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Via Electronic Filing

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Subject: Public Advocates Office Comments on December 5, 2022 RCA Workshop

Dear Director Bout,

The Public Advocates Office (Cal Advocates) at the California Public Utilities Commission (Commission) submits the following comments on the December 5, 2022 Root Cause Analysis (RCA) Workshop and preliminary Pacific Gas and Electric Company (PG&E) and Commission staff proposals. We urge the Commission to adopt the recommendations discussed herein.

Sincerely,

/s/ *Nathaniel W. Skinner*

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Cc: Service lists I.15-08-019, I.19-06-015, R.18-10-007,
R.18-12-005, R.21-10-001

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I. INTRODUCTION

Commission Decision (D.) 20-05-019¹ ordered PG&E shareholders to retain the services of an independent consultant to conduct an RCA for each of the 17 wildfires in 2017 and 2018 that were reportable incidents to the Commission and that the California Department of Forestry and Fire Protection (CAL FIRE) determined were ignited by PG&E facilities.² Envista Forensics (Envista) conducted the RCA for those wildfires and produced a single RCA Report that included analyses for all 17 fires.³

As directed by the Commission, PG&E served the RCA Report on July 6, 2022, and PG&E provided a response to the report on August 4, 2022. A workshop was held on December 5, 2022 to discuss the findings of the RCA Report, PG&E's response, and a Commission Staff Proposal for potential corrective actions.

II. RECOMMENDATIONS

Cal Advocates makes the following recommendations, which should be included as part of the resolution process Commission staff discussed during the workshop:

- The Commission should require PG&E to accelerate and expand upon System Enhancement Initiative 20 (SEI 20).⁴
- The Commission should require PG&E to fully implement Envista's recommendations:
- PG&E should utilize its Corrective Action Program (CAP) process for all incidents and events, and trend issues across lines of business.
- PG&E should overhaul its maintenance program to balance preventative, predictive, and corrective maintenance.
- PG&E should perform Quality Assurance/Quality Control on 100 percent of vegetation management in the High Fire Threat Districts (HFTD).

¹ The Commission adopted D.20-05-019, *Decision Approving Proposed Settlement Agreement with Modifications* in the Commission's Investigation (I.)19-06-015 *Order Instituting Investigation on the Commission's Own Motion into the Maintenance, Operations and Practices of Pacific Gas and Electric Company (U39E) with Respect to its Electric Facilities; and Order to Show Cause Why the Commission Should not Impose Penalties and/or Other Remedies for the Role PG&E's Electrical Facilities had in Igniting Fires in its Service Territory in 2017*.

² *Settlement Agreement Between Pacific Gas and Electric Company, the Safety and Enforcement Division of the California Public Utilities Commission, Coalition of California Utility Employees, and the Office of the Safety Advocate Resolving Order Instituting Investigation I.19-06-01*, appended to D.20-05-019 at Attachment A, Exhibit C, Section B.7.

³ *Root Cause Analyses of the 2017-18 Wildfires found to have been ignited by PG&E & Corrective Action Report*, Envista Forensics, Inc. & Subcontractor Witt O'Brien's, July 2022 (RCA Report) available at [root-cause-analyses-of-the-2017-18-wildfires_070622.pdf](#).

⁴ The Commission should implement the recommendations of these comments that pertain to PG&E in I.15-08-019, the *Order Instituting Investigation on the Commission's Own Motion to Determine Whether Pacific Gas and Electric Company and PG&E Corporation's Organizational Culture and Governance Prioritize Safety* or any other appropriate proceeding.

- The Staff Proposal should be revised to implement additional recommendations from the RCA report.
- Envista recommends that the Commission revise CPUC General Order (GO) 95 to better align transmission and distribution maintenance standards with those for power generation in GO 167.
- The Staff Proposal should specify that the Commission shall conduct audits to follow-up and assess utility implementation with each of Envista’s recommendations and Corrective Actions adopted by the Commission.
- The Commission should require PG&E to retain Envista to independently assess implementation of the RCA Report recommendations.
- The Commission should streamline the process for selecting RCA firms in the future.
- The Commission should serve notice of future RCA report availability to multiple proceeding service lists.
- The Commission should provide at least 20 business days for comment on future workshops associated with the 2017 and 2018 wildfire RCA Report.

III. COMMENTS

A. **The Commission should require PG&E to accelerate and expand upon System Enhancement Initiative (SEI) 20.**

Envista’s RCA Report identified serious concerns with the safety of three-wire systems, which comprise the majority of PG&E’s distribution system.⁵ Envista found three-wire systems susceptible to high-impedance faults, which are difficult to detect, and can result in downed wires that are left energized for minutes or hours.⁶ In the 20 ignitions investigated under the RCA, 14 included a possible downed conductor that remained energized for at least 30 minutes.⁷ All 14 of these events occurred on three-wire circuits.

As Envista notes, the three-wire configuration is uncommon outside California, which raises questions as to whether California’s electric grid was constructed and maintained to industry best practices. The contribution of high-impedance faults to the fires covered under the RCA raise serious concerns with the safety of an overhead three-wire system. Furthermore, when asked why California used a three-wire system, PG&E was unable to articulate a reason.⁸

In light of its findings, Envista recommends that PG&E and the Commission expeditiously proceed with SEI 20 to engage an independent study of grounding methods and transformer configuration.²

⁵ RCA Report at 28.

⁶ Envista slide deck from workshop on December 5, 2022, slide 22.

⁷ Envista slide deck from workshop on December 5, 2022, slide 22.

⁸ Recording of workshop on December 5, 2022, at approximately 2:22:00.

² Envista slide deck from workshop on December 5, 2022, slide 33.

The Commission staff proposal agrees with this finding and proposes expanding the SEI 20 study to include a comprehensive comparison of three-wire and four-wire systems.¹⁰

Cal Advocates strongly supports both Envista’s recommendations and the Commission’s proposals to accelerate and expand the SEI 20 study. While PG&E has implemented measures to mitigate the risk of high-impedance faults, these measures are stopgap efforts at best, and were only implemented reactively, after devastating wildfires. PG&E implemented the Public Safety Power Shutoff (PSPS) program following the deadly 2017 wildfires,¹¹ and it implemented Enhanced Powerline Safety Settings (EPSS) following the 2021 Dixie Fire.¹² While these efforts reduce the risk of wildfires igniting from high-impedance faults, they have substantial reliability impacts that negatively impact customers.¹³ Nor do the PSPS program and EPSS mitigate all risk, as Envista notes.¹⁴

A detailed study that specifically develops best practices for three-wire and four-wire systems, as proposed by the Commission staff proposal, is a critical step to understanding the full scope of the risk represented by three-wire systems, and to implementing measures to mitigate such risk. It is imperative to complete the SEI study as quickly as possible, as any changes that would result from SEI 20 would take time to implement.¹⁵

D. 20-05-019 adopted SEI 20 on May 8, 2020. PG&E proposes completing the study by the end of 2023, three and a half years after the study was mandated. In the meantime, PG&E has proposed undergrounding approximately 10,000 miles of its electrical distribution system with forecast costs of approximately \$30 billion.¹⁶ While undergrounding would mitigate the risk of high-impedance faults, it is an expensive and slow process that PG&E anticipates will take at least a decade to complete.¹⁷ Even when completed, undergrounding will only affect about 39 percent of PG&E’s distribution system in the HFTD.¹⁸ PG&E must mitigate the wildfire risk on the remainder of its lines, and completing the SEI 20 study would provide valuable information on how to best do so.

To this end, the Commission should require PG&E to accelerate and expand its efforts on the SEI 20 study. Specifically, PG&E should:

¹⁰ CPUC slide deck from workshop on December 5, 2022, slide 19.

¹¹ PG&E initiated its PSPS program in 2018. PG&E’s Revised 2022 WMP, July 26, 2022 at 986.

¹² PG&E initiated its EPSS program in July of 2021. PG&E’s Revised 2022 WMP, July 26, 2022 at 837.

¹³ PG&E’s examination of Public Safety Power Shutoffs and Enhanced Powerline Safety Settings has historically not considered the impacts of these shutoffs to its customers.

¹⁴ Envista slide deck from workshop on December 5, 2022, slide 8.

¹⁵ Recording of workshop on December 5, 2022, at approximately 2:12:00.

¹⁶ PG&E proposed undergrounding approximately 3,300 miles from 2023 through 2026 at a forecast cost of approximately \$9,979 million. A.21-06-021, PG&E Rebuttal Testimony, July 11, 2022, Exhibit PG&E-17, 4.3-7. PG&E has since adjusted its 2023 GRC target mileage to 2,100 miles. A.21-06-021, PG&E Reply Brief, December 9, 2022 at. 9.

¹⁷ A historical examination of PG&E’s infrastructure work shows that PG&E often overstates the amount of work it can do in a given time period.

¹⁸ PG&E plans to underground approximately 10,000 circuit miles of distribution in HFTD. PG&E currently has approximately 25,500 circuit miles of distribution in the HFTD.

1. Complete the original SEI 20 study by the end of the second quarter of 2023.
2. Simultaneously, implement a second phase of the SEI 20 study to incorporate the Commission staff proposal to perform a comprehensive comparison of three-wire and four-wire systems sufficient to assess the expected circuit level performance and ignition risk of each configuration.¹⁹ PG&E should complete this second phase no later than the end of 2023 and should include interested stakeholders in the process by convening a working group and accepting comments.
3. Implement a third phase of the SEI 20 study to require PG&E to work with Commission staff to develop concrete strategies to mitigate the risk of PG&E's three-wire circuits. PG&E should complete this study no later than the end of the second quarter of 2024, with mitigations to be developed and implemented beginning in 2025.

Additionally, Cal Advocates encourages the Commission work in coordination with the Office of Energy Infrastructure Safety (Energy Safety) so that these study assessments can be considered alongside any Senate Bill 884²⁰ undergrounding plan, if PG&E submits an undergrounding plan pursuant to this statute.²¹

B. The Commission should require PG&E to fully implement Envista's recommendations.

PG&E has partially implemented a number of Envista's RCA report recommendations, which are likely to result in meaningful improvements to safety outcomes. However, PG&E disagrees with several recommendations, and claims that its processes already effectively satisfy others. Cal Advocates disagrees with PG&E's assertions. The Commission should require PG&E to fully implement Envista's recommendations. In particular, PG&E should focus on the following recommendations, which it fails to implement in full.

1. PG&E should utilize its Corrective Action Program process for all incidents and events, and trend issues across lines of business.

Envista found that PG&E's Corrective Action Program (CAP) is insufficient. Prior to 2017, PG&E only prepared after-action reports on about 10 percent of outages and did not trend issues across lines of business to detect systemic problems.²²

PG&E's response states that it has implemented an enterprise-wide CAP for all "wildfire incidents" and "high safety incidents."²³ PG&E does not clarify how it defines either of these terms, nor explain how it applies the CAP in each circumstance. PG&E has previously stated that it does not perform

¹⁹ CPUC slide deck from workshop on December 5, 2022, slide 19.

²⁰ McGuire, Statutes of 2022, codified as Public Utilities Code Section 8388.

²¹ https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220SB884

²² Envista slide deck from workshop on December 5, 2022, slide 36.

²³ Recording of workshop on December 5, 2022, at approximately 1:43:00.

root cause analyses on all events, instead selecting a tool based on risk level.²⁴ This tool can range from a full root cause evaluation to a “problem solving session.”²⁵ It is unlikely that “problem solving session” meets the intent of Envista’s recommendation to “implement an enterprise-wide CAP that requires its use for all incidents and events.”²⁶ PG&E also admits that it has “room for improvement” around the implementation of issue trending.²⁷

The Commission should require PG&E to fully implement Envista’s recommendation to utilize its CAP for all incidents and events,²⁸ and to trend issues across lines of business. The Commission should require PG&E to explain how to utilizes its CAP for each event type. Cal Advocates recognizes that CAP activity would greatly increase from current levels given the number of outages and ignitions that PG&E experiences.²⁹ The Commission should require PG&E to report quarterly via tier 1 advice letters the status of the CAP for each event or explain why PG&E did not utilize the CAP until such time as PG&E developed a full and complete enterprise-wide CAP.

2. PG&E should overhaul its maintenance program to balance preventative, predictive, and corrective maintenance.

Envista found that PG&E’s corrective maintenance backlog was “significant in both duration and number, which contributed to degraded system conditions.”³⁰ During the workshop, Envista stated that “it could be concluded that measures taken by PG&E were not effective in the areas of asset maintenance.”³¹ These findings are in alignment with findings by Energy Safety, which found that PG&E is not in compliance with the Commission’s General Order 95 requirements regarding asset inspection and maintenance.³² Energy Safety has required PG&E to clear its repair backlog no later than the end of the 2023-2025 Wildfire Mitigation Plan (WMP) cycle.³³

²⁴ PG&E, *Reply Comments of Pacific Gas and Electric Company on the Revised 2022 Wildfire Mitigation Plan*, August 22, 2022 at 7.

²⁵ PG&E, *Reply Comments of Pacific Gas and Electric Company on the Revised 2022 Wildfire Mitigation Plan*, August 22, 2022 at 7.

²⁶ Envista slide deck from workshop on December 5, 2022, slide 36.

²⁷ Recording of workshop on December 5, 2022, at approximately 1:43:00.

²⁸ Envista slide deck from workshop on December 5, 2022, slide 36.

²⁹ Per PG&E’s WMP Quarterly Data Report for 2022 Q3, in 2021 PG&E experienced 52,550 outages and 475 ignitions on its transmission and distribution systems combined.

³⁰ Envista slide deck from workshop on December 5, 2022, slide 34.

³¹ Recording of workshop on December 5, 2022, at approximately 0:53:00.

³² Energy Safety, *Final Decision on 2022 Wildfire Mitigation Plan Update: Pacific Gas and Electric Company*, November 10, 2022 at 94.

³³ Energy Safety, *Final Decision on 2022 Wildfire Mitigation Plan Update: Pacific Gas and Electric Company*, November 10, 2022 at 180.

Envista recommends that PG&E implement a comprehensive maintenance program that balances preventative,³⁴ predictive,³⁵ and corrective maintenance.^{36, 37} In response, PG&E explains that it conducted a failure modes and effects analysis to understand how each component might fail, and incorporated its findings into its maintenance program to inspect for known failure modes “to the extent that we can see it with the naked eye on an inspection.”³⁸ While PG&E also utilizes some inspection methods beyond the “naked eye,”³⁹ it is unclear whether these methods are predictive or merely corrective. It is also unclear whether PG&E’s inspections include preventative methods based on the time an asset has been in place.

The Commission should require PG&E to implement a comprehensive maintenance program that includes preventative, predictive, and corrective measures. The Commission should require PG&E to demonstrate which elements of its existing maintenance program meet Envista’s recommendations and to propose an improvement plan for those elements that do not. PG&E’s improvement plan should include a timeline of specific steps to remedy existing deficiencies in its maintenance program.

3. PG&E should perform QA/QC on 100 percent of vegetation management in High Fire Threat Districts.

Envista recommends that PG&E’s Quality Assurance/Quality Control (QA/QC) program should audit 100 percent of vegetation management work in high fire-risk areas.⁴⁰ PG&E disagrees with this finding, stating that it performs 100 percent work verification for Enhanced Vegetation Management (EVM) work, which is “considered sufficient.”⁴¹ PG&E also explains that it performs a second Vegetation Management (VM) patrol offset by six months from its routine VM patrols, which it claims is the “most effective” way to perform QA/QC.⁴²

While it is true that PG&E performs 100 percent work verification on EVM, EVM itself is only performed on approximately seven percent of PG&E’s distribution lines in High Fire Threat Districts (HFTD) each year.⁴³ Furthermore, PG&E plans to eliminate EVM as a separate program beginning in 2023, which renders its claims of 100 percent work verification moot.⁴⁴

³⁴ Preventative maintenance is time-based maintenance that is based on usage. Recording of workshop on December 5, 2022, at approximately 1:06:30.

³⁵ Predictive, or condition-based maintenance is based on the performance of an asset to predict when it will need maintenance. Recording of workshop on December 5, 2022, at approximately 1:07:00.

³⁶ Corrective maintenance is work performed to extend an asset’s life, e.g. “if it’s broke, fix it.” Recording of workshop on December 5, 2022, at approximately 1:06:00.

³⁷ Envista slide deck from workshop on December 5, 2022, slide 34.

³⁸ Recording of workshop on December 5, 2022, at approximately 2:23:30.

³⁹ For example, PG&E utilizes infrared inspections of distribution and transmission equipment. PG&E’s Revised 2022 WMP, July 26, 2022, sections 7.3.4.4 and 7.3.4.5.

⁴⁰ PG&E slide deck from workshop on December 5, 2022, slide 4.

⁴¹ PG&E slide deck from workshop on December 5, 2022, slide 4.

⁴² Recording of workshop on December 5, 2022, at approximately 2:27:30.

⁴³ *Comments of the Public Advocates Office on the 2021 Wildfire Mitigation Plan Update of Pacific Gas and Electric Company*, March 29, 2021, at. 13-14.

⁴⁴ *Comments of the Public Advocate’s Office on the 2022 Wildfire Mitigation Plan Updates of the Large Investor-Owned Utilities Docket 2022-WMPs*, April 11, 2022, at 29-31.

PG&E’s claim that a second patrol is the “most effective” way to perform QA/QC on VM work is erroneous. In order to function as a quality inspection, this second inspection would need to trace work back to the original personnel who performed the VM work, so that poorly-performing VM personnel are retrained or relocated, as necessary. Additionally, under PG&E’s current process, if a critical tree is not identified or trimmed during the routine VM inspection, the hazard would remain in place for six months before the next opportunity to identify and remediate the hazardous tree through the second inspection. A formal QA/QC process should inspect work in a timely fashion to identify and mitigate such hazards immediately.

Envista cited vegetation management as a true root cause in 55 percent of the ignitions included in the RCA. Following the devastating 2017 and 2018 wildfires, PG&E has experienced several wildfires associated with downed vegetation, including the 2020 Zogg Fire which resulted in four fatalities,⁴⁵ and the 2021 Dixie Fire which burned nearly one million acres.⁴⁶ These wildfires indicate that PG&E’s current methods of quality control and assurance on vegetation management are insufficient and fail to protect Californians from the increasing risk of wildfires.

The Commission should require PG&E to adopt Envista’s recommendation to perform QA/QC on 100 percent of VM work in the HFTD. To minimize the incremental costs to ratepayers, PG&E should consider discontinuing the six-month offset patrol and reallocating those resources to a formal QA/QC program that inspects 100 percent of VM work within the HFTD. This would align PG&E’s programs with Envista’s recommendation to perform only a single, robust annual VM inspection.⁴⁷

C. The Staff Proposal should be revised to implement additional recommendations from the RCA report

The Staff Proposal described three specific preliminary staff proposals, which Cal Advocates supports. As explained below, Envista makes additional recommendations to decrease the risk of ignitions caused by PG&E electric infrastructure that the Staff Proposal should also adopt.

1. Envista recommends that the Commission revise CPUC General Order (GO) 95 to better align transmission and distribution maintenance standards with those for power generation in GO 167.

Envista identifies shortcomings in GO 95⁴⁸ and recommends that the Commission revise GO 95 to include GO 167 Maintenance Standards Enforcement.⁴⁹ GO 167 Maintenance Standards address utility organizational elements that are necessary to prevent organizational causes of utility infrastructure failures. Envista specifically highlights the GO 167 Balance of Maintenance Standard.

⁴⁵ Zogg Fire Incident report, <https://www.fire.ca.gov/incidents/2020/9/27/zogg-fire/>

⁴⁶ Dixie Fire Incident Report, <https://www.fire.ca.gov/incidents/2021/7/13/dixie-fire/>

⁴⁷ Recording of workshop on December 5, 2022, at approximately 1:04:00.

⁴⁸ “Finding: General Order 95 does not provide guidance on preventive and predictive maintenance minimum standards.” RCA Report at 125.

⁴⁹ “Recommended Changes to the CPUC’s General Orders” ... “Modify GO 95 to better align transmission and distribution preventative maintenance standards with those existing for power generation in GO 167.” RCA Report at 11.

The Commission should revise GO 95 to include the full suite of existing Maintenance Enforcement Standards of GO 167.⁵⁰

To consider this proposed change to GO 95, as well as others potential revisions to the Commission’s existing General Orders to address the increasing threat of wildfires, the Commission should open a proceeding. The Commission should consider retaining an RCA expert to assist with further changes to the General Orders.

2. The Staff Proposal should specify that the Commission shall conduct audits to follow-up and assess utility implementation with each of Envista’s recommendations and Corrective Actions adopted by the Commission.

To support its effective implementation, the Staff Proposal should also include a Commission audit process to follow-up and assess utility implementation of each of Envista recommendations and corrective actions that the Commission adopts. Just as with GO 95, and GO167, it is necessary to monitor and audit PG&E for compliance with Envista’s recommendations and Commission requirements. The Staff Proposal to implement Envista recommendations should explicitly include a requirement for ongoing Commission monitoring and audits.

D. The Commission should require PG&E to retain Envista to independently assess implementation of its recommendations.

Cal Advocates recommends that the Commission require PG&E to retain Envista’s services to follow through and independently assess implementation of Envista’s recommendations and corrective actions. PG&E can fund the extension to Envista’s contract from the \$14 million remaining of the PG&E shareholder funds that the Commission allocated to fund the RCA in D.20-05-019.⁵¹

PG&E served parties to I.19-06-015 (the investigation of its role in the 2017 and 2018 wildfires) with Envista’s final RCA Report on July 6, 2022. The RCA Report included 19 findings, which in some cases, included related recommendations for PG&E and the Commission.⁵² The findings and recommendations were produced as a result of the 17 individual RCAs and the review of documentation of programs in place prior to the wildfires.⁵³

The Commission ordered PG&E to allocate a total of \$17 million of shareholder funds to conduct the 17 RCAs.⁵⁴ Additionally, the Commission ordered PG&E to spend \$50 million of shareholder funds, plus any amount remaining from the \$17 million allocated for conducting the RCAs, to implement

⁵⁰ The GO 167 maintenance standards are reproduced in Appendix A to these comments.

⁵¹ D.20-05-019 at. 82

⁵² RCA Report at 90-134.

⁵³ RCA Report at 89. “In addition to conducting the 17 RCAs, the RCA Team reviewed thousands of pages of documents and conducted 101 interviews. Based on such, the Team has developed findings and, in some cases, associated recommendations for PG&E and the CPUC. In some cases, the findings are a direct result of individual RCAs, while others are based on a review of documentation of programs in place prior to the wildfires.”

⁵⁴ D.20-05-019 at 82. “The total budget for the RCAs to be funded by shareholders pursuant to Section B.7 of Exhibit C of the settlement agreement is increased by \$14 million for a total budget of \$17 million. The funds may be shifted between the analyses depending on the complexity of each. If the RCAs are conducted for less than \$17 million, any remaining funds shall be used to implement corrective actions stemming from the RCAs.”

corrective actions stemming from the RCAs that otherwise would have been funded by ratepayers.⁵⁵ A total of \$63 million is available for PG&E to perform corrective actions identified in the RCA Report.⁵⁶

Retaining Envista to assess the implementation of RCA report recommendations is consistent with the Commission's action in I.15-08-019, the *Order Instituting Investigation on the Commission's Own Motion to Determine Whether Pacific Gas and Electric Company and PG&E Corporation's Organizational Culture and Governance Prioritize Safety* (PG&E Safety Culture Investigation). In the PG&E Safety Culture investigation, the Commission directed the Safety and Enforcement Division (SED), with the assistance of an independent third-party consultant to evaluate PG&E's and PG&E Corp.'s organizational culture, governance, policies, and practices, and accountability metrics.⁵⁷ NorthStar Consulting Group (NorthStar) was chosen as the independent third-party consultant to perform the assessment of PG&E's safety culture on behalf of SED with work beginning in April 2016.⁵⁸ NorthStar provided its initial assessment of PG&E's safety culture in May 2017,⁵⁹ and in 2018 the Commission ordered PG&E to implement the recommendations in the NorthStar report.

NorthStar was retained to produce two follow-up reports assessing implementation in March 2019,⁶⁰ and in September 2022.⁶¹ In September 2020, the Commission ruled that the proceeding should remain open as a vehicle to monitor PG&E's progress and address issues that arise, with NorthStar continuing in a monitoring role.⁶² NorthStar's final update found that PG&E only partially implemented or did not implement 32 of the 65 NorthStar recommendations.⁶³

As it did in the PG&E Safety Culture Investigation, the Commission should develop a framework monitor PG&E implementation of Envista's recommendations in the RCA Report. Envista's

⁵⁵ D.20-05-019 at 82. "PG&E shall spend \$50 million of shareholder funds, plus any amount remaining from the budget for conducting the RCAs, to implement corrective actions stemming from the RCAs that would otherwise have been funded by ratepayers but for this decision."

⁵⁶ CPUC Workshop of Root Cause Analysis on PG&E 2017-2018 Wildfires (Dec. 5, 2022) at 10:59. Accessed at: <https://www.youtube.com/watch?v=xTjrzQJ8cTo>

⁵⁷ I.15-08-019 *Administrative Law Judge's Ruling Providing the Final NorthStar Report Update and The Safety Policy Division Staff Report*, (September 16, 2022) at 2.

⁵⁸ I.15-08-019 *Administrative Law Judge's Ruling Providing the Final NorthStar Report Update and The Safety Policy Division Staff Report*, (September 16, 2022) at 2.

⁵⁹ I.15-08-019 *Administrative Law Judge's Ruling Providing the Final NorthStar Report Update and The Safety Policy Division Staff Report*, (September 16, 2022) at 8.

⁶⁰ NorthStar issued its first update to its report in March 2019 which focused on PG&E's implementation of six key NorthStar recommendations selected by the Commission. I. 15-08-019, *E-mail Ruling Distributing NorthStar Report Update*, (March 29, 2019).

⁶¹ NorthStar issued its final update assessing the implementation status of all NorthStar recommendations In September 2022. I. 15-08-019, *Administrative Law Judge's Ruling Providing the Final NorthStar Report Update and The Safety Policy Division Staff Report*, (September 16, 2022) at 8.

⁶² I.15-08-019 *Administrative Law Judge's Ruling Updating Case Status*, (September 4, 2020) at 7.

⁶³ I.15-08-019, *Opening Comments of The Public Advocates Office on The Administrative Law Judge's Ruling Providing The Final NorthStar Report Update And The Safety Policy Division Staff Report*, (October 7, 2022) at 6.

continued monitoring role should encompass quarterly update reports on PG&E's implementation with the reports distributed to the appropriate service lists.

E. The Commission should streamline the RCA firm selection process.

Envista Forensics was selected to deliver a report that met the directive to “identify gaps that can be closed in order to reduce the risk of future catastrophic wildfires,” pursuant to I. 19-06-015, the Commission’s Wildfire Order Instituting Investigation.⁶⁴ Envista was chosen from a pool of 18 firms, a subset⁶⁵ of which PG&E recommended to Commission staff, who then interviewed each firm.⁶⁶ The process of selecting an RCA firm required a significant amount of time and resources on the part of both Commission and PG&E staff.⁶⁷ It is likely that additional RCAs of past and future utility-caused fires (e.g., the 2020 Zogg fire, 2021 Dixie fire) will be critical to improving the Commission’s oversight of utility practices for minimizing ignitions caused by their electric infrastructure. As such, Cal Advocates recommends that the Commission develop a process to select a robust pool of qualified candidates available for consideration when the need for future root cause analyses arises. Identifying a group of potentially qualified candidates in advance minimizes the administrative and staff time of selecting an RCA firm for future analyses, so the RCA firm could happen more expeditiously.

The timing is critical for root cause analyses, as Envista notes; because the RCA on the 2017 and 2018 fires was not initiated until July of 2021, Envista was unable to review any physical evidence, many of the relevant PG&E employees had left the company, and relevant documentation requested of PG&E was not provided.⁶⁸

F. The Commission should serve notice of future RCA report availability to multiple proceeding service lists.

Envista’s RCA Report was conducted per D.20-05-019 and contains numerous findings, recommendations, and analyses that are germane to a much broader array of wildfire safety and safety-adjacent proceedings than merely the service list of I.19-06-015. The RCA Report was not filed to the docket of the re-opened I. 19-06-015, making the report even more difficult for stakeholders to find. Due to the relevance of the RCA Report’s findings, the Commission should require the utilities to serve any future RCA reports to a much broader slate of service lists. For example, the Wildfire Mitigation Plan proceeding, (R.18-10-007), the De-Energization Rulemaking (R.18-12-005), and the Safety Culture Assessment rulemaking (R.21-11-001), are among the proceedings that could benefit from the analysis provided in the RCA reports conducted in this proceeding. Furthermore, the Commission should consider collaborating with the Energy Safety to cross-post RCA reports to ensure the broadest possible stakeholder awareness of their analysis.

⁶⁴ RCA Report at 2.

⁶⁵ RCA report at 2. “The CPUC staff directed PG&E to identify three qualified firms from which the CPUC staff would select one. PG&E identified about 18 firms and requested formal proposals from a subset.”

⁶⁶ RCA Report at 2-3.

⁶⁷ D. 20-05-019 was issued on May 8, 2020, and Envista’s RCA report was released over two years later on July 6, 2022. By the time a corrective action plan is adopted in 2023 it will have been six years since the 2017 wildfires.

⁶⁸ RCA Report at 18.

G. The Commission should provide at least 20 days for comment on future workshops associated with the 2017 and 2018 wildfire RCA.

Cal Advocates appreciates the opportunity to provide comment on Envista's RCA recommendations, PG&E's responses, and Commission staff's proposals. However, the comment period is abbreviated and does not permit a detailed analysis of the report's recommendations or PG&E's responses. The RCA workshop was held on Monday, December 5, 2022, and comments are due 11 calendar days later on Friday, December 16th. This does not allow sufficient time to perform discovery on PG&E or to complete a detailed analysis of the workshop contents.

The workshop contained a lengthy and detailed discussion of the RCA process, Envista's recommendations, PG&E's responses, and extensive questions and answers. Not all questions were answered during the workshop,⁶⁹ and answers are unlikely to be provided publicly prior to the comment deadline.

To support a meaningful public process and substantive analysis, the Commission should provide additional time to comment on future workshops. A period of 20 business days would allow stakeholders to perform reasonable discovery and analysis prior to submitting comments.

IV. CONCLUSION

Cal Advocates urges the Commission to adopt the recommendations discussed herein. For any questions relating to these comments, please contact Matthew Karle (Matthew.Karle@cpuc.ca.gov).

Respectfully submitted,

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⁶⁹ For example, President Reynolds asked PG&E to explain why California historically has used a three-wire circuit configuration. PG&E was unable to provide an answer during the workshop. Envista referenced the three-wire configuration as a substantial contributor to the ignitions covered under the RCA. Understanding the history and justification for the system is important to making meaningful recommendations. See recording of workshop on December 5, 2022, at approximately 2:22:00.

APPENDIX A

APPENDIX D: MAINTENANCE STANDARDS FOR GENERATING ASSET OWNERS

Maintenance Standards (MS) 1 through 18 apply to each covered generating asset. (See GO 167, §§ 3 and 7.) A separate document containing recommended guidelines may be obtained from the Commission's Safety and Enforcement Division (or successor entity). (See GO 167 § 15.2.) The guidelines are intended to assist each generating asset owner determine how it may comply with these MS.

1. MS 1 – Safety

The protection of life and limb for the work force is paramount. The company behavior ensures that individuals at all levels of the organization consider safety as the overriding priority. This is manifested in decisions and actions based on this priority. The work environment, and the policies and procedures foster such a safety culture, and the attitudes and behaviors of individuals are consistent with the policies and procedures.

2. MS 2 - Organizational Structure and Responsibilities

The organization with responsibility and accountability for establishing and implementing a maintenance strategy to support company objectives for reliable station operation is clearly defined, communicated, understood and is effectively implemented. Reporting relationships, control of resources, and individual authorities support and are clearly defined and commensurate with responsibilities.

3. MS 3 – Maintenance Management and Leadership

Maintenance managers establish high standards of performance and align the maintenance organization to effectively implement and control maintenance activities.

4. MS 4 – Problem Resolution and Continuing Improvement

The company values and fosters an environment of continuous improvement and timely and effective problem resolution.

5. MS 5 - Maintenance Personnel Knowledge and Skills

Maintenance personnel are trained and qualified to possess and apply the knowledge and skills needed to perform maintenance activities that support safe and reliable plant operation.

6. MS 6 - Training Support

A systematic approach to training is used to achieve, improve, and maintain a high level of personnel knowledge, skill, and performance.

7. MS 7 – Balance of Maintenance Approach

The maintenance program includes the proper balance of the various approaches to maintenance, e.g., preventive, predictive, or corrective. The approach is adequately documented with consideration of economics and reliability of equipment or components, and their affect on reliable operation of the unit. Operating experience is factored into the program. Maintenance procedures and documents should include the generation equipment and all those components owned by the generation owner directly connected to the plant that are an integral part of delivering power to the grid including fuel supply systems, electrical switchyards, transmissions lines, penstocks, flumes, exhaust system, etc.

8. MS 8 – Maintenance Procedures and Documentation

Maintenance procedures and documents are clear and technically accurate, provide appropriate direction, and are used to support safe and reliable plant operation. Procedures must be current to the actual methods being employed to accomplish the task and are comprehensive to ensure reliable energy delivery to the transmission grid.

9. MS 9 – Conduct of Maintenance

Maintenance is conducted in an effective and efficient manner so equipment performance and materiel condition effectively support reliable plant operation.

10. MS 10 – Work Management

Work is identified and selected based on value to maintaining reliable plant operation. Work is planned, scheduled, coordinated, controlled, and supported with resources for safe, timely, and effective completion.

11. MS 11 – Plant Status and Configuration

Station activities are effectively managed so plant status and configuration are maintained to support reliable and efficient operation.

12. MS 12 – Spare Parts, Material and Services

Correct parts and materials in good condition, are available for maintenance activities to support both forced and planned outages. Procurement of services and materials for outages are performed in time to ensure materials will be available without impact to the schedule. Storage of parts and materials support maintaining quality and shelf life of parts and materials.

13. MS 13 - Equipment Performance and Materiel Condition

Equipment performance and materiel condition support reliable plant operation. This is achieved using a strategy that includes methods to anticipate, prevent, identify, and promptly resolve equipment performance problems and degradation.

14. MS 14 – Engineering and Technical Support

Engineering activities are conducted such that equipment performance supports reliable plant operation. Engineering provides the technical information necessary for the plant to be operated and maintained within the operating parameters defined by plant design.

15. MS 15 – Chemistry Control

Chemistry controls optimize chemistry conditions during all phases of plant operation and system non-operational periods.

16. MS 16 – Regulatory Requirements

Regulatory compliance is paramount in the operation of the generating asset. Each regulatory event is properly identified, reported and appropriate action taken to prevent recurrence.

17. MS 17 – Equipment History

Maintenance standards or procedures clearly define requirements for equipment history for the systems and equipment, including, what information or data to collect, how to record data, and how the data is to be used.

18. MS 18 – Maintenance Facilities and Equipment

Facilities and equipment are adequate to effectively support maintenance activities.

(END OF APPENDIX D)