Pacific Gas and Electric Company

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June 6, 2023 **BY ENERGY SAFETY E-FILING**

Caroline Thomas Jacobs, Director
Office of Energy Infrastructure Safety
California Natural Resources Agency
715 P Street, 20th Floor
Sacramento, CA 95814

Re: **Reply Comments of Pacific Gas and Electric Company to the 2023-2025 Wildfire Mitigation Plan**
Docket # 2023-2025-WMPs

Dear Director Thomas Jacobs:

Please find enclosed Pacific Gas and Electric Company's (PG&E) reply comments in support of our 2023-2025 Wildfire Mitigation Plan (WMP).

PG&E appreciates the opportunity to provide these comments. PG&E received 20 sets of comments on our 2023-2025 WMP totaling over 650 pages.[1] These comments make more than a hundred recommendations for PG&E, the other large utilities, and the Office of Energy Infrastructure Safety (Energy Safety) to consider. We have not addressed all items raised by the parties due to the five-page limitation and the time constraint to respond to all the comments. If needed, we would be pleased to provide additional analysis on other issues raised by parties.

If you have any questions, or need any additional information, please do not hesitate to contact the undersigned.

Very truly yours,

/s/ Jay Leyno

Jay Leyno

I. RISK METHODOLOGY AND ASSESSMENT (SECTION 6)

Montclair residents and Oakland city leaders are concerned that PG&E's risk model does not include several critical risk factors including population density, ingress/egress, vegetation, fire history, topography, and weather patterns.[2] PG&E's Wildfire Distribution Risk Model (WDRM) version 3 (v3) accounts for vegetation, fire history, topography, weather patterns, and population density. Ingress/fire suppression and egress were evaluated by Public Safety Specialists and will be incorporated into the wildfire consequence model in 2023.[3]

The Montclair residents urge PG&E to underground lines in the Oakland hills Montclair District.[4] The circuit segments in this neighborhood are included in PG&E's risk model and are subject to the same prioritization and analysis as the other circuit segments in high-risk areas. The Undergrounding Program is primarily focused on the top 20% of risk-ranked circuit segments. Because Montclair's circuit segments are not ranked in the top 20%, they are not included in the undergrounding plan. PG&E will continue to evaluate the underground plan as the model evolves.

TURN criticizes PG&E for undergrounding in the top 20% of risk-ranked circuit segments rather than focusing only on the miles that make up the top 20% of risk.[5] PG&E plans to address all the miles that constitute the top 20% of risk over the life of the Undergrounding Program.[6] Sequencing this work over the life of the program balances risk reduction with operational efficiencies, construction feasibility, and community impacts[7] and enables PG&E to maximize risk reduction. Over the life of the program, PG&E will address approximately 70% of wildfire risk across PG&E's system by focusing our undergrounding within the top 20% of risk-ranked circuit segments.[8]

Parties note that undergrounding is slower to deploy than other mitigations, which leaves risk on the system in the short term.[9] While undergrounding takes longer to implement, it is the only way to permanently reduce risk on a large scale.[10] If other mitigations, like covered conductor, were deployed extensively, more residual ignition risk would remain on the system as compared to undergrounding, and vegetation management, inspections/patrols, and maintenance on overhead lines would need to continue. PG&E manages risk in the high fire risk areas through Comprehensive Monitoring and Data Collection and Operational Mitigations (e.g., Enhanced Powerline Safety Settings (EPSS) and Public Safety Power Shutoff (PSPS)) to keep our communities safe as we underground 10,000 miles.[11]

MGRA argues that utilities should not use 65% effectiveness for covered conductor as a "straw man" comparison for undergrounding and recommends that utilities use higher effectiveness values like those estimated by Southern California Edison (SCE).[12] However, PG&E's effectiveness value for covered conductor (64%) is based on data and subject matter expertise.[13] It is unique to PG&E's HFTD topography and risk drivers; therefore, it would be inappropriate to use SCE's effectiveness value. PG&E continues to analyze ignition events and operating experience with covered conductor and expects to update our effectiveness value in January 2024.[14]

TURN is incorrect to argue that PG&E overestimates the risk reduction of undergrounding in response to our assertion that for every 1 mile of overhead line removed we will install approximately 1.25 miles of underground line.[15] PG&E's risk spend efficiency (RSE) for undergrounding accounts for the difference between the number of overhead miles removed and the miles relocated underground when

calculating the expected risk reduction across the system using the enterprise risk model.

TURN wrongly states that PG&E overlooks improving regulatory compliance through vegetation management (VM) and equipment maintenance as a cost-effective, risk reduction strategy.[16] This is inaccurate as our programs often exceed minimum regulatory compliance. We use a number of programs (also referred to as "control programs"), including inspections and repairs,[17] to manage wildfire risk from assets that are deteriorating more rapidly due to increasingly extreme weather conditions.[18] Our inspection, maintenance, and quality assurance programs are described extensively in WMP Sections 8.1.2-8.1.7. More importantly, control programs maintain the level of system risk but do not reduce it. To reduce risk, PG&E: (1) operates the grid differently during elevated and extreme fire behavior weather (EPSS and PSPS);[19] (2) removes overhead assets in high-risk areas (undergrounding);[20] and (3) uses other mitigations where undergrounding is not prudent (e.g., overhead hardening, remote grid, and non-exempt component replacements).[21]

II. GRID DESIGN AND SYSTEM HARDENING (SECTION 8.1.2)

Various parties argue that PG&E has not sufficiently responded to ACI PG&E 22-34, which requests an analysis demonstrating how we prioritize wildfire mitigations in the highest risk areas, choose to address location-specific risk using alternative mitigations that factor in cost and efficiency, and balance wildfire risk with undergrounding feasibility. For example, Cal Advocates, MGRA, and TURN argue that PG&E has defaulted to undergrounding without sufficiently evaluating other mitigation options and, as a result, overvalues the benefits of undergrounding.[22]

PG&E's response to ACI PG&E 22-34 is sufficient. We analyze alternative mitigations that prioritize risk reduction by location, evaluate alternatives to undergrounding, and incorporate the components of RSE and model outputs. As explained in the WMP, our hardening program encompasses a suite of mitigations including line removal, conversion from overhead to underground, application of remote grid alternatives, mitigation of exposure through relocation of overhead facilities, and in-place overhead system hardening.[23] These mitigations are then implemented in the highest risk areas using advanced risk models, as described in the WMP.[24] For each system hardening project, PG&E first looks for line removal/remote grid opportunities because line elimination completely removes utility-related wildfire risk, and it is much less expensive than other mitigations.[25] If line removal is not an option, undergrounding is the preferred mitigation because of its long-term, permanent risk reduction (e.g. reduction of ignition risk from large strike trees), resilience benefits across a larger spectrum of extreme weather events, such as atmospheric river storms, and its effectiveness relative to overhead hardening.

Overhead hardening is an option in environments where an undergrounding project is not efficient given the presence of significant hard rock, large water crossings, and/or steep gradient.[26] To account for this site-specific concern, PG&E uses a Wildfire Feasibility Efficiency (WFE) score to evaluate whether a circuit segment is well suited for undergrounding or if there is a better alternative due to feasibility constraints.[27] The WFE score incorporates risk reduction and cost, which are the elements of an RSE calculation. In this way, we incorporate RSE elements into our mitigation alternatives.[28]

TURN recommends that PG&E install 200 miles of underground and 1,800 miles of covered conductor from 2023-2026, claiming it will reduce more risk than PG&E's undergrounding plan at a lower cost.[29] PG&E already opposed this recommendation in our 2023 General Rate Case (GRC) for several reasons. First, PG&E's proposal virtually eliminates the wildfire risk in the locations where undergrounding is installed, while overhead hardening is much less effective (99% vs. 64% effective). Second, covered conductor is more likely to be destroyed by wildfire from other ignition sources and require replacement at additional costs to customers. Third, TURN's plan estimates undergrounding costs based on PG&E's estimated unit cost, which assumes the installation of 2,000 underground miles. It is unreasonable to assume PG&E would achieve the same unit forecast cost by only installing 200 miles. Fourth, TURN uses its own lower estimated unit costs for overhead hardening.[30] Also, undergrounding is more effective at mitigating the risk from the failure of large strike potential trees.

MGRA recommends that Energy Safety work with stakeholders to define a minimum risk reduction target, since this target can determine appropriate mitigations.[31] PG&E does not agree that Energy Safety should set a risk "tolerance" level. PG&E's responsibility is to keep communities safe, and we are doing as much as is reasonable and prudent to permanently reduce risk. Also, risk tolerance is not a static value that is consistent among the utilities and stakeholders. PG&E recommends that this issue be left to the Risk Based Decision-Making Framework (Rulemaking 20-07-013) where it is already being addressed by the CPUC, the utilities, and interested parties.

III. ASSET INSPECTIONS (SECTION 8.1.3)

Cal Advocates' argument that PG&E must set an acceptable quality level for asset inspections of at least 95% for each year of the 2023-2025 WMP cycle[32] ignores the fact that improvement is linear, not arbitrary. While PG&E strives to exceed a 95% pass rate in 2023—we are currently at 95.6% for distribution and 99.5% for transmission—it is unrealistic to require a 95% minimum threshold given the variance in our 2022 pass rates. Pass rates should be set each year based on improved performance.

Similarly, Cal Advocates' contention that we must provide a detailed plan to improve our asset inspection quality compared to 2021 and 2022 ignores the plans set out in our 2022 WMP[33] and 2023-2025 WMP.[34] The changes in these plans, including improved training and job aids, correlate to the improvements in our AQL scores.[35]

Cal Advocates also proposes that Energy Safety, or an independent auditor paid for by PG&E, lead a comprehensive audit of our inspection and QA/QC programs.[36] While we are not opposed to auditing, it is unnecessary in this area given the independent audits and monitoring already being performed by the CPUC, the Operational Observer, Independent Safety Monitor, and others. When the work of these entities is considered with the detailed plans in the WMP, and the progress made so far in 2023, a separate audit would be redundant and an inefficient use of resources.

IV. OPEN WORK ORDERS (SECTION 8.1.7)

Cal Advocates again insists that PG&E abandon our risk-based approach to addressing the asset tag backlog[37] and to reallocate resources from other important wildfire mitigation work to expedite the backlog remediation.[38] It is simply not the safest

nor the most efficient way to address this issue given existing resources. We continue to work the highest safety risk tags (priority A & B tags) while simultaneously prioritizing the reduction of wildfire risk in our tag backlog by 48% in 2023, and by 68% in 2024.[39] The course of action proposed by Cal Advocates would have the opposite of its intended effect: making PG&E's service territory less safe by focusing on closing lower safety and wildfire risk tags at the expense of other critical mitigation initiatives.

Cal Advocates also urges Energy Safety to issue notices of violation (NOVs) because the overdue tags in our backlog do not comply with General Order 95, Rule 18.[40] This issue must be addressed at a macro level, and issuing individual NOVs would divert workforce and monetary resources by requiring us to investigate tags and perform work in lower risk areas. Our regulators are aware of the extent of our tag backlog, and we diligently report to Energy Safety and the CPUC on our progress in this area through quarterly reports, audits, and other filings.

V. GRID OPERATIONS AND PROCEDURES (SECTION 8.1.8)

Parties commented that the EPSS program has increased outage frequency and duration.[41] There were approximately 30 *more* sustained outages in High Fire Risk Areas (HFRAs) between May and November in 2020, prior to the implementation of EPSS, than during that same timeframe in 2022. The average customer outage duration for EPSS outages was 3% *lower* than for all unplanned sustained outages in HFRA in 2022. The likelihood of experiencing an extended outage (i.e., an outage of 12 hours or more) on EPSS enabled lines was 25% lower than for all PG&E outages in 2022.

PG&E agrees that reliability must be taken seriously. When an EPSS-enabled protection device de-energizes a line to clear a hazard, it results in an outage. Even without EPSS enabled, under normal protection settings that same line would de-energize to clear the hazard resulting in an outage. EPSS de-energizes a line much faster than normal protection settings, which significantly improves ignition prevention and reduces the risk of a significant fire. To improve reliability, PG&E established enablement criteria and undertakes a daily enablement and disablement process to ensure we only enable EPSS when and where wildfire risk is elevated.[42] PG&E is addressing reliability impacts as explained in a public workshop hosted by the CPUC.[43]

The Joint Local Governments recommend that PG&E conduct detailed risk and ignition-reduction modeling for our fast-trip (EPSS) program, as well as an analysis of the scope of the program.[44] PG&E has already performed this type of analysis and it shows that the RSE of EPSS is very high.[45] Despite 31% more Fire Potential Index R3 days in 2022, we saw a 68% reduction in CPUC-reportable ignitions on EPSS-enabled lines in HFTD-areas (compared to weather-normalized 2018-2020 average ignitions), and EPSS was a driver for the 99% decrease in total HFTD acres burned in 2022 relative to the 2018-2020 average.[46]

Cal Advocates recommends that PG&E develop an approach to inform customers (especially Access and Functional Need customers) about the expected, localized risk of EPSS-related outages.[47] PG&E currently conducts extensive pre fire-season outreach to customers protected by EPSS and communicates with them during fire season. Customers can determine if they live on an EPSS circuit that is enabled on any day at pge.com/outages. PG&E also has several resiliency programs available to

support vulnerable customers and those who reside in high fire-risk areas and has expanded those offerings and eligibility requirements in 2023.[48]

The Joint CCAs recommend that PG&E file a formal Application for CPUC approval of our EPSS program.[49] This issue is already being addressed. Parties filed a motion asking the CPUC to open a proceeding to ensure that fast trip programs (EPSS) are implemented in a manner that protects public health, safety, and welfare. The CPUC considered the motion and ruled that it would hold a workshop on these issues. Utilities participated in the workshop held on March 17, 2023.[50]

VI. VEGETATION MANAGEMENT (SECTION 8.2)

Cal Advocates recommends that PG&E provide a quantitative analysis of the expected risk reduction from the new transitional VM programs compared to the Enhanced VM (EVM) program.[51] GPI recommends that Energy Safety issue an ACI requiring PG&E to demonstrate that the transitional programs are effective.[52] A quantitative analysis is unnecessary. The first new program, Tree Removal Inventory, is expected to reduce similar risk as EVM because the program will address trees already identified by EVM. A quantitative risk analysis of the second program, Focused Tree Inspection (FTI), would not be meaningful because FTI is in a pilot program phase.[53] The third program, Vegetation Management for Operational Mitigations, addresses vegetation in areas where certain customers currently experience greater EPSS reliability impacts and as such is intended to improve reliability.[54]

Cal Advocates recommends that Energy Safety facilitate an audit of PG&E's vegetation contractor management program because contractors allegedly operated without strong oversight from PG&E.[55] An audit is not warranted. PG&E provides appropriate contractor oversight through an organization focused on observing field safety. PG&E also developed contractor scorecards, hosts safety summits and weekly vendor safety calls, and has implemented methods to effectively communicate with vendors so they are aware of changes to programs, standards and/or requirements.

GPI recommends PG&E be required to provide additional detail on our Wood Management program.[56] RCRC recommends that new or modified VM programs fully integrate wood removal.[57] For all programs, wood greater than four inches in diameter is left in a safe position on site because it (merchantable wood) belongs to the landowner. PG&E will strive not to leave wood on site if it poses a safety risk or environmental, cultural or access concern, or undue burden to the customer. If requested, PG&E will haul wood from a property upon obtaining a release of ownership from the customer.

VII. PROCEEDING COORDINATION

Parties comment on the need for coordination between Energy Safety and the CPUC as PG&E must obtain GRC funding for WMP initiatives.[58] PG&E agrees that the GRC is the appropriate venue to address wildfire mitigation costs.[59] PG&E strives to align our mitigation strategy and programs with costs authorized in the GRC while recognizing that there are timing differences between the filings so updates may occur.

VIII. CONCLUSION

Based on the reasons set forth above, and detailed in the plan itself, PG&E respectfully requests that our 2023-2025 WMP be approved by Energy Safety.

ENDNOTES

1 (1) The Public Advocates Office (Cal Advocates);[1] (2) Deputy City Administrator and Chief Resilience Officer, City of Oakland (City of Oakland);[1] (3) Green Power Institute (GPI);[1] (4) Marin Clean Energy, Sonoma Clean Power Authority, Pioneer Community Energy, and East Bay Community Energy (Joint CCAs);[1] (5) Joint Local Governments;[1] (6) Montclair, California residents and Councilmember, City of Oakland, District 4;[1] (7) Mussey Grade Road Alliance (MGRA);[1] (8) Rural County Representatives of California;[1] (9) The California Department of Fish and Wildlife (CDFW);[1] and (10) The Utility Reform Network (TURN).

2 B. Christenson; B. So; C. Barbera; J. and D. Allenby; G. Troy; M. Isola; R. Buckingham; and Southard. J. Ramachandran, Councilmember, City of Oakland District 4; City of Oakland, p. 1.

3 2023-2025 WMP, R1, p. 214, Table PG&E-6-7.

4 B. Christenson; C. Barbera; J. Ramachandran, Councilmember, City of Oakland District 4.

5 TURN Comments, p. 25.

6 Approximately 8,100 overhead miles corresponds to approximately 10,000 underground miles using PG&E's conversion factor of 1.25 underground miles installed for every 1 overhead mile removed. PG&E is committed to implementing a multi-year 10,000-mile underground program. 2023-2025 WMP, R1, p. 343.

7 2023-2025 WMP, R1, pp. 344-345.

8 2023-2025 WMP, R1, p. 344.

9 Cal Advocates Comments, p. 12; GPI Comments, p. 87; MGRA Comments, p. 9; TURN Comments, p. 2.

10 Line removal is the other permanent risk reduction solution, but it is only appropriate in limited circumstances. 2023-2025 WMP, R1, Section 8.1.2.9.2.

11 2023-2025 WMP, R1, p. 257.

12 MGRA Comments, p. 94.

13 2023-2025 WMP, R1, pp. 896-903.

14 2023-2025 WMP, R1, p. 897, Table PG&E-22-11-1.

15 TURN Comments, p. 39.

16 TURN Comments, pp. 2-3.

17 PG&E describes our Asset Inspections programs in Section 8.1.3 and our Equipment Maintenance and Repair programs in Section 8.1.4 of our 2023-2025 WMP, R1.

18 2023-2025 WMP, R1, Section 5.3.4.2.

19 PG&E describes our EPSS program in Section 8.1.8.1.1 and our PSPS program in Section 9 of our 2023-2025 WMP, R1.

20 PG&E describes our Undergrounding program in Section 8.1.2.2 of our 2023-2025 WMP, R1.

21 PG&E describes our System Hardening program in Section 8.1.2.1 and our EFD and DFA programs in Section 8.3.3.1 of our 2023-2025 WMP, R1.

22 Cal Advocates Comments, pp. 9-12; MGRA Comments, pp. 81-84; TURN Comments, p. 1.

23 2023-2025 WMP, R1, p. 343.

24 2023-2025 WMP, R1, p. 340.

25 2023-2025 WMP, R1, p. 967.

26 2023-2025 WMP, R1, p. 340. Overhead system hardening is effective in several environments including: (a) areas with low PSPS risk that have minimal tree fall-in risk with more short, grassy fuels; (b) areas with limited risk associated with entering and exiting (referred to as ingress and egress); or (c) in extreme terrain where undergrounding is not feasible. It can be effective against third-party impacts that cause line slap and some tree-fall situations, where there are fewer overstrike trees.

27 2023-2025 WMP, R1, p. 968.

28 While our response to ACI PG&E-22-34 is fully responsive, we anticipate providing additional wildfire cost benefit analysis (WCBA) information in our 10-year undergrounding plan pursuant to the detailed cost/plan requirements of California Senate Bill 884 (SB884) later this year.

29 TURN Comments, p. 5.

[30] A. 21-06-021, PG&E's 2023 GRC Reply Brief, December 9, 2022, pp. 363-364. PG&E's 2023 GRC Reply Brief.PDF (ca.gov)
[31] MGRA Comments, p. 106.
[32] Cal Advocates Comments, pp. 23-24.
[33] Revised 2022 WMP, July 26, 2022, pp. 710-719.
[34] 2023-2025 WMP, R1, pp. 442-446 and 930-933.
[35] 2023-2025 WMP, R1, pp. 402-403.
[36] Cal Advocates Comments, p. 30.
[37] Cal Advocates Comments, p. 33.
[38] Cal Advocates Comments, p. 33.
[39] 2023-2025 WMP, R1, p. 333.
[40] Cal Advocates Comments, p. 34.
[41] Cal Advocates Comments, pp. 34-41; MGRA Comments, pp. 105-106; Joint CCAs Comments, pp. 2-7; Joint Local Governments Comments, pp. 2-7; and RCRC Comments, pp. 1-3.
[42] 2023-2025 WMP, R1, pp. 463-465.
[43] Fast Trip, Unplanned Outages, and Distribution Reliability Workshop, March 17, 2023. Background (ca.gov) and PG&E Workshop-Presentation.pdf (ca.gov)
[44] Joint Local Governments Comments, p. 1.
[45] PG&E provided a risk spend efficiency (RSE) value for EPSS in our 2023 GRC. The RSE for EPSS was 105.7. A. 21-06-021, February 25, 2022, Filing, Exhibit PG&E-4, Chapter 4.6, Table 4.6-4, p. 4.6-11, line 1. 2023 GRC Exh. 4 Ch. 4.6.pdf (ca.gov)
[46] 2023-2025 WMP, R1, p. 467.
[47] Cal Advocates Comments, pp. 40-41.
[48] Resiliency programs include Portable Battery Program, Generator and Battery Rebate Program, Self-Generation Incentive Program, Residential Storge Initiative and Backup Power Transfer Meter offerings that can provide backup power to customers during a power outage. See also 2023-2025 WMP, R1, Sections 8.5.2 and 8.5.3.
[49] Joint CCAs Comments, p. 1.
[50] Assigned Commissioner's Ruling Addressing July 12, 2022, Motion and Noticing Workshop on Utility Response to Customer Impacts Associated with Fast-Trip Power Outages, R. 18-12-005, February 23, 2023. CPUC EPSS Motion Ruling R18-12-005. PG&E's presentation from this workshop is provided in endnote 43.
[51] Cal Advocates Comments, p. 46.
[52] GPI Comments, p. 83.
[53] 2023-2025 WMP, R1, pp. 528-529.
[54] 2023-2025 WMP, R1, pp. 527-528 and 962.
[55] Cal Advocates Comments, pp. 41-44.
[56] GPI Comments, p. 20.
[57] RCRC Comments, p. 5.
[58] MGRA Comments, p. 17 and TURN Comments, p. iii.
[59] When PG&E files our 10-year Senate Bill 884 undergrounding plan, we will consider both the decisions in this WMP and in the 2023 GRC.