA Compliance application.

55. PG&E prudently administered and managed its utility-owned generation, except for the cases described herein.

56. PG&E prudently and safely managed utility-owned generation outages and associated fuel costs except for the cases described herein.

57. PG&E prudently administered and managed its qualifying and non-qualifying facility contracts in accordance with the contract provisions except as described herein.

58. PG&E achieved least cost dispatch of its energy resources.

59. PG&E's entries in the ERRA for 2016 are reasonable.

60. Costs incurred and recorded in the Diablo Canyon Seismic Studies Balancing Account and the Green Tariff Shared Renewables Memorandum Account are reasonable and compliant with Commission decisions.

61. PG&E's greenhouse gas compliance instrument procurement complies with the 2014 Bundled Procurement Plan.

Conclusions of Law

1. It is reasonable to disallow the \$113,472 replacement power costs resulting from the June 2016 Cresta Powerhouse Unit 2 outage.

2. It is reasonable to deny ORA's request that the Commission require PG&E to adopt the new measures across all hydro facilities.

3. It is reasonable to require PG&E to include a memorandum in its next general rate case that describes the advantages, disadvantages, and costs to record the age, operational lifespan, and current condition of current facility components in the Asset Management Program.

4. It is reasonable to disallow \$211,325 for the cost of replacement power stemming from the February 2016 outage at Kerckhoff Powerhouse 1 Unit 3.

5. It is reasonable to require PG&E to report the dates and results of all inspections performed under the new transformer inspection program in its future ERRA Compliance filings, including descriptions of the results of all visual inspections.

6. It is reasonable to require PG&E to include a report, in future ERRA Compliance filings, describing national industry standards of similar transformer inspection program tests, including standards for inspection periods, e.g., annual, semi-annual, etc.

7. It is reasonable to require PG&E to include a status report on the implementation of the Environex Report recommendations in the next ERRA Compliance application.

8. It is reasonable to deny the request of ORA to find PG&E in compliance with an industry standard of when an Instrumentation and Control device indicates high emissions.

9. It is reasonable to require that PG&E provide all NRC findings in future ERRA Compliance filings.

10. It is reasonable to require PG&E to provide both a summary/list of NRC findings and a report on corrective actions taken in response to the NRC findings in future ERRA Compliance filings.

11. A disallowance of \$20,699 for an economic bidding contract should be granted.

12. It is reasonable to deny ORA's request to direct PG&E to show, in future ERRA Compliance filings, how it complies with D.14-10-033, as amended by D.15-01-024.

13. It is reasonable to grant the request of ORA to require PG&E to file in its ERRA Compliance proceedings the data, available as of February 1, in Templates C of Attachment C and Template D-2 of Attachment D of D.14-10-033.

14. It is reasonable to grant PG&E cost recovery of \$5.344 million.

O R D E R

IT IS ORDERED that:

1. The application of Pacific Gas and Electric Company for compliance review of utility-owned generation operations, electric energy resource recovery account entries, contract administration, economic dispatch of electric resources, utility-owned generation fuel procurement, Diablo Canyon Seismic Studies Balancing Account, and other activities for the period January 1 through December 31, 2016 is approved, with modifications as described herein.

2. Pacific Gas and Electric Company is authorized cost recovery of \$5.343 million, which reflects disallowances of \$113,472 for the fuel costs associated with the outage of Cresta Powerhouse Unit 2, \$211,325 for the fuel costs associated with the outage of Kerckhoff Powerhouse 1 Unit 3, and \$20,699 for costs related to one noncompliant management incident of a contract for an economic bidding of a renewable resource.

3. Pacific Gas and Electric Company (PG&E) shall include a memorandum in its next general rate case explaining the advantages, disadvantages, and costs to record the age, operational lifespan, and current condition of facility components currently contained in its Asset Management Program. PG&E shall reference this decision in the memorandum.

4. Pacific Gas and Electric Company shall report the dates and results of all inspections performed under the new transformer inspection program in its future Energy Resource Recovery Account Compliance filings, including descriptions of the results of all visual inspections.

5. Pacific Gas and Electric Company shall include a report, in future Electric Energy Resource Recovery Account Compliance filings, describing national industry standards of similar transformer inspection program tests, including standards for inspection periods.

6. Pacific Gas and Electric Company shall include a status report on the implementation of the Environex Report recommendations as a supplemental filing in the 2018 Energy Resource Recovery Account Compliance application for record period 2017.

7. Pacific Gas and Electric Company shall provide a summary/list of all Nuclear Regulatory Commission findings and a report on corrective actions

taken in response to the findings in future Energy Resource Recovery Account Compliance filings.

8. Pacific Gas and Electric Company shall include in its future Energy Resource Recovery Account Compliance proceedings the data, available as of February 1, in Templates C of Attachment C and Template D-2 of Attachment D of Decision 14-10-033.

9. An evidentiary hearing is not necessary.

10. Application 17-02-005 is closed

This order is effective today.

Dated May 10, 2018, at Fontana, California.

MICHAEL PICKER

President

CARLA J. PETERMAN

LIANE M. RANDOLPH

MARTHA GUZMAN ACEVES

CLIFFORD RECHTSCHAFFEN

Commissioners