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BY ENERGY SAFETY E-FILING

Shannon O'Rourke, Deputy 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 2025
Wildfire Mitigation Plan Update**
Docket # 2023-2025-WMPs

Dear Deputy Director O'Rourke:

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

We appreciate the opportunity to provide these comments. We received five sets of comments on our 2025 WMP Update totaling over 320 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. Due to the five-page limit on reply comments, we are only able to address a few of the issues raised in the opening comments. However, if needed, we would be pleased to provide additional analysis on other issues raised by the parties.

We respectfully encourage Energy Safety to consider expanding the page limit for reply comments to ten pages for the next WMP cycle. This would keep the reply comments short while providing a more equitable opportunity to address some of the issues raised in the opening comments.

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 MODEL UPDATES AND RESULTING CHANGES

As outlined in PG&E's 2025 WMP Update, updated versions of the wildfire risk models for distribution, Wildfire Distribution Risk Model (WDRM v4), and transmission, Wildfire Transmission Risk Model (WTRM v2), were created to provide insights and guidance in the development of mitigation workplans to be detailed in the 2026-2028 WMP. These updates are, in part, the result of feedback from internal PG&E teams, third party validation, and regulatory groups.² Various parties now argue the resulting changes from updating the risk models should require us to revisit the system hardening approach already approved by Energy Safety,³ use the improved models to reanalyze previous model results,⁴ interrupt or eliminate scheduled and planned work,⁵ or call into question the use of risk models as a tool to identify system hardening cost and benefits.⁶

Re-analysis of system hardening projects: Energy Safety should not adopt Cal Advocates' recommendation requiring a re-analysis of, or changes to, in progress system hardening projects by using a risk model that was not available at the time the projects were scoped.⁷ Such a requirement would be inconsistent with the nature of using an iterative process for improving risk models and the Commission's decision approving our 2023 General Rate Case (D.23-11-069). PG&E's System Hardening and Undergrounding workplans have been approved by Energy Safety in our 2023-2025 WMP, and we are required to complete our workplan in compliance with D.23-11-069.⁸ As noted, we plan to use our new risk model for future projects. However, D.23-11-069 implicitly recognizes that risk models will evolve over time and that a new model does not invalidate past work done or decisions made under a previous model.⁹ All workplans can only be developed using the risk models available at the time and it would be impossible to proceed in any other manner. Continually waiting for a new risk model to be developed would lead to operational paralysis. This approach aligns with Advice Letter 7150 E-A¹⁰ and Ordering Paragraphs (OP) 23 and 24 of D.23-11-069.¹¹

Regarding Cal Advocates' recommendation that the newest risk models should be used to re-analyze past projects,¹² this issue is currently being considered in Energy Safety's Electrical Undergrounding Plan (EUP) proceeding.¹³ We strongly believe that the EUP proceeding is the appropriate venue for this discussion as there are data quality issues that would result from this approach and that require a robust discussion. Adopting such a requirement as part of a revision notice in the WMP proceeding, as suggested by Cal Advocates,¹⁴ without the necessary discussion, would be premature.

Updating risk models: PG&E's wildfire risk models employ statistical estimations addressing dynamic manifestation of risk, namely catastrophic and destructive wildfire. While each version of the model provides improvements in predictive power, causation, and representation of actual risk, the level of predictive improvement does not invalidate the previous model. The assessed predictive power of the previous model does not change due to an improved model. For example, a prioritization of high-risk locations from one model might provide a two-fold improvement on treating locations that could later result in an ignition or a destructive fire, and a subsequent model's prioritization might provide a marginal improvement in the predictive rate. Project locations from either model still have a similar likelihood of addressing the location of a future

destructive fire and the first model still provides the same, hypothetical, two-fold improvement. Both prioritizations can also highlight a different order of locations while resulting in the same or similar effectiveness.

Iterative model improvement does not evidence earlier iterations' inadequacies. Iterative model improvement evidences: (1) our good faith effort to refine the model's predictive ability, openly and in coordination with the various stakeholders; and (2) our continuous effort to reduce risk. Energy Safety should not require hindsight analysis of work that was conducted in compliance with regulatory direction/approval and in good faith based on tools and data available at that time. Moreover, if subsequent improvements to the models are used to judge previous iterations, to question the cost benefits of permanent system hardening already completed, or to interrupt planned projects with long lead times that cannot be easily rescheduled, it disincentivizes innovations, improvements, or refinements to the models.

Risk model reporting requirements: Some parties also contend that we should be required to report changes to our risk models and the implications to the system hardening work plan.¹⁵ However, we already plan to take this action. In the case of the WDRM v4, the model was released in 2024 and described in the 2025 WMP Update, which was filed early in 2024. The model is only starting to be adopted and will next be used to develop future workplans that will be reported in early 2025 when we file our 2026-2028 WMP. Intervenors will be able to provide thorough assessments of potential workplan adjustments in these future years as part of our 2026-2028 WMP. Thus, additional reporting requirements in 2024 would be both premature and unnecessary.

II. UPDATING GRID HARDENING DECISION-MAKING

In addition to requests that would require PG&E to reanalyze completed and planned work using current models (specifically, to calculate a cost-benefit ratio), comments of the various parties regarding grid hardening can be roughly grouped into two main categories. Parties claim that: (1) PG&E's 2025 WMP Update, particularly ACI PG&E-23-05, did not comply with the requirements of the update;¹⁶ and, (2) PG&E's decision-making is flawed and that our mitigation analysis and effectiveness estimates are unduly preferential towards undergrounding and disadvantage other mitigations.¹⁷

ACI PG&E-23-05: We strongly disagree that we failed to provide an adequate response to ACI PG&E-23-05 and urge Energy Safety to approve our 2025 WMP Update.¹⁸ Our 2025 WMP Update provides a detailed response to this ACI and presents how we are evolving our system hardening decision-making processes in a transparent and thorough manner.¹⁹ We are making the required changes from ACI-23-05 in 2024 and 2025 for projects that will be completed in 2027 and beyond (outside of the scope of this WMP). While Cal Advocates and MGRA might dislike the outcome of our process, this does not mean that we failed to comply with the requirements of the ACI. Given the space limitations of these reply comments, we cannot engage in a point-by-point rebuttal of their arguments, but we firmly believe that the content of our 2025 WMP, including the response to ACI PG&E-23-05, speaks for itself and meets Energy Safety's requirements.

System hardening decision-making: We also vigorously disagree with the contention that our system hardening decision-making is flawed.²⁰ As we previously described, we use a suite of mitigations to address wildfire risk.²¹ We employ tools such as Public Safety Power Shutoff (PSPS), Enhanced Powerline Safety Settings (EPSS), Downed Conductor Detection (DCD), covered conductor, and undergrounding, among other solutions, to mitigate risk on our system. As demonstrated in our 2025 WMP Update, we increased our planned overhead system hardening projects and decreased our planned undergrounding from our original proposals.²² We use robust models, data based on operational effectiveness, and specific equipment/vegetation/geography in our territory to identify the appropriate mitigation activity for specific segments of our system. Further, the response to ACI PG&E-23-05 explains how we are working towards adopting the alternative analysis required by the ACI and SB 884, which will be incorporated into projects that are scoped later this year.

Based on the modeling and data, we continue to believe undergrounding provides the greatest, permanent risk reduction for the specific risks present in portions of our service territory. Undergrounding will have the added benefit of improving reliability to a greater extent than other mitigations. The service territories of the California utilities are not identical and attempting to apply one mitigation for every situation is neither safe, prudent, nor reasonable. In some locations in PG&E's territory, covered conductor will be the best solution, while in others the data demonstrates that undergrounding is the most appropriate mitigation.

III. RAPID EARTH FAULT CURRENT LIMITER (REFCL) TECHNOLOGY

Some of the parties argue that PG&E underestimates the risk reduction effectiveness and potential value of REFCL.²³ Although PG&E continues to pilot REFCL on our system, we simply have not observed the effectiveness that Southern California Edison (SCE) reported in its territory. However, we are not giving up on this technology, but we have not yet achieved the scientific results on our system that would justify an expansion beyond the pilot stage at this time.²⁴ We will continue to assess results of the pilot and consider the potential benefits of REFCL while accounting for the capabilities and investments already made to EPSS which serves a similar function. To that end, we continually update our effectiveness values on an ongoing basis to include our most current information.

On its own, REFCL does not provide ignition risk reduction for line-to-line or three-phase faults. For this reason, REFCL must be paired with other technology such as EPSS and covered conductor to reduce the likelihood of ignitions related to these types of faults. Additionally, implementing REFCL on existing legacy distribution systems requires some compromise in the overall sensitivity, limiting the capability of detecting and preventing ground faults that could lead to ignitions.²⁵ Beyond the cost and complexity considerations, there are practical limitations to how much the distribution circuit can be reconstructed to facilitate optimized REFCL implementation. For example, some types of transformer high impedance backfeed conditions may still be difficult to detect and isolate with REFCL.

Another compounding factor is PG&E’s heavily forested service territory in the highest wildfire risk portions of High-Fire Threat District (HFTD). It is common for vegetation induced faults to bring down distribution wires in a way that they touch each other and create line-to-line or two-line-to-ground faults. These types of faults are not as likely in service territories that have more chaparral or low-lying brush vegetation because it is far less common for overhead strike potential to introduce multi-phase system fault conditions. Implementation of REFCL in areas with significant large tree habitats with high tree strike potential would not produce the same effectiveness as areas like California’s high desert. An accurate assessment of the effectiveness of REFCL systems requires consideration of the specific geographic risk factors for the circuits upon which this technology is installed.

IV. PORTABLE BATTERY PROGRAM

GPI contends that we should not be allowed to “essentially ramp down” our portable battery program by sticking to our three-year target of offering 12,000 total batteries to our customers between 2023 and 2025.²⁶ This is a mischaracterization of our efforts in this area and also ignores the fact that we have already given out over 28,000 batteries to vulnerable customers since 2020. Batteries are only one method of ensuring our customers have power when they need it, and we continue to progressively widen our eligibility criteria to provide customers with batteries, while prioritizing the most vulnerable first. However, we are simultaneously making significant investments in electric operations to harden our systems, mitigate outages, and reduce the need for backup power. This, in turn, reduces the number of customers who are substantially impacted by wildfire safety outages. Therefore, the cumulative 12,000 battery target in our 2023-25 WMP represents an operational decision to balance providing customers with batteries while also investing in macro-solutions to remove the need for those batteries.

V. ASSET INSPECTIONS

Changes to asset inspections: Cal Advocates argues that several changes to our inspection programs were recently made but not reported in our 2025 WMP Update, and that this should necessitate a revision notice from Energy Safety.²⁷ However, a revision notice for this issue would be inappropriate because the referenced changes to our Electric Corrective (EC) tag classification system do not fall under any of the five categories of reportable updates that are permitted, by the guidelines, to be included in the 2025 WMP Update.²⁸

Changes we made to our EC tag classification system—while keeping the due dates within the permitted limits of General Order (GO) 95, Rule 18—are not specific to any inspection program. Instead, the changes were implemented to our electric operation organization as a whole. These changes are aligned to GO 95, Rule 18, support better risk classification, and improve efficiency in execution. However, they do not qualify under any of the permissible categories for inclusion in the 2025 WMP Update.

We also changed our inspection checklist by decreasing the checklist from 100 questions to 21. This too did not meet Energy Safety’s criteria for inclusion in the 2025 WMP. We improve our inspection checklist and guidance every year and these changes

are driven by engineering and technical studies that help us understand how conditions we see in the field may correlate to failure. The goal of these changes is not to reduce the number of lower priority tags generated, but to ensure that the tag priority is commensurate with the risk that conditions pose. These changes do not reduce the types of conditions that would require the creation of an EC tag.

ACI-23-12: We strongly disagree with the assertion from two parties that we failed to comply with ACI PG&E-23-12, which requires us to increase our multi-year tag closure targets.²⁹ We complied with Energy Safety’s overarching goal of increasing our three-year cumulative target to 125,200 tags.³⁰ However, to accomplish this we requested that Energy Safety consider additional tags closed in 2023 as counting toward this 2023-2025 target. This is a reasonable request and good policymaking. Our teams could have waited an additional year to close these tags; however, we chose to exceed our 2023 target and take additional risk off of our system earlier. PG&E should not be penalized for going beyond the minimum requirements and removing risk sooner rather than later. The parties offer no valid criticism of this reasoning.

QC failure rates: Cal Advocates argues that Energy Safety should issue a revision notice that would require PG&E to investigate and explain our high failure rate for Quality Control (QC) for intrusive inspections.³¹ However, PG&E does not have a high QC failure rate related to intrusive pole inspections, and therefore, a revision notice on this topic is neither needed nor justified. Cal Advocates misunderstands the information provided by PG&E, construing the number of “findings” identified during the QC process as “failures.”³² A “finding” during the QC review can constitute any number of defects in the inspection documentation, for example, that the inspector did not accurately identify a checklist attribute. We clarified this to Cal Advocates in a data request response.³³

QC benchmarking: The opening comments also contend that PG&E allows lengthy delays before performing QC reviews and request that Energy Safety require PG&E to collaborate with peer utilities to determine an appropriate time limit between the initial work and the associated QC review.³⁴ We are not opposed to benchmarking with utilities but note that a revision notice on this topic is unnecessary. We already regularly collaborate and benchmark with our peer utilities and will continue to do so. We also note that the average QC timelines in practice are less than 30 days.

Reevaluating plat maps: Lastly, Cal Advocates requests that PG&E be required to re-evaluate our methodology for separating plat maps into consequence tiers and provide a cost/benefit analysis of adjusting asset inspection frequencies.³⁵ We do not disagree that plat maps should be regularly reevaluated and already intend to re-evaluate the methodology for consequence tiering as part of our 2026-2028 WMP. However, the inspection frequencies in question were recently approved by Energy Safety in December 2023 as part of our 2023-2025 Base WMP and have not changed since then.

VI. CONCLUSION

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

ENDNOTES

- 1 Opening comments were received from: (1) the Public Advocates Office (Cal Advocates); (2) Green Power Institute (GPI); (3) Mussey Grade Road Alliance (MGRA); (4) the California Department of Fish and Wildlife (CDFW); and (5) the Rural County Representatives of California (RCRC).
- 2 See PG&E's 2025 WMP Update (Apr. 2, 2024) at 7, Figure PG&E-B.1.1-1.
- 3 GPI Opening Comments (May 7, 2024) at 30-31.
- 4 Cal Advocates Opening Comments (May 7, 2024) at 5-8.
- 5 *Id.* at 5-8.
- 6 GPI Opening Comments, p. 3; Cal Advocates Opening Comments at 9.
- 7 Cal Advocates Opening Comments at 10-11.
- 8 CPUC D.23-11-069 (Nov. 16, 2023) at 280-283.
- 9 *Id.* at 906, OP 24 ("The baseline methodology must explain which models are utilized to calculate baseline risk (i.e., total wildfire risk in the HFTD) and forecasted risk reduction for each year. It shall explain how WDRM v2 is utilized to calculate baseline risk and forecasted risk reduction for projects to be completed in 2023 and how WDRM v3, and any other future version, is utilized to calculate baseline risk and forecasted risk reduction for projects to be completed in 2024 and beyond.").
- 10 CPUC Advice Letter 7150-E-A (Feb. 20, 2024) at 3 ("[T]he baseline risk that PG&E will report for each project will reflect PG&E's understanding of risk at the time PG&E selected a project for inclusion in the program and before work was initiated, including scoping and design activities that occur prior to construction. This is appropriate because a baseline generally provides a snapshot in time before a project or program begins.")
- 11 CPUC D.23-11-069 at 904-906 (requiring PG&E to include in its System Hardening Annual Reports (SHARs) the baseline and completed project information from the risk model used when the project was identified).
- 12 Cal Advocates Opening Comments at 10-11.
- 13 Energy Safety Draft 10-Year Electrical Undergrounding Plan Guidelines (May 8, 2024) at 27 ("When a new model or model version is introduced to the Risk Modeling Methodology, the large electrical corporation must submit a model report...to Energy Safety as well as an historical backtest of the KDMM metrics for the past three years."), 33 ("If the large electrical corporation changes its Risk Modeling Methodology in a way that triggers a versioning update, it must backtest the new models using at least three years of historical data.").
- 14 Cal Advocates Opening Comments at 10-11.
- 15 *Id.* at 10; GPI Opening Comments at 1-2.
- 16 MGRA Opening Comments (May 7, 2024) at 42-45; Cal Advocates Opening Comments at 42-43.
- 17 Cal Advocates Opening Comments at 6, 40.

18 *Id.* at 42-43.

19 PG&E 2025 WMP Update at 49-61.

20 Cal Advocates Opening Comments, pp. 36-38; MGRA Opening Comments at 42-44.

21 PG&E 2025 WMP Update at 56-58; PG&E 2023-2025 WMP R5 (Apr. 2, 2024) at 231-
232.

22 *Id.* at 20-24.

23 Cal Advocates Opening Comments at 23-24; MGRA Opening Comments at 45-47.

24 PG&E 2025 WMP Update at 68-69; PG&E 2023-2025 WMP R5 at 283-284.

25 PG&E 2023-2025 WMP R5 at 580.

26 GPI Opening Comments at 13-15.

27 Cal Advocates Opening Comments at 27-29.

28 See Energy Safety 2025 WMP Update Guidelines (Feb. 1, 2024) at 3. The five
categories of reportable updates being: (1) Updates to Risk Models; (2) Changes to
Approved Targets, Objectives, and Expenditures; (3) Quarterly Inspection Targets for
2025; (4) New or Discontinued Programs; and (5) Progress on Areas for Continued
Improvement.

29 Cal Advocates Opening Comments at 43-45; GPI Opening Comments at 15-16.

30 *Id.* at 44, Table 4.

31 *Id.* at 33-34.

32 *Id.*

33 PG&E's response to data request CalAdvocates-PGE-2025WMP-10, question 9(j); see
also Cal Advocates Opening Comments at 33 ("According to PG&E's data request
response, these numbers do not necessarily represent failed inspections; an inspection
can fail QC review if an inspector does not accurately identify a checklist attribute.").

34 Cal Advocates Opening Comments at 8, 35.

35 *Id.* at 27.