BEFORE THE OFFICE OF ENERGY INFRASTRUCTURE SAFETY

OF THE STATE OF CALIFORNIA

COMMENTS OF THE UTILITY REFORM NETWORK ON PACIFIC GAS AND ELECTRIC COMPANY'S 2023-2025 WILDFIRE MITIGATION PLAN RESPONSE TO REVISION NOTICE

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The Utility Reform Network (TURN) submits these comments on the Response of Pacific Gas and Electric Company ("PG&E") to the Revision Notice issued by the Office of Energy Infrastructure Safety ("Energy Safety).

I. INTRODUCTION AND SUMMARY

On June 22, 2023, Energy Safety issued a Revision Notice identifying "critical issues" associated with the 2023-2025 Wildfire Mitigation Plan (WMP) submitted by PG&E. Energy Safety explained that, if PG&E does not satisfactorily address the identified critical issues, PG&E's WMP may be denied. Critical Issue 5 (RN-PG&E-23-05) of that Revision Notice pointed out significant problems with PG&E's undergrounding-focused grid hardening strategy, repeating concerns and directives that Energy Safety identified in Area of Continuing Improvement (ACI) 22-34 in its decision on PG&E's 2022 WMP.[1] TURN's May 26, 2023 Comments addressed in detail PG&E's failure to comply with Energy Safety's requirements in ACI 22-34.[2] Among other problems specified in the Revision Notice, Critical Issue 5 criticized PG&E's "inadequate decision-making process for mitigation and undergrounding location

[1] Energy Safety discussed its serious concerns with PG&E's "default to undergrounding" approach at pages 79-80 and page 144 of its Final Decision on PG&E's 2022 WMP and, in ACI 22-34 (pp. 185-185), identified the changes that PG&E "must" make in its 2023-2025 WMP to address these concerns.

[2] TURN provided a thorough discussion of the concerns and directives of Energy Safety regarding PG&E's grid hardening decision-making process – and PG&E's failure to comply with Energy Safety's directives – in Section III of TURN's May 26, 2023 Comments on PG&E's 2023-2025 WMP.

selection" that prevents it from "determin[ing] the most suitable mitigation selection, potentially including a combination of various mitigations, for a given area."[3]

Just as PG&E's 2023-2025 WMP failed to address Energy Safety's required modifications to PG&E's grid hardening decision-making approach identified in Energy Safety's 2022 decision, PG&E's August 7, 2023 Response to Energy Safety's Revision Notice once again fails to make the changes directed by Energy Safety with respect to Critical Issue 5. As discussed below, PG&E still has not demonstrated that it bases its selection of mitigations on the best and most efficient strategy for a given location. Instead, PG&E persists in pursuing its default-to-undergrounding approach in which overhead hardening is not considered an available option unless undergrounding ultimately proves to be infeasible. As a result, PG&E unduly postpones the significant risk reduction in its higher risk locations that would result if PG&E gave appropriate consideration to the faster and easier-to-implement covered conductor mitigation.[4] PG&E's default-to-undergrounding strategy also needlessly prolongs the widespread use of power outages as a wildfire safety tool – via Public Safety Power Shutoffs (PSPS) and Enhanced Powerline Safety Settings (EPSS) – which pose their own risks to the health and safety of PG&E's customers.

As TURN urged in its May 26, 2023 Comments, Energy Safety should require PG&E to revise its WMP to comply with the requirements of ACI 22-34 and Critical Issue 5.

[3] OEIS Revision Notice, pp, 16, 17.

[4] As discussed below, consistent with the "combination of various mitigations" language in Critical Issue 5, covered conductor can be made even more effective when supplemented with a current limiting technology that instantaneously de-energizes a downed line.

II. PG&E CONTINUES TO FAIL TO CORRECT ITS GRID HARDENING MITIGATION SELECTION PROCESS TO RECOGNIZE THAT OVERHEAD HARDENING WILL USUALLY BE A FASTER AND SIGNIFICANTLY MORE COST-EFFECTIVE OPTION THAN UNDERGROUNDING

A. Critical Issue 5, Like ACI 22-34, Requires PG&E to Demonstrate that Its Grid Hardening Selection Process Targets the Highest Risk Locations with the Best and Most Efficient Mitigation

Energy Safety's Critical Issue 5 raised several concerns regarding PG&E's grid hardening mitigation selection process, in which PG&E heavily favors undergrounding and barely considers overhead hardening as an available option. Energy Safety found that:

- PG&E's undergrounding-focused plan does not adequately address the highest risk areas, leaving some high risk areas without any planned grid hardening mitigation.[5]

- PG&E's decision-making process may "skew[] the priority of undergrounding over other more efficient mitigations."[6]

- In relying on Wildfire Feasibility Efficiency (WFE) scores, PG&E does not properly prioritize its grid hardening work based on the highest wildfire risk. Instead, PG&E prioritizes work based on ease of completing an undergrounding project.[7]

- Energy Safety found that PG&E does not adequately consider mitigation effectiveness, including effectiveness of combined mitigations, when selecting and prioritizing mitigations.[8] A key example of a combination of mitigations that PG&E does not consider is covered conductor coupled with current limiting technologies that stop the flow of current when a conductor strikes the ground, a combination that significantly increases the effectiveness of overhead hardening.[9]

[5] Revision Notice, p. 14.

[6] *Id.*, p. 15.

[7] *Id.*, p. 16.

[8] *Id.*, p. 17.

[9] TURN May 26, 2023 Comments on PG&E's 2023-2025 WMP, Section III(D)(1), p. 20.

The problems set forth in Critical Issue 5 echo the serious issues with PG&E's grid hardening selection process that Energy Safety pointed out in its 2022 decision that PG&E was ordered to correct in this WMP. Energy Safety found:

> PG&E must weigh a multitude of factors for its evaluation of system hardening alternatives *and demonstrate that it has not primarily defaulted to undergrounding*. ***In PG&E's 2023 WMP, it must provide further analysis of its decision-making process, demonstrating a full evaluation of system hardening alternatives including considering combinations of system hardening initiatives***.[10]
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> . . .
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> . . . it is notable that PG&E's decision-making process heavily favors undergrounding. PG&E did not provide a thorough analysis of other mitigation options to demonstrate how alternatives factor into its decision-making process. Currently, PG&E's decision-making process is particularly driven by whether undergrounding is feasible; if undergrounding is not feasible, another mitigation strategy is chosen. Energy Safety asserts that mitigation strategies must be chosen for a given area based on risk model output, prioritized by the risks present at that location. ***PG&E's goal must be to conduct a rigorous, quantitative analysis of alternative strategies that prioritizes a mitigation strategy according to highest risk, addresses risk by location and uses limited resources effectively.***[11]

Thus, Critical Issue 5 reiterates the significant shortcomings in PG&E's grid hardening selection process – particularly the failure to give adequate, location-specific consideration to overhead hardening -- that Energy Safety directed PG&E to remedy in its 2023-2025 WMP.

[10] OEIS Final Decision re PG&E 2022 WMP, pp. 79-80 (emphasis added).

[11] *Id.*, p. 144 (emphasis added). PG&E remains obligated to make the changes to its grid hardening selection process set forth in Energy Safety's 2022 decision, as Energy Safety has not rescinded any of the findings or directives in that decision.

B. PG&E's Decision-Making Process Fails to Take Into Account that Overhead Hardening Can Deliver Significant and Cost-Effective Risk Reduction in Virtually Every Location Much More Quickly than Undergrounding

PG&E's Response to the Revision Notice shows that it still fails to give meaningful consideration to overhead hardening as a quicker and much more efficient method of providing long-term risk reduction that can significantly reduce reliance on PSPS and EPSS.

Critical Issue 5 points out that PG&E's 2023-2025 undergrounding plan addresses only 10 of the 41 circuit protection zones (CPZ) that PG&E ranks in the highest 5 percent of risk and requires PG&E to provide its analysis of alternative *grid hardening* mitigations that can be used to address these highest risk segments.[12] The obvious alternative grid hardening mitigation is covered conductor -- which can be supplemented with Downed Conductor Detection or other current limiting technologies where appropriate. As TURN showed in its May 26, 2023 Comments, PG&E's 2021 WMP recognized that overhead hardening can be deployed much quicker than undergrounding and is the most suitable grid hardening strategy in many locations.[13] PG&E itself stated that "there are many impediments to underground construction that limit its viability to be a cost-effective mitigation alternative when compared directly to overhead system hardening."[14]

However, PG&E's Response shows that it continues to persist in the default-to-undergrounding approach that it adopted in its 2022 WMP, in which overhead hardening is no longer considered a meaningful alternative unless undergrounding ultimately proves infeasible, even when high risk segments are not scheduled for undergrounding in the foreseeable future.

[12] Revision Notice, pp. 15, 17.
[13] TURN May 26, 2023 Comments on PG&E's 2023-2025 WMP, pp. 14-17.
[14] PG&E's 2021 WMP (Revised 6/3/21) (hereafter "2021 WMP"), p. 601.

Instead, PG&E states that it will rely on a hodgepodge of stopgap measures that, in an attempt to put lipstick on the pig, it assigns the grandiose moniker "Comprehensive Monitoring and Data Collection and Operational Mitigations."[15] This hodgepodge of measures includes PSPS and EPSS, which at best severely inconvenience affected customers and, at worst, threaten the safety of customers who rely on electricity for life-preserving devices and appliances.

The clear message is that PG&E simply refuses to consider overhead hardening as an alternative to undergrounding unless undergrounding ultimately proves infeasible, despite the many advantages of covered conductor over the complex and protracted effort to bury power lines. Notwithstanding Energy Safety's directives in its 2022 decision and the Revision Notice, PG&E has not made a single change to the undergrounding-focused approach it adopted in 2022, despite evidence that overhead hardening can significantly reduce reliance on PSPS and EPSS. As TURN pointed out in its May 26, 2023 Comments,[16] SCE has found that "lines with covered conductor have a ***90% reduction*** in PSPS activations."[17] Combining covered conductor with current limiting technologies would only further obviate the need for PSPS and EPSS. PG&E provides no analysis regarding the ability of covered conductor, with or without supplemental current limiting technologies, to reduce reliance on PSPS and EPSS, because this is an assessment that PG&E has not yet done.[18]

In sum, in defiance of Energy Safety's 2022 WMP decision and Critical Issue 5 in the Revision Notice, PG&E persists in refusing to recognize that, in many, if not most, locations, overhead hardening is superior to undergrounding in terms of speed and efficiency of risk

[15] PG&E Response, pp. 67-68.
[16] TURN May 26, 2023 Comments, pp. 22-23.
[17] SCE 2023-2025 WMP, p. 252.
[18] PG&E response to TURN DR 8, question 6.

reduction. Energy Safety must deny PG&E's WMP and require PG&E to return to a mitigation selection approach that gives due consideration to the myriad of location-specific factors, including cost-effectiveness, that need to be considered when choosing among grid hardening alternatives.

C. PG&E Misrepresents WFE As the Best Quantitative Measure for Comparing the Efficiency of Mitigations, When Clearly Risk Spend Efficiency Is the Ideal Measure for this Purpose, as Energy Safety Has Already Recognized

With regard to PG&E's mitigation selection decision-making process, the Revision Notice required PG&E to justify the use of WFE rather than cost-benefit analysis for comparing mitigation alternatives.[19] PG&E responded that it "used the WFE when comparing mitigations in the 2023-2025 WMP because it was the best method at the time and it was part of the approved 2022 WMP."[20] PG&E's response is misleading and just plain wrong.

First, PG&E's response never mentions that WFE is of no use for comparing undergrounding *with other mitigations* such as overhead hardening. As TURN stated in its May 26, 2023 Comments and PG&E has not disputed, WFE is only calculated for undergrounding projects and *cannot* be used to compare the cost-effectiveness of undergrounding with any mitigation alternative.[21]

For this reason, PG&E has absolutely no basis for contending that WFE was or is the best method for comparing the efficiency of alternative mitigations, *because WFE is limited only to comparing undergrounding projects*. However, Risk Spend Efficiency (RSE) calculated in accordance with the methodology adopted in CPUC Decision (D.) 18-12-014 is designed

[19] Revision Notice, p. 17.
[20] PG&E Response, p. 68.
[21] PG&E response to TURN DR 12 question 1.

precisely for the purpose of comparing the cost-effectiveness of alternative mitigations. The CPUC has found that "RSE calculations are *critical* for determining whether utilities are effectively allocating resources to initiatives that provide the greatest risk reduction benefits per dollar spent, thus ensuring responsible use of ratepayer funds."[22] The CPUC recently reaffirmed the usefulness of RSEs in D.22-12-027, stating "the RSE values produced by the [current] MAVF approach [under D.18-12-014] allow for comparison of the relative cost effectiveness of various mitigation measures . . .."[23]

Consistent with Energy Safety's direction in its decision on PG&E's 2022 WMP,[24] PG&E can and should calculate an RSE for undergrounding and overhead hardening – with and without current limiting technology – at each high-risk location where grid hardening is needed. These RSEs will provide highly valuable information to compare the efficiency of the alternatives in their use of limited resources.

Energy Safety's decision on PG&E's 2022 WMP has already recognized the value of RSEs in comparing mitigations. Energy Safety found that "PG&E's current process of prioritizing wildfire mitigations assigns a high priority to undergrounding and does not demonstrate adequate weight to risk model outputs *or RSE estimates*."[25] To correct this problem, Energy Safety directed PG&E, in its 2023 WMP, to "[i]ncorporate *RSE estimates* and risk model outputs at a project level early in the decision-making process . . .." PG&E has brazenly ignored

[22] D.21-08-036, p. 38, quoting Resolution WSD-002 (June 11, 2020), p. 20 (emphasis added).

[23] D.22-12-027, p. 26.

[24] Energy Safety stated: "Upon review, Energy Safety found that PG&E's system hardening decision-making flowchart does not give sufficient weight to quantitative factors such as costs, risk reduction values, ***and RSE estimates***. For example, the flowchart hierarchy prioritization is influenced more by construction limitations ***than by RSE estimates***. This may lead PG&E to fast-track more expedient locations ***rather than considering the option with the highest RSE estimate***." OEIS Final Decision re PG&E's 2022 WMP, p. 144 (emphasis added).

[25] OEIS Final Decision re PG&E 2022 WMP, p. 184 (emphasis added).

this directive and now, in its response to the Revision Notice, has the audacity to make the patently false claim that WFE, not RSE, is the best method for comparing the efficiency of alternative mitigations.

Moreover, it is disingenuous for PG&E to suggest that it is appropriate to use WFE to compare the efficiency of mitigations simply because WFE was discussed in PG&E's 2022 WMP. Nothing in Energy Safety's decision on PG&E's 2022 WMP endorses WFE as an appropriate measure for comparing mitigations. To the contrary, Energy Safety sharply *criticized* PG&E's use of WFE, finding that PG&E's decision-making process was improperly "influenced more by construction limitations than by RSE estimates"[26] and "particularly driven by whether undergrounding is feasible."[27] PG&E is demonstrably wrong in suggesting that Energy Safety has approved or otherwise endorsed the use of WFE, as, in fact, PG&E's excessive reliance on feasibility was one of the problems that PG&E was ordered to correct.

Energy Safety should not be swayed by PG&E's efforts to make it appear that, with the adoption of a new Cost-Benefit approach in D.22-12-027 (which will become effective with PG&E's 2024 RAMP), the CPUC has somehow rejected the usefulness of RSE for comparing the cost-effectiveness of mitigations. As noted, D.22-12-027 specifically points out that "the RSE values produced by the [current] MAVF approach [under D.18-12-014] allow for comparison the relative cost effectiveness of various mitigation measures,"[28] which is exactly what is needed to compare the efficiency of undergrounding and overhead hardening in a given location. The Cost-Benefit Approach adopted in that decision will improve upon RSE by allowing stand-alone (i.e., not relative) determinations of whether a mitigation is cost-effective.

[26] OEIS Final Decision re PG&E 2022 WMP, p. 144.
[27] *Id.*
[28] D.22-12-027, p. 26.

But such determinations are not necessary when comparing and choosing among competing mitigation alternatives, and the CPUC has never indicated that RSEs should no longer be used for this purpose.

Notably, while acknowledging that the CPUC's risk evaluation framework may evolve in the pending Rulemaking 20-07-013, Energy Safety's Technical Guidelines governing the review of this round of WMPs specifically require that utilities describe the procedures that they use to evaluate mitigation initiations, including the use of "risk buy-down estimates" such as RSE.[29] In fact, the Technical Guidelines specifically mention Row 26 of the Settlement adopted in D.18-12-014, which requires utilities to rank all mitigations based on RSE.[30] Thus, Energy Safety has always been clear that PG&E (and the other utilities) should demonstrate that they use a measure like RSE (not WFE) to compare the efficiency of competing mitigations.

Finally, PG&E incorrectly claims that its use of WFE somehow complies with the requirements of the Settlement adopted in D.18-12-014.[31] That Settlement prescribes *RSE*, not PG&E's self-created WFE, as the measure for comparing and ranking mitigations. As noted, WFE is in no way consistent with the purpose and value of RSE, as it only compares projects of one type (undergrounding) and does not allow comparison of alternative mitigations, such as undergrounding and overhead hardening. Furthermore, contrary to PG&E's claim, Row 26 of the D.18-12-014 Settlement does not give utilities license to simply ignore RSE results in favor of some different measure. Row 26 requires a ranking of mitigations by RSE and states that utilities are not bound to select their mitigation strategy based *solely* on RSE. This means that RSE should be influential in the decision-making process but is not *required* to be the sole

[29] 2023-2025 WMP Technical Guidelines, December 6, 2022, p. 63.
[30] *Id.*
[31] PG&E Response, p. 70.

determinant. PG&E fails to mention that Row 26 requires a utility that deviates from RSE ranking to fully explain the other factors that justify that result.[32] In its WMP, PG&E has not explained why any of the non-RSE factors listed in Row 26 justify choosing undergrounding over covered conductor, given that covered conductor is demonstrably more cost-effective than undergrounding in all tranches.[33]

III. PG&E's RESPONSE CONTINUES TO USE A MISLEADING METRIC -- RISK RANKED CIRCUIT SEGMENTS -- RATHER THAN MODELED RISK TO ATTEMPT TO JUSTIFY A PLAN THAT FAILS TO ADEQUATELY TARGET THE HIGHEST RISK LOCATIONS

PG&E's response to the Revision Notice fails to address the problems with its definition of what constitutes "high risk" circuit segments. Namely, the utility continues to use its preferred "count of segments" methodology, discussed at length in TURN's May 26, 2023 Comments,[34] and relies on inaccurate and outdated assessments of risk, also addressed by TURN in its prior comments.[35]

PG&E uses the term "risk ranked" to describe its flawed approach. For example, the utility continues to rely on the misleading statement that "there are 720 circuit segments that currently make-up the top 20 percent of risk ranked circuit segments in PG&E's service territory."[36] As TURN noted in its May 26, 2023 comments, modeled risk, rather than risk-ranked segments is the more relevant metric:

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[32] "Mitigation selection can be influenced by other factors [other than RSE] including funding, labor resources, technology, planning and construction lead time, compliance requirements, and operational and execution considerations. In the GRC, *the utility will explain whether and how any such factors affected the utility's mitigation selections.*" D.18-12-014, Appendix A, Row 26.

[33] TURN May 26, 2023 Comments, pp. 34-37. In fact, most of the other, non-RSE factors listed in Row 26 – such as funding, labor resources, planning and construction lead time and operational and execution considerations – point in favor of covered conductor, not burying power lines.

[34] TURN May 26, 2023 Comments, pp. 25-29.

[35] *Id.*, pp. 29-31.

[36] PG&E Response, p. 67.

- The **top 125 circuit segments** represent the highest 20% of wildfire risk in PG&E's service territory according to PG&E's modeling results, rather than **the top 720** under PG&E's methodology.
- PG&E's methodology allows it to prioritize circuits for undergrounding anywhere in the top **80% of wildfire risk**, not the top 20%.
- PG&E has scoped just **437 of 1,802 total miles** in the top 20% of wildfire risk from 2023-2025. This means *at least* 76% of planned miles will not be accomplished in the top 20% of wildfire risk.[37]

PG&E's insistence on a certain number of miles to underground rather than a clear focus on reduction of modeled risk is directly contrary to OEIS's own previous WMP guidance:

> The effectiveness of wildfire mitigation activities contained in electrical corporations' WMPs cannot be determined using "program targets," e.g., number of miles of covered conductor installed or number of trees trimmed.[38]

PG&E spent billions of dollars and utilized countless resources to deploy a flawed and ineffective Enhanced Vegetation Management (EVM) program. TURN urges the same mistakes not be condoned by Energy Safety for an equally flawed and even more costly and resource intensive undergrounding effort.

IV. CONCLUSION

For the reasons set forth above and in TURN's May 26, 2023 Comments, TURN urges Energy Safety to require PG&E to fully comply with the requirements of ACI 22-34 in its 2022 decision and Critical Issue 5 in Energy Safety's Revision Notice. Energy Safety should adopt the recommendations presented in the Summary of Recommendations in TURN's May 26, 2023 Comments.

[37] TURN May 26, 2023 Comments, p. 29.

[38] 2020 WMP "Guidance" Decision, WSD-002, p. 42.

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Respectfully submitted,

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