Pacific Gas and Electric Company™

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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 Supplemental Revision Notice Responses
> Docket # 2023-2025-WMPs

Dear Director Thomas Jacobs:

Please find enclosed Pacific Gas and Electric Company's (PG&E) reply comments in response to items raised by stakeholders concerning our 2023-2025 Wildfire Mitigation Plan (WMP) Supplemental Revision Notice submission.

PG&E received five sets of comments on our 2023-2025 WMP Supplemental Revision Notice submission. These comments made numerous recommendations for the Office of Energy Infrastructure Safety (Energy Safety) to consider. Given the five-page limitation for reply comments, PG&E has not addressed all items raised by stakeholders. In addition, some stakeholders reiterated comments previously made in response to PG&E's original Revision Notice submission. PG&E has generally not responded to these restatements as they are outside the scope of the supplemental submission. Lastly, some of the items raised have already been addressed in the 2023-2025 WMP, Revision Notice responses, and other data request responses. If needed, we would be pleased to provide additional analysis on other issues raised by parties.

PG&E appreciates the opportunity to provide these comments. If you have any questions, or need any additional information, please do not hesitate to contact Wade Greenacre at wade.greenacre@pge.com.

Very truly yours,

/s/ Jay Leyno

Jay Leyno

Below are PG&E's responses to stakeholder comments on our 2023-2025 WMP Supplemental Revision Notice submission.

Critical Issue RN-PG&E-23-02

PG&E disagrees with Cal Advocates' argument that our new Quality Control (QC) target pass rates are unreasonably low.[1] Our pass rates are reasonable and demonstrate our commitment to improving our programs. Each year, our targets for asset inspections and vegetation management (VM) Quality Assurance (QA) and QC pass rates increase until we reach 95% by 2025, which complies with Energy Safety's directions.[2] As an example of our improvement, last year we did not achieve a 95% pass rate for our Vegetation Management (VM) Distribution or VM Pole Clearing work, but this year we are currently trending above 99%.

GPI argues that PG&E should be required to implement a traditional Asset and VM inspection and management QC program.[3] However, we have already built a comprehensive quality management system consisting of QC and QA programs with volume and pass rate targets. This allows for program oversight by Energy Safety throughout the WMP process.

The comments filed by the Joint Parties[4] criticize PG&E's quality management practices, claiming PG&E is "disposing of existing vegetation management QA practices that highlight PG&E failures" and "attempting to minimize public scrutiny and regulatory oversight."[5] First, it is unclear which of PG&E's standards the Joint Parties are referring to since no descriptions or references are provided in their comments. Second, all PG&E's new quality standards are as rigorous, or more rigorous, than the ones they replace. For example, our new VM QA standard is more rigorous than our previous standard because it includes additional requirements for inspecting green trees. Third, all PG&E's QC/QA programs follow industry recognized sampling criteria. The Joint Parties accuse us of misusing the term "confidence level,"[6] in our 2023-2025 WMP but it is an established statistical term meaning the measurement of the likelihood or probability that a calculated statistic from a sample is also true for the population. PG&Es use of industry language to describe our QC/QA programs is appropriate.[7]

Critical Issue RN-PG&E-23-04

GPI argues Energy Safety should adopt an Area for Continuous Improvement (ACI) that requires PG&E to annually provide several types of information about the number of work tags closed.[8] According to GPI, this should include statistics on overdue and new work tags, assuming a "new" work tag baseline begins in 2023.[9] GPI's recommendation is unnecessary. PG&E already reports distribution tag information every quarter to Energy Safety as part of the WMP Quarterly Data Report (QDR) and every six months to the Safety Policy Decision (SPD) as part of our Safety and Operational Metrics (SOMS)[10] reporting requirements. Additional reporting would be redundant. PG&E fully supports reporting requirements that demonstrate accountability and consists of the most useful data for our regulators, which we do not believe is encompassed by GPI's recommendation.

GPI appears to misunderstand PG&E's plan to resolve our asset tag backlog and makes reporting recommendations that would be extraneous. GPI contends that PG&E should be required to report in our annual WMP Updates on how we will adjust our open tag work plan if PG&E fails to achieve our proposed annual work tag closure targets by more than 5%, and/or if we fail to close new work tags by the General Order (GO) 95, Rule 18 deadlines.[11] However, our response to Critical Issue RN-PG&E-23-04 explains that we will accelerate our backlog program by bundling and working tags by isolation zone instead of working newly created tags to meet current GO 95 time requirements.[12] This bundling approach gives us the flexibility to address the tags with the highest risk first, eliminate the backlog much more expeditiously, and provide substantial cost efficiency with equivalent, or superior, risk reduction.[13] Second, GPI's suggestion that reporting requirements be implemented ignores that we already provide the requested corrective actions and catch back plans every quarter to Energy Safety for all delayed targets and objectives through the Quarterly Notification (QN) and QDR process.[14] Submitting a second corrective action plan is unnecessary.

Critical Issue RN-PG&E-23-05

Selecting Mitigation Alternatives

Several of the parties claim that PG&E failed to adequately evaluate alternatives to undergrounding and therefore did not comply with Energy Safety's WMP requirements.[15] This contention is incorrect because: (1) PG&E did evaluate different system hardening alternatives when creating our workplan; and (2) it was premature to evaluate system hardening combinations involving Enhanced Powerline Safety Settings (EPSS) or Rapid Earth Fault Conductor Limiter (REFCL) when the projects included in this WMP were selected. The 2023-2026 undergrounding workplan mostly includes projects selected using the Wildfire Distribution Risk Model (WDRM) version 2 (v2) and version 3 (v3).[16] We explained in our Revision Notice (RN) response that, for system hardening projects selected using WDRM v2, we conducted a project-specific economic analysis (the EASOP analysis) that compared costs and benefits of four system hardening mitigations—undergrounding, overhead hardening, line removal, and hybrid.[17] For projects selected using WDRM v3, PG&E chose undergrounding as our preferred mitigation because it provides the most wildfire risk reduction, improves reliability, and provides other benefits.[18] In our supplemental RN response we developed a new benefit cost model, similar to the EASOP, to compare undergrounding to overhead hardening for 2023-2024 projects selected using WDRM v3. The results of this benefit cost analysis validated PG&E's decision to underground based on a comparison of risk reduction per dollar spent when considering the three EASOP decision tree factors (ingress/egress, tree fall-in risk, and PSPS mitigation).[19]

Certain parties also criticize PG&E for not analyzing mitigation combinations, such as covered conductor with EPSS or REFCL,[20] but it was premature to do so when the projects were selected. PG&E conducted an EPSS pilot on limited circuits for approximately five months in 2021. In 2022, we implemented EPSS across the High Fire Threat District/High Fire Risk Area (HFTD/HFRA).[21] PG&E used WDRM v2 to select system hardening projects from late 2021 through March 2022. We then started using WDRM v3 for project selection in April 2022, only four months into the first year of

full EPSS implementation and before most high fire risk days necessitating EPSS enablement occurred in that year. We finalized our 2023-2026 WMP undergrounding workplan in January 2023[22] before we had time to evaluate mitigation effectiveness and reliability data from the first year of broad EPSS implementation to build a reliable mitigation effectiveness analysis. When PG&E submitted the 2023-2025 WMP, REFCL was not established, and we were still conducting testing to complete additional pilot evaluations.[23] At this time REFCL is still not fully enabled.

EASOP Analysis

The parties raise several issues with PG&E's EASOP tool that was used to select and evaluate system hardening projects selected using WDRM v2.[24] The EASOP consists of an economic analysis followed by a three-step evaluation addressing tree fall-in risk, ingress/egress risk, and PSPS mitigation.[25] Cal Advocates claims that this process supports a pre-determined conclusion in favor of undergrounding because: (1) we do not explain how Public Safety Specialist (PSS) scores are generated; (2) some locations are marked as having tree strike potential despite having no trees; and (3) our considerations of ingress and egress are not specific to the project location.[26] Cal Advocates also claims PG&E ignored the results of the EASOP analysis for certain circuit segments.[27] We address each of the arguments below.

PG&E explained in detail how PSS scores are calculated in response to a 2023-2025 WMP data request and provided a copy of the PSS Circuit Based Risk Assessment form, score sheet and risk matrix[28] used for the WDRM v2 EASOP analysis. In our supplemental RN response, we explained that, when we conducted the WDRM v2 EASOP analysis, our PSS team members reviewed each system hardening project during the scoping process to determine if ingress/egress issues existed at the site. When we leveraged the benefit cost analysis, similar to EASOP, for undergrounding projects selected using WDRM v3 as part of our supplemental RN response, PG&E instead used a PSS proxy because of the time and effort required to repeat this type of analysis.[29]

Regarding tree fall-in risk, parties note that some locations in the EASOP workbook that PG&E produced with our supplemental RN response[30] are marked as having tree strike potential (Column AX) despite having zero trees identified (Column AU).[31] Any apparent inconsistency between tree strike potential and zero trees identified is resolved by referring to the data in Column AV in the EASOP workbook instead of Column AU. Column AV contains the relevant data used to account for potential strike trees in our benefit cost analysis similar to EASOP. The data in Column AV is the output from PG&E's Subject Matter Experts (SMEs) who conducted a tree strike analysis for the circuit segments included in the EASOP workbook based on our most recent tree strike data. Column AU includes aged and incomplete tree strike data that was not considered, and should not be used, in the new benefit cost analysis. Therefore, any inconsistency between Columns AU and AX is irrelevant to the evaluation of our 2023-2025 WMP.[32]

Cal Advocates argues that, when PG&E's WDRM v3 benefit cost analysis (like EASOP) determined overhead hardening was the most appropriate mitigation, PG&E proposed undergrounding anyway.[33] While it is true that PG&E chose to underground the three circuit segments (out of 99) that the new benefit cost analysis identified for overhead hardening, these decisions were reasonable because two of the three

segments are in the top 5-10% of the WDRM risk ranking and the third addresses a dense population of open Electric Corrective notifications, promoting cost efficiency.[34]

Several parties claim that PG&E withheld information about the EASOP analysis until we submitted our supplemental RN response.[35] However, this is not the first time PG&E has discussed the elements of our EASOP analysis as part of the WMP process. In the 2021 WMP, we explained how the mitigation options for each system hardening project were analyzed for additional risks such as tree strike potential, ingress and egress, and PSPS impacts, which are the same three EASOP decision tree factors used in the WDRM v2 analysis.[36] In the 2022 WMP, we explained that once a circuit was selected for system hardening, we evaluated each proposed project quantitatively and qualitatively[37] and PG&E's Wildfire Risk Governance Steering Committee approved the final mitigation approach.[38] And in the 2023-2025 WMP, in response to TURN's discovery request in April, we provided a decision tree schematic that shows how PG&E decides which system hardening mitigation to use. PG&E submitted a copy of the decision tree that referenced EASOP. TURN followed-up with a second request asking us to define EASOP which we did later that month.[39]

Addressing High-Risk Circuit Segments

Cal Advocates states that PG&E deliberately opted to forgo mitigating 79 high-risk circuit segments as part of our 2023-2025 WMP.[40] Cal Advocates is misstating PG&E's plan. We did not forgo mitigating 79 circuit segments. Rather, PG&E is not hardening the 79 circuit segments at this time, but we are managing wildfire risk on those circuit segments through our portfolio of Comprehensive Monitoring and Data Collection and Operational Mitigations. As indicated, PG&E will reassess the 79 circuit segments as our risk models evolve and may choose to harden them in the future.[41]

GPI criticizes PG&E for not updating our RN response to reallocate undergrounding work toward circuits that contribute to the top 5 percent of risk.[42] However, PG&E was not directed to reallocate our undergrounding workplan in the RN, and reallocating undergrounding work that is underway is an unreasonable request. Undergrounding is executed in multiple stages that can last years after a circuit segment is identified for work. PG&E cannot simply reallocate work given long lead times and dependencies.[43] As we explained in our 2023-2025 WMP, certain circuit segments contributing to the top 5 percent of risk (41 circuit segments) are not currently scheduled for system hardening. However, all circuit segments contributing to the top 5 percent of risk owned by PG&E will ultimately be included our system hardening program.[44] Until circuit segments are hardened, they are protected by layers of mitigations and controls.[45]

Mitigation Effectiveness Calculations

Cal Advocates argues that PG&E's system hardening analysis uses outdated estimates for mitigation effectiveness, claiming we use unfavorable values for covered conductor while doing the opposite for undergrounding.[46] Cal Advocates overestimates the importance of these minor effectiveness adjustments. PG&E revised our mitigation effectiveness values, reducing undergrounding from 99% to 97.7%[47] and increasing overhead hardening from 62% to 64%.[48] As we explained, these minor adjustments do not change the fact that undergrounding is still significantly more effective than overhead hardening and do not change our mitigation selection.[49]

Similarly, MGRA argues that PG&E underestimates the mitigation effectiveness of covered conductor compared to Southern California Edison and San Diego Gas & Electric[50] and then uses the other utilities' effectiveness values to calculate "alternative" EASOP outputs.[51] PG&E recognizes that other utilities report higher effectiveness for covered conductor,[52] but those values cannot be simply reassigned to PG&E because each utility is unique in vegetation density, topography, weather, assets, and other factors. For example, service areas with higher numbers of potential strike trees will drive utilities to have dissimilar effectiveness values for mitigations such as covered conductor. Therefore, PG&E's mitigation selection analysis is accurate because reflects the mitigation effectiveness values for our service area, and MGRA's revised analysis should not be considered.

Procedural Considerations

Two parties raise procedural arguments concerning our supplemental RN response. GPI argues that the 2023-2025 WMP should be rejected because the forthcoming GRC decision will likely require PG&E to overhaul our undergrounding plan.[53] This recommendation is unreasonable and must be rejected because potential outcomes in PG&E's GRC affecting one program should not be the basis for rejecting PG&E's entire base WMP. In addition, Energy Safety has provided guidance for utilities needing to update their base plan.[54] TURN also argues Energy Safety should not consider PG&E's supplemental RN response because its guidelines do not permit updates to a revision notice response.[55] However, Energy Safety expressly approved PG&E's request to submit additional information responsive to the RN and provided stakeholders an opportunity to comment on the supplement for its consideration.[56] Energy Safety should consider the totality of the information presented by PG&E and the parties when issuing a decision on our 2023-2025 WMP.[57]

Critical Issue RN-PG&E-23-07

GPI argues that PG&E should be issued an ACI that requires us to develop a Tree Risk Assessment Qualification (TRAQ) form digitization method for use in 2024. GPI also suggests that if PG&E proposes an interim solution for 2024, we should be required to provide milestones and a timeline for developing and implementing a long-term digitization solution.[58] There is no need for Energy Safety to issue an ACI on this issue because PG&E has already committed to developing a digitized TRAQ form in 2024. Objective VM-21 describes our commitment to enhance our record keeping practices for the Focused Tree Inspection (FTI) program by creating records of all potential strike trees inspected using a digitized Tree Risk Assessment form. We will complete this objective by March 31, 2024.[59] In fact, digitizing the TRAQ form in 2024 is just one of the improvements we are making to our VM recordkeeping practices. We are also implementing a long-term roadmap for transitioning our VM programs into the OneVM tool. For the Routine, Second Patrol, Tree Removal Inventory, and VM for Operational Mitigations programs, we intend to implement additional enhancements to our processes and tools to capture more data during pre-inspection, including more detailed reasons as to why a tree is being removed.[60] Given that all this work is already being performed, an ACI on this issue is unwarranted.

Endnotes

[1] Public Advocates Office (Cal Advocates) Comments, pp. 4-5.

[2] 2023-2025 WMP, R3, Table 8-7-2 (Revised), p. 528 and Table 8-18-1 (Revised), pp. 697-698. Office of Energy Infrastructure Safety Issuance of Revision Notice for Pacific Gas and Electric Company's 2023-2025 Wildfire Mitigation Plan, June 22, 2023, Section 3.1.2.1, p. 7.

[3] Green Power Institute (GPI) Comments, p. 3.

[4] The Joint Parties' comments were authored by Will Abrams, the Green Power Institute, and Reclaim our Power.

[5] Joint Parties Comments, p. 2.

[6] Joint Parties Comments, p. 2.

[7] *See*, for example, Target VM-08, 2023-2025 WMP, R3, Revised Table 8-14, p. 611.

[8] GPI Comments, p. 4.

[9] GPI Comments, p. 4. GPI recommends reporting on the number of work tags closed, the number of open work tags by GO 95 Rule 18 Priority and PG&E Priority, the number of overdue open work tags by GO 95 Rule 18 Classification and PG&E Priority; and the average, standard deviation, maximum, and minimum number of days overdue for each work tag classification.

[10] Decision (D). 21-11-009, Conclusions of Law Item 22, Appendix A, Safety and Operational Metric (SOM) 3.11.

[11] GPI Comments, p. 4.

[12] On September 26, 2023, PG&E submitted a letter to the CPUC requesting that SED stay application of the corrective action timelines in General Order (GO) 95, Rule 18 for Level 2 and Level 3 notifications while stakeholders evaluate GO 95 for potential updates and PG&E works down the distribution maintenance tag backlog as described in this 2023-2025 WMP. A copy of the letter can be found at: http://pgera.azurewebsites.net/Regulation/ValidateDocAccess?docID=766625

[13] 2023-2025 WMP, R3, p. 536.

[14] Office of Energy Infrastructure Safety Data Guidelines, December 14, 2022, Section 4.3.1, p. 158, *see* "Corrective Actions if Delayed."

[15] Cal Advocates, p. 6. GPI, p. 6. The Utility Reform Network (TURN), p. 1.

[16] The workplan also includes undergrounding associated with fire rebuild projects and projects where the decision to underground was made in conjunction with the needs of the capacity and reliability planning teams. *See* 2023-2025 WMP, R3, p. 401 and p. 430.

[17] 2023-2025 WMP, R3, p. 425. EASOP stands for Economic Analysis Software Package. It is software PG&E uses to analyze certain utility projects.

[18] 2023-2025 WMP, R3, p. 429.

[19] 2023-2025 WMP, R3, pp. 429-431.

[20] Cal Advocates, p. 7. TURN, p. 6.

[21] 2022 Wildfire Mitigation Plan Update – Revised, Jul7 26, 2022, pp. 838-839.

[22] 2023-2025 WMP, R3, Attachment 2023-03-27_PGE_2023_WMP_R0_Appendix D ACI PG&E-22-16_Atch01_Redacted.

[23] 2023-2025 WMP, R3, p. 573.

[24] Cal Advocates, p. 7. GPI, pp. 8-12. Mussey Grade Road Alliance (MGRA), pp. 4-7.

[25] 2023-2025 WMP, R3, p. 425.

[26] Cal Advocates, p. 9.

[27] Cal Advocates, p. 10.

[28] WMP_Discovery2023_DR_MGRA_007-Q003 and WMP_Discovery2023_DR_MGRA_007-Q003Atch01.

[29] 2023-2025 WMP, R3, p.430, footnote 168.

[30] 2023-2025 WMP, R3, Attachment 2023-09-27_PGE_23-05_SRNR_R0_Atch03. *See* tab: v3 Mitigation Alternatives.

[31] Cal Advocates, p. 9. TURN, p. 6.

[32] Additionally, a review of the data indicates that this apparent inconsistency would only apply to 12 circuit segments, three of which are fire rebuild projects where tree strike is not a consideration.

33 Cal Advocates, p. 10.

34 2023-2025 WMP, R3, p.431.

35 GPI, p. 9 and 11. TURN, pp. 7-8.

36 2021 Wildfire Mitigation Plan – Revised, June 3, 2021, pp. 603-604.

37 2022 Wildfire Mitigation Plan Update – Revised, July 26, 2022, pp. 554-555 and Figure PG&E-7.3.3-1.

38 2022 Wildfire Mitigation Plan Update – Revised, July 26, 2022, p. 559.

39 WMP-Discovery2023_DR_TURN_005-Q001, Attachment WMP-Discovery2023_DR_TURN_005-Q001Atch02, and WMP-Discovery2023_DR_TURN_006-Q001.

40 Cal Advocates, p. 7.

41 2023-2025 WMP, R3, p. 411.

42 GPI, p. 5.

43 2023-2025 WMP, R3, pp. 402-403.

44 Note, there are 41 circuit segments that make-up the top 5 percent of cumulative risk. PG&E owns 39 of the 41. *See* 2023-2025 WMP, R3, p. 408.

45 2023-2025 WMP, R3, p. 408 and pp. 358-364, Table 7-4.

46 Cal Advocates, pp. 7-9 and Table B.

47 2023-2025 WMP, R3, p. 418.

48 2023-2025 WMP, R3, p. 429 and footnote 166.

49 2023-2025 WMP, R3, p. 419.

50 MGRA, p. 4.

51 MGRA, p. 6 and MGRA_Modification_of_PGE_2305_SRNR_R0_Atch02.

52 *See* Joint IOU Covered Conductor Working Group Report. Attachment 2023-03-27_PGE_2023_WMP_R0_Appendix D ACI PG&E-22-11_Atch01.

53 GPI, p. 12.

54 2023-2025 Wildfire Mitigation Plan Process and Evaluation Guidelines. *See*, e.g. Section 12, pp. 22-28.

55 TURN, p. 8.

56 September 12, 2023, Pacific Gas and Electric Company's Supplemental Response to Office of Energy Infrastructure Safety's Revision Notice for Pacific Gas and Electric Company's 2023-2025 Wildfire Mitigation Plan.

57 2023-2025 WMP, Process and Evaluation Guidelines, Section 4.4.2, p. 7.

58 GPI Comments, p. 15.

59 2023-2025 WMP, R3, Revised Table 8-13, p. 603.

60 2023-2025 WMP, R3, p. 646.