August 22, 2023 **Via Electronic Filing**

Caroline Thomas Jacobs, Director
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California Natural Resources Agency
Sacramento, CA 95184
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Subject: **Public Advocates Office Opening Comments on Pacific Gas and Electric's Revised 2023-2025 Wildfire Mitigation Plan**

Docket: **2023-2025-WMPs**

Dear Director Thomas Jacobs,

The Public Advocates Office at the California Public Utilities Commission (Cal Advocates) respectfully submits the following comments on the revised 2023-2025 Wildfire Mitigation Plan of Pacific Gas and Electric Company (PG&E). Please contact Nathaniel Skinner (Nathaniel.Skinner@cpuc.ca.gov), Program Manager, or Henry Burton (Henry.Burton@cpuc.ca.gov), Program and Project Supervisor, with any questions relating to these comments.

We respectfully urge the Office of Energy Infrastructure Safety to adopt the recommendations discussed herein.

Respectfully submitted,
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I. INTRODUCTION

Pursuant to the Office of Energy Infrastructure Safety's (Energy Safety) *Final 2023-2025 Wildfire Mitigation Plan Process and Evaluation Guidelines* (2023 WMP Process Guidelines) and *Revision Notice for Pacific Gas and Electric Company's 2023-2025 Wildfire Mitigation Plan* (Revision Notice),[1] the Public Advocates Office at the California Public Utilities Commission (Cal Advocates) submits these comments on Pacific Gas and Electric Company's (PG&E) *2023-2025 Wildfire Mitigation Plan R2* (Revised 2023-2025 WMP) and accompanying Revision Notice Response.[2]

PG&E filed its *2023-2025 Wildfire Mitigation Plan* on March 27, 2023, with subsequent errata filed on April 6, 2023 and April 26, 2023 (Initial 2023-2025 WMP).[3] Cal Advocates filed comments on PG&E's Initial 2023-2025 WMP on May 26, 2023. On June 22, 2023, Energy Safety issued the Revision Notice to PG&E. PG&E filed its Revision Notice Response and a Revised 2023-2025 WMP on August 7, 2023.

The Revision Notice permits interested persons to file opening comments by August 22, 2023 and reply comments by September 1, 2023. These comments address PG&E's Revision Notice Responses and Revised 2023-2025 WMP, focusing on the new or revised elements.

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[1] Energy Safety, *Final 2023-2025 Wildfire Mitigation Plan Process and Evaluation Guidelines*, December 6, 2022; Energy Safety, *Revision Notice for Pacific Gas and Electric Company's 2023-2025 Wildfire Mitigation Plan*, June 22, 2023 (Revision Notice), at 31-32 and page 2 of the cover letter.

[2] PG&E, *2023-2025 Wildfire Mitigation Plan R2*, August 7, 2023 (Revised 2023-2025 WMP); PG&E, *2023-2025 Wildfire Mitigation Plan Response to Revision Notice*, August 7, 2023 (Revision Notice Response).

[3] All references to "PG&E's Initial 2023-2025 WMP" in these comments refer to the April 6, 2023 revision (2023_04_06_PG&E_2023_2025WMP_R0).

II. General Issues

A. Critical Issue RN-PG&E-23-02: quality assurance and quality control (QA/QC).

1. PG&E's Revision Notice Response is non-compliant and unreasonably fails to set target pass rates for QA/QC.

In its Final Decision on PG&E's 2022 WMP Update, Energy Safety found deficiencies in PG&E's asset inspection quality assurance and quality control (QA/QC) goals. Energy Safety directed PG&E to set target pass rates for 2023 and 2024 of 95 percent or greater.[4] PG&E failed to comply.[5]

In its June 22, 2023 Revision Notice, Energy Safety again directed PG&E to define target pass rates of at least 95 percent for its asset inspection QA/QC.[6] PG&E provided target pass rates for its QA program,[7] but failed to provide target QC pass rates. Instead, PG&E introduced a drastic change to its QC process, which it claims will "integrate QC with [its] execution processes."[8]

PG&E states this change will result in it completing QC on a shorter timeline.[9] However, PG&E does not further define its proposed process, nor explain when it will implement the proposed QC process or how it will oversee the transition. Although PG&E claims its proposed process will "achieve comparable quality performance results" to its existing program,[10] it also states that the new process will involve "less formal sampling of locations through QC."[11]

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[4] Energy Safety, *Final Decision on 2022 Wildfire Mitigation Plan Update Pacific Gas and Electric Company*, November 10, 2022 (Final Decision on PG&E's Revised 2022 WMP), area for continued improvement PG&E-22-21 at 179.

[5] *Comments of the Public Advocates Office on the 2023 to 2025 Wildfire Mitigation Plans of the Large Investor-Owned Utilities* at 23-25, May 26, 2023, in docket 2023-2025-WMPs.

[6] Revision Notice at 7.

[7] Revision Notice Response at 34-35. Per PG&E's Revised 2023-2025 WMP at 506-512, PG&E's QC process audits a large sample of completed inspection locations. PG&E's QA process audits a smaller sample of locations where QC has been completed.

[8] Revision Notice Response at 35.

[9] PG&E's response to data request CalAdvocates-PGE-2023WMP-28, question 1, August 15, 2023.

[10] Revision Notice Response, cover letter at 2.

[11] PG&E's response to data request CalAdvocates-PGE-2023WMP-28, question 5, August 15, 2023. It is unclear from PG&E's response whether this means that the sample size will be smaller, or that PG&E will not use a formal protocol to develop a representative sample.

Thus, rather than comply with Energy Safety's directives, PG&E is unilaterally choosing to replace the process, while failing to provide concrete details or data to support its decisions. PG&E's approach does not comply with Energy Safety's repeated directives to set quantitative targets for its QC process. Even more concerningly, PG&E fails to demonstrate whether and how its proposed new program will actually improve PG&E's quality control of the work it is performing.[12]

2. Energy Safety should require PG&E to postpone adoption of its proposed QC process due to the lack of information about its processes.

PG&E has a history of failing to describe its QA/QC processes in reasonable detail.[13] In 2022, PG&E improved in this regard[14] and described a thorough QC process that incorporated both desktop and field reviews.[15] These programs shed light on the poor performance of PG&E's asset inspectors and the need for even stronger QA and QC.[16] Thereafter, Energy Safety reasonably required PG&E to improve its QA and QC processes by setting a target pass rate of at least 95 percent for the 2023-2025 WMP cycle.[17]

PG&E has refused to follow this directive. Instead, it has unilaterally determined to replace its QC process altogether.[18] Yet, PG&E has failed to articulate what its replacement process will entail, instead vaguely describing it in a mere two sentences:

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[12] These comments focus on PG&E's asset inspection quality control deficiencies. However, per PG&E's Revision Notice Response at 38, PG&E is planning similar changes to its vegetation management quality control processes. Therefore, the concerns we raise and the remedies we propose apply to PG&E's proposed changes to both its asset inspection and vegetation management quality control processes.

[13] *Comments of the Public Advocates Office on the 2021 Wildfire Mitigation Plan Update of Pacific Gas and Electric Company*, March 29, 2021 at 30-32; Energy Safety, *The Wildfire Safety Division Issuance of Revision Notice for Pacific Gas and Electric Company's 2021 Wildfire Mitigation Plan Update and Notice of Extension of WSD Determination Per Public Utilities Code 8389.3(a)*, May 4, 2021 at 12-14.

[14] Final Decision on PG&E's Revised 2022 WMP at 84.

[15] PG&E, *2022 Wildfire Mitigation Plan Update Revised*, July 26, 2022 (Revised 2022 WMP) at 665.

[16] *See, e.g.*, *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 21-24; Energy Safety, Final Decision on PG&E's Revised 2022 WMP at 99-101. In 2021 and 2022, PG&E's QC pass rates ranged from 67 percent to 92 percent, with no marked improvement in 2022.

[17] Final Decision on PG&E's Revised 2022 WMP, area for continued improvement PG&E-22-21 at 179; Revision Notice at 7.

[18] Revision Notice Response at 35.

> PG&E is currently working to integrate QC with our execution processes to drive quality during initial work execution. This approach will create real-time learnings to coach and guide workers through the work execution process so that work is completed correctly the first time.[19]

PG&E's explanation lacks reasonably specific information about the steps that PG&E's personnel will follow, the data they will collect, or the results that PG&E will measure.

Without additional detail, it is impossible to determine what PG&E is proposing. Will a quality inspector accompany the asset inspector to every asset inspection? Will the asset inspector perform quality assessments on their own inspections – or on inspections performed by colleagues in the same company that the inspector works for? How will PG&E's approach "create real-time learnings"? Thus, PG&E has failed to provide the most basic level of detail for its asset inspection QC program.

Moreover, PG&E again fails to set quantitative target pass rates to measure the performance of the program.[20] PG&E justifies its failure to set target pass rates by arguing that "creating WMP QC targets—including larger sample sizes and minimum pass rate targets through 2025—would hinder PG&E's flexibility to reallocate limited quality resources to improve overall work execution and performance."[21]

Energy Safety should reject PG&E's vague proposal and require PG&E to maintain its existing QC process through the remainder of 2023. PG&E should file a change order request to update its QC process for 2024, or PG&E should update its QC process in its 2025 WMP Update once it has fully fleshed out this wholesale change to its QC process. In either case, PG&E should discuss its proposed QC process in sufficient detail to allow Energy Safety and stakeholders to compare the proposed process with PG&E's existing process before Energy Safety approves it. A reasonable discussion should include the following elements at a minimum:

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[19] Revision Notice Response at 35.

[20] Revision Notice Response, cover letter at 2.

[21] Revision Notice Response at 35. Notably, Energy Safety's Revision Notice did *not* direct PG&E to utilize larger sample sizes for its asset inspection QC program.

- PG&E should describe its proposed QC process in full, step by step.
- PG&E should provide a target sample rate for its QC process.[22]
- PG&E should provide target pass rates of at least 95 percent for its QC process, or clearly explain how it will track inspection quality in lieu of quantitative targets.
- PG&E should clearly describe how its proposed QC process differs from the process implemented in 2023.
- PG&E should describe how its proposed QC process improves upon the process implemented in 2023.

Furthermore, until PG&E's updated QC process has been reviewed and approved, Energy Safety should require PG&E to comply fully with all of Energy Safety's directives, including the requirement to set target pass rates of at least 95 percent for its QA and QC processes.[23]

3. Energy Safety should require PG&E to demonstrate that its proposed QC process will not reduce inspection quality.

While PG&E claims that its revised QC process will "achieve comparable quality performance results" to its existing program, it does not identify any metrics it will track to make this comparison.[24] In fact, it is not clear that PG&E will track any such metrics, as it does not commit to *demonstrating* how its proposed process will perform.

Thus, even PG&E's meager claim that its revised QC process will achieve performance that is only "comparable" to its current process is without any factual support. In both of the last two years, PG&E's asset inspections have suffered from low quality control pass rates (as low as 79 percent in 2022).[25] This history of poor quality indicates that PG&E's current QC process is

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[22] Per PG&E's response to data request CalAdvocates-PGE-2023WMP-28, question 1, August 15, 2023, "PG&E is pursuing QC on 30% of all System Inspections following the to-be-integrated model within HFTD, barring external factors." Per PG&E's response to question 4, this is lower than the percentage of inspections that have undergone QC in 2023 to date.

[23] Final Decision on PG&E's Revised 2022 WMP, area for continued improvement PG&E-22-21 at 179; Revision Notice at 7.

[24] Revision Notice Response at 2; PG&E's response to data request CalAdvocates-PGE-2023WMP-28, question 5.

[25] *See, e.g.*, *Comments of the Public Advocates Office on the 2023 to 2025 Wildfire Mitigation Plans of the Large Investor-Owned Utilities*, May 26, 2023, at 25-30; *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 21-24; Bureau Veritas North America, *Final Independent Evaluator Annual Report on Compliance*, June 30, 2023 at 5.

insufficient, which may indeed warrant implementing a new process. However, if PG&E's new process will not track QC pass rates against a target, it is unclear that Energy Safety can determine whether PG&E's inspection quality is improving, or even maintaining its currently deficient state.[26]

PG&E's QA process, which audits locations that have already undergone QC, may represent a means to track improvements.[27] However, locations for QA inspections will be selected randomly, so there is no guarantee that a reasonable sample of each inspection type (e.g., detailed ground, patrol, aerial) will undergo the QA process.[28]

To enable Energy Safety to evaluate whether PG&E's proposed QC process will improve PG&E's historically poor inspection quality, Energy Safety should require PG&E to benchmark the performance of its proposed QC process against its current process. This may involve, for example, using both its new and previous QC processes for a minimum of six months and comparing the results of PG&E's QA across the two QC processes.

B. Critical Issue RN-PG&E-23-03: enhanced powerline safety settings (EPSS) risk.

1. PG&E's Revision Notice Response does not comply with Energy Safety's Revision Notice and fails to address potential safety impacts due to EPSS.

Energy Safety required PG&E to provide an analysis demonstrating PG&E's understanding of the safety impacts to Californians due to its enhanced powerline safety settings (EPSS).[29] PG&E's response merely states that, "for most customers EPSS does not introduce a new risk profile above and beyond existing system reliability performance."[30] PG&E further claims that it has "not experienced significant increases in HFRA [high fire risk area] outage frequency since the implementation of EPSS."[31] These responses fail to address Energy Safety's directives to analyze potential safety impacts due to EPSS.

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[26] Revision Notice Response, Table RN-PG&E-23-02-1 at 36 suggests that PG&E's inspection quality has improved in 2023 compared to 2022, however this is based on only a partial year of data and cannot be construed to represent a consistent upward trend.

[27] Revised 2023-2025 WMP at 506-508.

[28] PG&E's response to data request CalAdvocates-PGE-2023WMP-28, August 15, 2023, question 3.

[29] Revision Notice at 9.

[30] Revision Notice Response at 40.

[31] Revision Notice Response at 40.

While it may be true that EPSS does not introduce a new risk profile for "most customers," it is equally true to say that, according to PG&E's own filings, most of PG&E's customers are not at high risk of experiencing a catastrophic wildfire.[32] Just as the small subset of PG&E's customers who do experience severe risk of wildfire drives wildfire mitigation efforts, the small subset of PG&E's customers who experience increased risk associated with EPSS must be considered in any reasonable analysis of EPSS risk. PG&E fails to analyze or discuss the risk faced by that subset of customers in any detail.

Furthermore, PG&E's response does not align with its own annual reliability reports. While PG&E claims that it has "not experienced significant increases in HFRA outage frequency since the implementation of EPSS,"[33] its 2022 annual electric reliability report paints a different picture:

> In addition, **the reliability metrics were negatively affected as PG&E implemented Enhanced Powerline Safety Settings (EPSS)** that include recloser disabling to further help reduce wildfire risk. Late in 2022, PG&E decided to implement yet another wildfire mitigation enhancement called the Downed Conductor Detection (DCD) strategy. **These wildfire mitigation efforts have resulted in customers experiencing more and longer sustained outages**.[34]

PG&E's reliability report further shows that three of its four reported reliability metrics were significantly worse in both 2021 and 2022 compared to any year during the period from 2013-2020 (SAIDI, SAIFI, and CAIDI were 21 to 66 percent higher in 2022 compared to 2020).[35] This aligns with the timing of PG&E's implementation of EPSS in mid-2021. It is hard

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[32] Per PG&E's Revised 2023-2025 WMP at 84, PG&E has nearly ten times as many customers outside the HFTDs as it has within the HFTDs.

[33] Revision Notice Response at 40.

[34] PG&E, *2022 Annual Electric Reliability Report (Per Decision 16-01-008)*, July 15, 2023 at 5 (emphasis added).

[35] PG&E, *2022 Annual Electric Reliability Report (Per Decision 16-01-008)*, July 15, 2023, Table 3 at 12 (distribution system outages, excluding planned outages and major events). For the three metrics SAIDI (System Average Interruption Duration Index), SAIFI (System Average Interruption Frequency Index), and CAIDI (Customer Average Interruption Duration Index), 2020 represented the highest point from 2013-2020. SAIDI in 2022 was 66 percent higher than in 2020; SAIFI in 2022 was 37 percent higher than in 2020; CAIDI in 2022 was 21 percent higher than in 2020. MAIFI (Momentary Average Interruption Frequency Index) is only available at the system level since recording devices do not distinguish between transmission system outages or distribution system outages.

to square PG&E's assertion that has "not experienced significant increases" in HFRA outages with PG&E's reliability report.

PG&E's Revision Notice Response is misleading. Specifically, rather than provide the analysis demanded by Energy Safety, PG&E's Revision Notice Response skirts consideration of the generally worsening trend in reliability due to the implementation of EPSS, is at odds with other reports PG&E has filed with the CPUC, and fails to analyze the impact on the customers who are most affected by EPSS.[36] PG&E should be held accountable for its misleading response.[37]

2. Energy Safety should require PG&E to perform a robust analysis of the safety implications of EPSS.

Consistent with Energy Safety's statement in its Revision Notice, PG&E still "has not performed an analysis to fully understand the associated safety impacts associated with EPSS, despite the very limited notice customers receive prior to an outage."[38] Energy Safety should require PG&E to perform a detailed analysis (as it already required in the Revision Notice) of the safety implications of EPSS, rather than relying on arguments (contradicted by its own filings elsewhere on reliability) that EPSS does not present a significant safety risk for "most customers."

III. Grid Design, Operations, and Maintenance

A. Critical Issue RN-PG&E-23-04: backlog of asset repairs.

1. PG&E's proposed plan to address overdue maintenance is still unreasonable despite improvement.

In its Final Decision on PG&E's 2022 WMP Update, Energy Safety directed PG&E to develop a plan to eliminate its maintenance backlog by the end of the 2023-2025 WMP cycle.[39]

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[36] PG&E, *2022 Annual Electric Reliability Report (Per Decision 16-01-008)*, July 15, 2023, Chart 1 through Chart 10 at 13-18. All charts other than Chart 7 (MAIFI) show an overall upward (worsening) trend.

[37] At the California Public Utilities Commission, a failure to be honest and forthright, failure to ensure the accuracy of all formal filings and sworn declarations, and failure to comply with rulings, can all constitute violations under Rule 1.1 of its Rules of Practice and Procedure, and may lead to sanctions.

[38] Revision Notice at 13.

[39] Final Decision on PG&E's Revised 2022 WMP at 180; *Comments of the Public Advocates Office on the 2023 to 2025 Wildfire Mitigation Plans of the Large Investor-Owned Utilities*, May 26, 2023 at 31-34.

As Energy Safety notes in its Revision Notice,[40] PG&E failed to comply with the directives of the Final Decision on PG&E's 2022 WMP Update.

In response to the Revision Notice, PG&E proposes an updated plan to address its maintenance backlog wherein PG&E would work on all tags in given "isolation zones."[41] PG&E would apparently select and prioritize isolation zones for this work based on risk-spend efficiency (RSE).[42] PG&E forecasts that its proposed approach would address 22,000 more ignition-risk maintenance tags by the end of 2025 than its Initial 2023-2025 WMP.[43] While this represents an improvement, under this proposal it will still take PG&E until the end of 2027 to address its remaining ignition-risk backlog,[44] and PG&E will continue to violate General Order requirements.[45]

Next, while it appears that the average age of open maintenance tags would decrease significantly under PG&E's proposed approach,[46] PG&E has not analyzed whether the average time that a tag persists past its due date will similarly decrease.[47] Given that PG&E's backlog has grown due to a multi-year failure to address tags in accordance with General Order timelines, this is an important metric to evaluate.[48]

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[40] Revision Notice at 10 (noting that PG&E had "significantly postponed the completion of ignition-risk tags in its 2023-2025 WMP and *regressed compared to those commitments detailed within its 2022 WMP*") (emphasis added); *see also Comments of the Public Advocates Office on the 2023 to 2025 Wildfire Mitigation Plans of the Large Investor-Owned Utilities*, May 26, 2023 at 31-34 (Cal Advocates noted that PG&E failed to follow Energy Safety's directive to develop a plan to eliminate its maintenance backlog by the end of the 2023-2025 WMP cycle).

[41] PG&E defines an "isolation zone" as "an area between isolation devices that can be de-energized in support of maintenance purposes." An isolation zone is typically smaller than a circuit segment. PG&E's response to data request CalAdvocates-PGE-2023WMP-28, August 15, 2023, question 12.

[42] Revision Notice Response at 45 and 52-53.

[43] Per PG&E's Initial 2023-2025 WMP, Table PG&E-8.1.7-2 at 456, PG&E's original plan would have left 80,000 ignition-risk tags unaddressed by the end of 2025. Per PG&E's Revision Notice Response, Table PG&E-8.1.7-2 (Revised) at 62, PG&E's updated plan would leave 58,000 ignition-risk tags unaddressed by the end of 2025.

[44] Revision Notice Response, Table PG&E-8.1.7-2 (Revised) at 62.

[45] Revision Notice Response at 53.

[46] Revision Notice Response, Figure RN-PG&E-23-04-1 at 46.

[47] PG&E's response to data request CalAdvocates-PGE-2023WMP-28, August 15, 2023, question 10.

[48] Final Decision on PG&E's Revised 2022 WMP, area for continued improvement PG&E-22-22 at 179-180.

Finally, PG&E's approach also raises several questions regarding high-risk B tags[49] and whether PG&E's RSE-based prioritization risks deprioritizing certain higher-risk locations. Energy Safety should require PG&E to demonstrate that its maintenance plan addresses these open questions and is reasonable.

2. Energy Safety should investigate PG&E's claim that it addresses all B tags within three months.

PG&E states that, under its modified plan to address its maintenance backlog, it will not work all maintenance tags in the same timelines as required by General Order 95.[50] This would only apply to lower-risk tags, as PG&E claims it addresses priority A tags immediately and priority B tags within three months.[51]

As of July 1, 2023, PG&E had 3,463 open and overdue B tags in its system, 1,408 of which were classified as ignition-risk tags.[52] While it is possible that PG&E took action within the aforementioned three-month timeframe to reduce the severity of these tags and downgrade their priority, PG&E has not provided evidence that it has done so. Indeed, PG&E's claim that it addresses priority B tags within three months—and consequently, its commitment to doing so in the future—are contradicted by the facts contained in its maintenance backlog. Energy Safety should investigate PG&E's claim to ensure that PG&E is addressing high-risk A and B tags in a safe and timely manner.

3. Energy Safety should require PG&E to demonstrate how it will ensure high-risk isolation zones are addressed in a timely manner.

Under PG&E's proposed plan, PG&E would address maintenance tags by isolation zones, prioritized by risk-spend efficiency.[53] This risk-spend efficiency will be calculated by

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[49] PG&E defines a B tag as a level 2 tag (as prioritized by General Order 95) that poses at least a moderate potential impact to safety or reliability. Revision Notice Response at 52.

[50] Revision Notice Response at 53.

[51] Revision Notice Response at 52.

[52] Revision Notice Response, attachment TN12865_20230807T104843_20230807_PGE_2304_RNR_R0_Atch01.xlsx. For the purposes of this analysis, column F was filtered to only include due dates before July 1, 2023 (July 1, 2023, was chosen as one day after the most recent open date in Column e). Column H was filtered to only include B tags. Column O was filtered to include only ignition-risk tags. It should be noted that even non-ignition-risk B tags represent at least a moderate potential impact to safety or reliability.

[53] Revision Notice Response at 52-53.

dividing the total wildfire risk associated with all tags in an isolation zone by the sum of the costs to address those tags.[54]

It may be reasonable for PG&E to prioritize by RSE in order to reduce risk efficiently. However, this approach may also have the unintended effect of sidelining some higher-risk locations. Take, for example, a scenario in which one isolation zone (the "dense zone") has twice as many maintenance tags per mile as another (the "sparse zone"). If the tags in the two zones are similar in terms of wildfire risk and cost per tag, the risk-spend efficiency of these two zones would appear very similar. However, the dense zone presents more risk to residents – in other words, it's a more expensive project but a more important one. This nuance could be obscured by PG&E's focus on risk-spend efficiencies. Similarly, a zone with a single high-risk tag that is costly to address may present only a moderate RSE, but would present a high safety risk to nearby residents.

Cal Advocates does not necessarily oppose PG&E's proposed methodology to prioritize by RSE, but PG&E should ensure its approach is reasonable and does not leave high-risk issues in the field. PG&E may need to supplement RSE prioritization with expert judgment, by identifying isolation zones with numerous maintenance tags or especially risky tags. Energy Safety should direct PG&E to perform a study of the average risk per mile for each isolation zone. This data would allow PG&E to identify outlier isolation zones with substantially higher average risk, independent of repair cost. Energy Safety should further require PG&E to expedite completion of these highest-risk isolation zones.

4. Energy Safety should require PG&E to demonstrate that its Field Safety Reassessment (FSR) program for open maintenance tags is reasonable.

Energy Safety has raised concerns with PG&E's Field Safety Reassessment (FSR) program, which PG&E uses to reinspect open maintenance tags.[55] According to PG&E, the FSR program is focused on identifying whether open maintenance tags have escalated to priority A or B, in which case PG&E would remediate the tag in a timely manner.[56] Although PG&E states that FSRs cannot reduce a tag's priority, it appears that the use of FSRs can eliminate a tag

[54] Revision Notice Response at 52, footnote 16.

[55] Revision Notice at 11-12.

[56] Revision Notice Response at 55.

entirely.[57] This can occur if the inspector who performs the FSR finds that all work identified on a maintenance tag has already been completed, or if the inspector believes the tag was created in error.[58] While PG&E has appropriately prevented the FSR process from downgrading maintenance tags, it is highly concerning that the FSR process can lead to the cancellation of a tag.

According to the CPUC's Safety and Enforcement Division, deficiencies in PG&E's FSR process contributed to the 2021 Brewer Fire.[59] Specifically, in October of 2020, a maintenance tag was opened due to abnormally high temperatures of distribution equipment. In March of 2021, a PG&E inspector performed an FSR and recommended that the maintenance tag be canceled without first verifying the condition through an infrared inspection. While PG&E states that it has since instructed staff not to cancel tags created from infrared inspections without performing a new infrared reading,[60] it is unclear if PG&E has identified and remediated the root causes that allowed the tag to be canceled in the first place.

Energy Safety should require PG&E to demonstrate that use of the FSR process is reasonable, including describing in detail how an inspector can cancel a maintenance tag through the FSR process, and how PG&E will prevent erroneous cancellation of tags that have not been remediated.[61]

B. Critical Issue RN-PG&E-23-05: prioritization of undergrounding work.

In opening comments on PG&E's 2023-2025 WMP, Cal Advocates discussed the unreasonableness of PG&E's undergrounding program. Among other things, Cal Advocates noted that PG&E's unit cost forecasts were highly speculative, that PG&E was not prioritizing

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[57] Revision Notice Response at 55.

[58] Revision Notice Response at 55.

[59] Safety and Enforcement Division, Incident Investigation Report for the Brewer Fire, December 1, 2022 (SED Report on the Brewer Fire). Report accessed at https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/safety-and-enforcement-division/investigations-wildfires/brewer-fire-sed-incident-investigation-report_redacted.pdf

[60] SED Report on the Brewer Fire at 12.

[61] Per PG&E's response to data request CalAdvocates-PGE-2023WMP-28, August 16, 2023, question 13, PG&E currently requires a Qualified Company Representative to independently review a field inspector's request to cancel a tag. However, per the SED Report on the Brewer Fire at 11, a similar gatekeeper process took place, and the tag was still canceled despite this second layer of review.

the highest-risk locations, and that PG&E was scaling back more immediate and cost-effective alternatives to undergrounding.[62] PG&E's Revision Notice Response continues to fail to address these persistent problems, which in fact underscores these concerns.

1. PG&E's undergrounding unit costs will likely increase over time due to the construction difficulty of future projects.

PG&E's future undergrounding costs may be much higher than it predicts, resulting in an unreasonable burden on ratepayers. Because PG&E's prioritization process for undergrounding combines both risk and feasibility, projects that are difficult to implement (and are therefore more costly to implement) will be deferred even if they are in the highest risk areas.[63]

For projects located in mountainous terrain, PG&E estimates construction could take three to 15 times longer to complete than typical projects.[64] For projects in locations with hard rock, PG&E estimates construction could take upwards of 25 times longer than usual to complete, which would greatly increase labor costs.[65] While PG&E uses this fact to justify its decision to prioritize projects that are less risky and more feasible,[66] PG&E's approach merely postpones the cost problem instead of solving it. Without dramatic improvements in technology and techniques, projects in more difficult terrain will cost substantially more when they are constructed in the future than the projects PG&E is prioritizing for the near term.

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[62] *Comments of the Public Advocates Office on the 2023 to 2025 Wildfire Mitigation Plans of the Large Investor-Owned Utilities*, May 26, 2023 at 15-23.

[63] *Comments of the Public Advocates Office on the 2023 to 2025 Wildfire Mitigation Plans of the Large Investor-Owned Utilities*, May 26, 2023 at 16-17.

[64] "Due to the hard rock, narrow winding roads, and elevation changes in mountainous terrain, we are at times unable to use traditional construction methods like a rock wheel for trenching…PG&E generally averages 100 to 300 feet per day of trenching using a rock wheel but if we must resort to backhoes and jackhammers, the average drops to approximately 20 to 30 feet per day of trenching." Revision Notice Response at 69.

[65] "In…soil conditions consisting of very hard rock…it takes from 1 to 3 weeks to complete a 250-foot boring run. In locations without hard rock, PG&E's contractors can complete a 900-foot boring run in 1 day." PG&E, Revision Notice Response at 69.

Per this statement, it could take PG&E anywhere from 25 to 76 days to complete the same 900-foot boring run through hard rock that PG&E could complete elsewhere in only one day.

[66] "Considering feasibility when selecting certain undergrounding projects is reasonable. PG&E can complete more projects and reduce more risk on the system by completing work in less difficult terrain in the time it will take to complete certain difficult projects." Revision Notice Response at 69.

Finally, while PG&E forecasts year-over-year reductions to its unit cost for undergrounding,[67] it has not explained how or whether its forecasts account for the changing mix of project sites over time. PG&E should demonstrate that it has developed a realistic forecast of the costs associated with future undergrounding projects in difficult terrain. In addition, PG&E's plan should address whether forecasts of steadily falling unit costs are credible in light of PG&E's plan to do the easy work now and the hard work in the future.

2. PG&E's plan unreasonably fails to mitigate risk on approximately 11 percent of its riskiest circuit segments.

PG&E states that 720 circuit segments make up the top 20 percent of risk-ranked circuit segments in its service territory.[68] Of these circuit segments, 79 are neither currently hardened nor included in PG&E's long-term undergrounding plan.[69] PG&E omitted these circuit segments in favor of more efficient (i.e., feasible) locations.[70]

While the 79 circuit segments in question are a very small fraction of PG&E's distribution grid, they pose a substantial amount of wildfire risk. These 79 circuit segments account for about 5 percent of wildfire risk on PG&E's distribution system (according to PG&E's wildfire distribution risk model, version 3).[71] Cal Advocates' longstanding position is

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[67] PG&E's response to data request CalAdvocates-PGE-2023WMP-09, April 7, 2023, question 12.

[68] Revision Notice Response at 67.

[69] Revision Notice Response at 68.

[70] Revision Notice Response at 68.

[71] Cal Advocates compared the names of the 79 circuit segments (provided in Revision Notice Response, attachment TN12866_20230807T104843_20230807_PGE_2305_RNR_R0_Atch01.xlsx) to PG&E's wildfire distribution risk model version 3 output (provided in response to data request CalAdvocates-PGE-2022WMP-31, September 8, 2022, question 7).

Analysis method:

1) Sort all circuit segments by "All Composite Mean Risk" such that circuit segments with the highest mean risk were at the top.
2) Multiply the overhead miles for each circuit segment by the "All Composite Mean Risk" associated with that circuit segment as a proxy for total risk in each circuit segment.
3) Sum this total risk proxy across all the 79 circuit segments and divide by the sum of the total risk proxy across all circuit segments.

Cal Advocates stresses that this analysis is meant as an approximation and may not align entirely with PG&E's own internal analyses.

that system hardening work should be targeted to the riskiest circuit segments to mitigate risk promptly and at a reasonable cost.

Although PG&E states that it will utilize overhead hardening where undergrounding is deemed infeasible,[72] PG&E has not considered overhead hardening on these 79 circuit segments.[73] PG&E's lack of any plans to implement any form of permanent risk reduction (i.e., system hardening) on these 79 circuit segments, despite undergrounding many lower-risk segments,[74] is unreasonable. Hardening these 79 circuit segments with covered conductor, for example, could eliminate more than 3 percent of PG&E's total wildfire risk even if covered conductor is less effective than undergrounding.[75] This flaw in PG&E's system hardening plan underscores Energy Safety's finding that PG&E is leaving wildfire risk unaddressed in the highest risk areas.[76]

IV. Vegetation Management and Inspections

A. Critical Issue RN-PG&E-23-07: risk from hazard trees.

Energy Safety required PG&E to justify two aspects of its new approach to vegetation management: first, PG&E's decision to stop using its Tree Assessment Tool (TAT), and second, PG&E's decision to take nine years to fully address hazard trees under its Tree Removal Inventory program.[77] As shown below, PG&E's response fails to follow Energy's Safety directives.

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[72] Revised 2023-2025 WMP at 391.

[73] PG&E's response to data request CalAdvocates-PGE-2023WMP-28, August 15, 2023, question 16.

[74] Cal Advocates compared the names of the 79 circuit segments to PG&E's wildfire distribution risk model version 3 output provided in response to data request CalAdvocates-PGE-2022WMP-31, September 8, 2022, question 7. Circuit segment "TEJON 11023760" (one of the 79 circuit segments that will not be undergrounded) has an "All Composite Mean Risk" value of 0.013.

Per PG&E's 2023 system hardening workplan, provided in response to data request CalAdvocates-PGE-2023WMP-06, March 29, 2023, question 8, the majority of undergrounding projects PG&E will start in 2023 have "All Composite Mean Risk" values lower than 0.013.

[75] This assumes that covered conductor is 64 percent effective at mitigation ignitions. This value is based on PG&E's estimate provided in *2023-2025 WMP Joint IOU Covered Conductor Working Group Report* (attachment 2023-03-27_PGE_2023_WMP_R0_Appendix D ACI PG&E-22-11_Atch01 to PG&E's Initial 2023-2025 WMP), Table 13 at 32.

[76] Revision Notice, critical issue RN-PG&E-23-05, at 14-17.

[77] Revision Notice at 29-30, remedies g and j.

1. Energy Safety should require PG&E to properly justify its decision to discontinue use of the Tree Assessment Tool (TAT).

In its Revision Notice, Energy Safety questioned PG&E's decision to discontinue use of its Tree Assessment Tool (TAT), which was used to evaluate a tree's risk of striking electrical equipment.[78] PG&E developed and utilized the TAT through its enhanced vegetation management (EVM) program; yet after four years of development and refinement, PG&E ended its EVM program and halted its use of the TAT. In their place, PG&E developed the Focused Tree Inspection program, which will inspect high-risk trees in areas of concern in PG&E's territory. This initiative appears to perform a similar function to the high-risk tree inspections previously performed under EVM, but replaces the TAT with the more subjective Tree Risk Assessment Qualification (TRAQ) form.[79]

Rather than provide a detailed explanation for why it has moved away from the TAT, PG&E merely states:

> The TAT was developed to fit the scope of the EVM Program. With the conclusion of EVM, PG&E has decided to discontinue the use of the TAT and will be moving forward with industry accepted assessments using the TRAQ form by TRAQ qualified VMIs for the certain VM programs.[80]

PG&E has not explained how the high-risk tree assessments of its Focused Tree Inspection program meaningfully differ from those of its EVM program, to such an extent that the TAT is no longer applicable.[81] PG&E has also not provided any data on the effectiveness of the TAT compared to the TRAQ form,[82] nor does it plan to perform any study on the subject.[83]

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[78] Revision Notice at 24-26.

[79] Revision Notice at 24-25.

[80] Revision Notice Response at 103.

[81] Under EVM, PG&E inspected approximately 1,800 miles each year. Per PG&E's response to data request CalAdvocates-PGE-2023WMP-28, August 15, 2023, question 19, attachment 1, EVM required an assessment with the TAT of every potential strike tree (the contents of this attachment are marked confidential by PG&E, so these comments discuss the attachment only in broad terms).

Beginning in 2024, PG&E will inspect the same number of miles under its Focused Tree Inspection program as it did under EVM, but will use the Tree Risk Assessment Qualification (TRAQ) form instead of the TAT. Revision Notice Response at 88, 108.

[82] Revision Notice Response at 104.

[83] PG&E's response to data request CalAdvocates-PGE-2023WMP-28, August 15, 2023, question 20.

The capabilities of the TAT are extensive, and it provides an objective recommendation based on the inspector's inputs.[84] The TRAQ form, on the other hand, is two pages and provides a much more subjective evaluation.[85]

PG&E's response does not justify its decision to discontinue use of its TAT. PG&E does not identify a flaw or shortcoming in the TAT, explain why the TAT is no longer the right tool, or show that the TRAQ form represents an improvement. Given this unexplained change in practices, it is unclear whether the TRAQ form is an inferior tool, which may lead field crews to make flawed decisions about which trees to remove. What is clear, however, is that PG&E has failed to follow the directives in Energy Safety's Revision Notice.

2. Energy Safety should require PG&E to properly justify its decision to address its Tree Risk Inventory over nine years.

In its Revision Notice, Energy Safety questioned PG&E's proposed timeframe of nine years to execute its Tree Removal Inventory program; Energy Safety required PG&E to assess the residual risk to demonstrate reasonableness.[86] The Tree Removal Inventory program is intended to address trees that were identified for removal during EVM. Therefore, every tree included in the Tree Removal Inventory program is a known hazard tree. PG&E's proposal to take up to nine years to address such hazard trees – and the residual risk they pose – is unreasonable.[87]

PG&E states that it will rely on operational mitigations such as EPSS and Downed Conductor Detection to manage this risk,[88] but does not explain why this is an appropriate way to manage the risk associated with known hazard trees. Since PG&E deploys these operational mitigations broadly across its high fire-threat districts, PG&E's statement that it uses them to manage the risk of hazard trees implies that PG&E is actually taking no special measures in areas

[84] PG&E's response to data request CalAdvocates-PGE-2023WMP-28, August 15, 2023, question 19, attachment 1. The contents of this attachment are marked confidential by PG&E, so these comments discuss the attachment only in broad terms.

[85] PG&E's response to data request CalAdvocates-PGE-2023WMP-28, August 15, 2023, question 19, attachment 2; Energy Safety, Revision Notice at 25.

[86] Revision Notice at 27-28.

[87] Revision Notice at 27, 30.

[88] Revision Notice Response at 106-107.

with significant numbers of known hazard trees. More generally, EPSS and Downed Conductor Detection are appropriate for use as fail-safe mitigation measures in high-risk locations and during severe weather, but given their negative impacts on reliability, they should not be used as the first line of defense.

In addition, PG&E states that it manages risk through its annual vegetation management program, which will inspect the trees twice each year.[89] PG&E fails to explain why these annual inspections cannot be used to accelerate the Tree Removal Inventory, either by performing detailed inspections of the trees to the same level used in the Tree Removal Inventory program, or by marking the trees for trimming or removal as part of routine vegetation management.[90]

PG&E's response does not meaningfully improve over what it provided in its Initial 2023-2025 WMP and, therefore, is not responsive to Energy Safety's directives in the Revision Notice.

V. CONCLUSION

Cal Advocates respectfully requests that Energy Safety adopt the recommendations discussed herein.

Respectfully submitted,

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[89] Revision Notice Response at 107.

[90] Per PG&E's Revised 2023-2025 WMP at 639, under routine vegetation management, PG&E identifies and mitigates trees that may fail and strike conductors.