

**BEFORE THE OFFICE OF ENERGY INFRASTRUCTURE SAFETY
OF THE STATE OF CALIFORNIA**

Office of Energy Infrastructure Safety
Natural Resources Agency

**COMMENTS OF THE GREEN POWER INSTITUTE
ON THE PG&E 2023 WILDFIRE MITIGATION
PLAN FINAL REVISION NOTICE RESPONSE**

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The Green Power Institute (GPI), the renewable energy program of the Pacific Institute for Studies in Development, Environment, and Security, provides these *Comments of the Green Power Institute on the PG&E 2023 Wildfire Mitigation Plan Final Revision Notice Response*.

Introduction

We reviewed and provide comments on PG&E's 2023 Wildfire Mitigation Plan (WMP) Supplemental Revision Notice Responses (S-RNR) for the following Critical Issues:

- RN-PG&E-23-01. Many of PG&E's 3- and 10-year initiative objectives do not meet Energy Safety requirements as outlined in the Technical Guidelines.
- RN-PG&E-23-02. PG&E improved their response and partially address issues raise in our comments.
- RN-PG&E-23-03 PG&E did not make material changes to their response and therefore did not address GPI concerns.
- RN-PG&E-23-04: PG&E's S-RNR partially address GPI comments.
- RN-PG&E-23-05 PG&E's undergrounding plan may leave wildfire risk unaddressed in highest risk areas.
- RN-PG&E-23-07: PG&Es Supplemental Response only addresses two of three identified issues.

RN-PG&E-23-01. Many of PG&E's 3- and 10-year initiative objectives do not meet Energy Safety requirements as outlined in the Technical Guidelines.

PG&E did not make any material changes to its response to RN-PG&E-23-01. Our comments on PG&Es original Revision Notice Response to RN-PG&E-23-01 remain relevant and are not addressed by the S-RNR.

RN-PG&E-23-02. PG&E improved their response and partially address issues raise in GPI comments.

PG&E’s S-RNR clarifies QA program sample sizes and updates their yearly target pass rates to show projected positive progress.¹ They also delete language that states implementing a QC program will hinder their implementation flexibility and ability to address baseline improvements in “overall work execution and performance.”² They provide new Asset Inspection QC targets and YTD audits (n) and pass rates. YTD QC pass rates suggest they will achieve their new 2023 QC pass rate targets.

PG&E’s S-RNR also provides a new table detailing VM QC minimum sample sizes and YTD Pass rates. However, their YTD VM QC program locations and pass rate are equivalent, or equate to a 100% pass rate as of 9/14/2023, which is a substantive increase from the YTD QC pass rate initially reported in the RNR for Distribution VM-HFTD Field audits (84.1%), and Vegetation Control Pole Clearing-HFTD (87.8%) as of 7/25/2023.³ Based on the remaining narration in the S-RNR and the jump to 100% pass rate since less than two months prior, it would appear that their approach to integrated QC remains intact, minimally for their VM work, and is simply reframed as a formal QC program with targets. We interpret this to mean that there very well may have been work quality issues, but those issues were identified at the time of work and were remedied by the work crew during the same visit. This appears to eliminate the external review process, which is what a QC program achieves. As a jobsite approach in general, GPI supports more rigorous integrated quality control during asset and VM inspections and maintenance work including PG&E’s proposed “integrated QC” program. However, the “integrated QC” program is still primarily an improvement on the baseline work quality and not a traditional QC program. Our original comments and concerns on labeling this baseline work-quality improvement effort as a QC program remain salient, including

PG&E estimates the program update would cost \$40M and claims their alternate integrated QC approach as a superior and cost saving method for ratepayers.⁴ The program PG&E describes in lieu of a formal QC program simply constitutes proper and adequate training as well as job site

¹ PG&E S-RNR Redlined, p. 35

² PG&E S-RNR Redlined, p. 35-6, 41

³ PG&E 2023-2025 Base WMP S-RNR, p. 42

⁴ PG&E 2023 WMP Revision Notice Responses, p. 2-3

oversight requirements. These are rudimentary expectations for asset and vegetation management and inspection programs. Well executed training and jobsite management determines whether these programs achieve the QC pass rate targets. Suggesting that these basic program elements somehow replace a QC assessment is unacceptable and may suggest that these foundational capabilities are severely lacking.⁵

PG&E should be required to implement a traditional Asset and VM inspection and management QC program that informs how well its “integrated QC” and “real-time learning” efforts are improving result quality across the HFTD. GPI also recommends requiring that PG&E report on how long they anticipate implementing an “integrated QC” approach, whether it is intended as a permanent program or as a training program (timeline and milestones), if it is applied at all VM and asset inspection sites, and if it will inform updated training approaches and SOPs.

RN-PG&E-23-03 PG&E did not make material changes to their response and therefore did not address GPI concerns

PG&E’s S-RNR did not make any material changes to their response on RN-PG&E-23-03, including remedy (d). Our original comments still apply and include:

In response to RN-PG&E-23-03 remedy (d) PG&E states they do not have an empirical data-informed mitigation effectiveness analysis for EPSS and that the effectiveness value is currently based on SME assessment. The only scoped objective that clearly includes an EPSS mitigation effectiveness analysis is PS-08, a 10-year objective that generally evaluates emerging technologies, such as EPSS, that can reduce PSPS scale, scope, and frequency. Given the scale of PG&E’s EPSS-enabled distribution circuit footprint we suspect the data necessary to inform an objective EPSS wildfire risk mitigation effectiveness analysis could be available and analyzed in the 3-year WMP cycle. PG&E should be required to update their objectives to include this analysis as a deliverable no later than 2025.⁶

RN-PG&E-23-04: PG&E’s S-RNR partially address GPI comments

PG&E’s S-RNR to RN-PG&E-23-04 includes multiple clarifying points and updates. The corrected figure reports longer average open EC notification ages for 2024-2026, indicating more time for original condition degradation and therefore open risk in the cases where open work tags present wildfire risk. However, we recognize the updated approach is still an improvement on

⁵ GPI Comments on PG&E 2023-2025 Base WMP RNR, p. 4-5

⁶ GPI Comments on PG&E 2023-2025 Base WMP RNR, p. 5

the Base WMP proposal. GPI appreciates detail provided on “Bundling Work in Isolation Zones” to improve efficiency and customer impact.

GPI also appreciates additional clarification regarding how new A, B and E tags are added to bundles, including its plan to complete these new tags by the GO 95 Rule 18 deadline or by PG&E’s internal deadlines, which are minimally compliant with GO 95 Rule 18. This in theory addresses our concern that new work tags projected to accrue through 2029, which will include a majority Level 2 B and E tags given their proportionally high find rate, should not become a new backlog of overdue work tags that extends through 2029.⁷ It remains to be seen if PG&E can implement this dramatic increase in efficiency with a disproportionate increase in work time while also staying on top of new work tags. Our original concerns remain salient, although they are somewhat addressed in the S-RNR. Namely, that (1) The new, more efficient work plan is aggressive, and it remains to be seen if PG&E can achieve the plan based on its proposed increase in work hours; and (2) The new plan will result in a backlog of new open work orders that could be at risk of producing overdue work tags, especially for the most common Level 2 B and E work tags.

Minimally, PG&E should be issued a detailed ACI that requires it to annually report 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. Data should include overdue status statistics on past versus new work tags assuming a “new” work tag baseline beginning in 2023. The latter requirement will allow OEIS and stakeholders to track whether the work tag closure plan is resulting in a backlog of new work tags that subsequently become overdue during PG&E’s 7-year plan. If PG&E fails to achieve its proposed annual work tag closure targets by more than 5 percent, and/or if it fails to close new work tags by the GO 95 Rule 18 deadline, we recommend that it automatically trigger a requirement that PG&E report in its annual WMP Updates how it will adjust its open tag work plan in order to make up for the deficit and prevent new work tags from becoming overdue.

⁷ GPI Comments on PG&E 2023-2025 Base WMP RNR, p. 5-7

RN-PG&E-23-05. PG&E’s undergrounding plan may leave wildfire risk unaddressed in highest risk areas.

GPI had limited time to review the S-RNR and will continue to consider the implications of the supplemental information including forthcoming model updates, new models, and model application. We address the S-RNR in the context of our prior comments on PG&E’s RNR and updated understanding of PG&E’s basis for the undergrounding scope of work.

Our Comments on the RNR stated:

PG&E’s plan summary explains that 19 of the top 41 highest risk circuit segments are planned for “2026 or later system hardening.”⁸ This statement is vague and could mean that a large portion of the circuits that comprise the top 5% of wildfire and PSPS risk are not mitigated with long-term system hardening until the end of the decade. Since we assume that these circuit segments include locations that are either more difficult for undergrounding, or are entirely infeasible for undergrounding, long-term risk mitigation solutions in these locations may be further delayed due to slow implementation times or lack of an alternate system hardening plan (e.g. covered conductor and/or non-wood pole replacement).⁹

And, assuming PG&E’s wildfire risk model accurately identifies granular catastrophic wildfire risk:

The fact of these locations being in the top 5% of total risk, which includes wildfire risk, suggests that the *likelihood* of a catastrophic wildfire originating from these locations in any given year is higher than the likelihood in each of the remaining circuit segments. While exposure footprint does matter, simply considering total risk as a static number to be bought-down by front loading easy to implement undergrounding does not recognize that *likelihood* of catastrophic wildfire occurrence as a function of location. For each year the risk is not mitigated, it is more probable that a catastrophic wildfire will start from one of the 19 circuit segments planned for 2026 or later system hardening than from any one of the other circuit segments not included in the top 5% of total risk. Since the difficulty associated with proposed system hardening will not change, delaying work on these very high-risk locations in exchange for working on lower risk easier to implement locations is imprudent.

PG&E did not update their S-RNR to reallocate undergrounding work efforts towards mitigating risk on circuits that contribute to the top 5 percent of risk. The S-RNR provides additional

⁸ PG&E 2023 WMP Revision Notice Responses, p. 65

⁹ GPI Comments on PG&E 2023-2025 Base WMP RNR, p. 7-8

analysis showing that the WFE score, which includes undergrounding feasibility, is strongly correlated with risk and only weakly correlated with feasibility.¹⁰ Additional justification provided includes 90% overlap between risk-based and risk plus feasibility selected undergrounding miles and only a 1% difference in total risk reduction between the two portfolios. None of this assessment changes that fact that nearly 50 percent of the purported highest risk circuits are scoped for work beginning or after 2026. Therefore, our concern over undergrounding prioritization and timely risk mitigation on the highest risk circuits still stands.

We further argue that circuits should not be undergrounded on the basis of feasibility if they fall outside of a risk-informed planning standard/tolerance threshold. This approach seems to be just another way to establish 10,000 miles of undergrounding as the primary objective, versus a primary objective to select a system hardening portfolio that targets the most effective and expensive mitigation in the highest risk locations, and that balances risk mitigation with cost. Undergrounding feasibility should be applied as a mitigation selection filter only after first basing the work plan on granular risk.

A 10 percent difference between selected risk-informed versus risk-plus-feasibility-informed miles resulting in only a 1 percent difference in anticipated risk reduction suggests that a substantive portion of circuits scoped for undergrounding: (1) have a very similar risk score to other circuits that are not scoped for undergrounding; and/or (2) have a relatively small contribution to the total risk of the top 20 percent of risk-ranked circuits. The risk distribution is made clear in PG&E's 2022 Q4 QDR Table 15 (Date modified 2/1/2023), which provides the Overall Utility Risk for the circuits that make up the top 5 percent of risk, with Overall Utility Risk ranging from the top risk circuit with a score of 118.47 to a score of 0.09 for the last two of 41 total circuits.¹¹ Notably the two lowest ranked circuit segments included in the top 5 percent of risk are listed as having no PSPS risk (likelihood or consequence). One of the segments (CAMP EVERS 2105BL 2101) has a wildfire consequence score of 14 – all other consequence scores in the list range from 360 to 1,650. While the CAMP EVERS 2105BL 2101 Circuit segment is small (0.003 mi), the fact remains that this circuit made it into the list as contributing

¹⁰ PG&E WMP S-RNR, p. 76

¹¹ TN11826_20230201T160341_PGE's_Quarterly_Data_Report_QDR_for_Fourth_Quarter_2022_February

to the top 5% of risk. When ranking all circuit segments based on Total Utility Risk Score, CAMP EVERS 2105BL 2101 ranks at number 3,495. CAMP EVERS 2105BL 2101 is not scoped for undergrounding in the 2023-2025 workplan, however, it is unclear how and why it made it into the top 5 percent of total risk category. That this circuit and other low-risk circuits can and are being scoped for undergrounding is concerning to say the least.

PG&E's methods beg the questions: (1) What is the basis for electing to underground circuits with such a small contribution to system risk; and (2) Why underground some circuits with low-risk contributions and not others with similar contributions to total risk score? This is tied to selecting an appropriate risk-informed planning threshold. PG&E has established the top 20 percent of circuits based on risk-ranking or risk-plus-feasibility ranking as their planning standard, which is very different from scoping the circuits that make up the top 20 percent of risk or establishing a quantitative risk tolerance (e.g. 1-in-20 year conditions produce a wildfire simulation result that is correlated with a catastrophic wildfire consequence).

This segues to our RNR comments on reallocating work from 79 of the top 20 percent of risk-ranked circuits:

PG&E reports that the top 20% of risk ranked circuit segments total 720 circuit segments. Of these 720 circuit segments, “79 are not included in an undergrounding work plan and have not been hardened.” PG&E goes on to explain that they supplanted these 79 high risk circuit segments with plans to underground other more easy-to-implement circuit segments.¹² This plan impacts 11% of the circuit segments in the top 20% riskiest circuit segments, though the actual risk exposure impact is not evident since PG&E does not detail the individual or aggregate risk ranking, risk scores, or circuit miles of these 79 circuit segments. Risk on the 79 high risk circuit segments is managed through monitoring, data collection and operational mitigations; they do not detail alternate system hardening mitigations for these locations. PG&E's plan indicates that it is overly focused on undergrounding as a bean counting exercise in order to meet its publicized goal of 10,000 miles. This approach should be rejected in hand for: (1) Its failure to propose alternate system hardening approaches for the 79 circuit segments, such as timely OH system rebuild with covered conductor (e.g. SCE's CC++/REFCL solutions); and (2) Its failure to justify why the alternate easier to implement circuit segments not included in the top 20% riskiest circuit segments warrant undergrounding as a cost-effective wildfire risk mitigation.

¹² PG&E 2023 WMP Revision Notice Responses, p. 67-68

PG&E's S-RNR expands on these 79 circuits, explaining that they are "on the border line of the top 20 percent risk-ranked circuits segments," and swapping them out for other borderline circuits results in less than 1 percent difference in total risk.¹³ The S-RNR also explains that the 79 circuits not scoped for hardening are protected by EPSS, PSPS, and routine inspections and maintenance. The additional information partially responds to, but does not remedy our concerns regarding alternate mitigation for the 79 circuits. The additional justification only elicits the same questions (1) and (2) above, and still fails to address concerns (1) and (2) from our prior RNR comments.

The S-RNR includes a new discussion on forthcoming models, including WDRM v4 and departure from the WFE to a Wildfire Benefit Cost Analysis (WBCA). The RMWG discussion on October 11, 2023, indicated that WDRM v4 will include PG&E's new ingress/egress sub-model. We expect that wildfire risk model additions and updates will change circuit rankings and presumably affect mitigation selection. For this reason, it is prudent for PG&E to mitigate risk on the riskiest circuits first, instead of their proposed "quick" risk buydown approach driven by undergrounding feasibility.¹⁴ We suspect that the highest ranked risk circuits identified by PG&E's risk modeling are indeed relatively high-risk circuits, especially if ranking is based on consequence, as PG&E's consequence model identifies circuits that have experienced R4-R5 days based on an FPI back-cast and wildfire simulations resulted in fast moving fires. PG&E's highest risk ranked circuits also generally correspond to high ignition risk, with ignition risk generally decreasing over the 41 circuits in the top 5 percent of risk. The most riskiest circuits are least-regret locations for high-cost undergrounding on the basis of both ignition risk and wildfire consequence. This is in contrast to PG&E's current method of prioritizing based on feasibility over the top 20 percent of risk ranked circuits, which includes many *much lower risk circuits* that may or may not retain their ranking as models are updated and the new WBCA method is implemented.

PG&E's S-RNR also summarizes an Alternative Mitigation Analysis for projects in the undergrounding work plan selected using WRDM v2. PG&E introduces the "EASOP" analysis

¹³ PG&E S-RNR, p. 73

¹⁴ PG&E S-RNR, p. 77

and a system hardening decision tree.¹⁵ The decision tree provided in the S-RNR has a header titled “ECOP” and contains the ECOP in one decision step.¹⁶ We performed an “EASOP” and “ECOP” keyword search on the 2023-2025 WMP, the 2022 WMP Update, and the 2021 WMP Update. ECOP/EASOP was not referenced in the 2023-2025 Base WMP, “ECOP” was only listed in the Acronyms and Abbreviations in the 2022 WMP Update, and the 2021 WMP Update contained a short description of the ECOP program.^{17,18} The 2021 WMP Update simply describes the Electric Corrective Optimization Program (ECOP) as:

Electric Corrective Optimization Program (ECOP), where a number of identified corrective repair tags on a single segment of line indicate that hardening the line may be more prudent than repairing each tag individually¹⁹

A keyword search for “decision tree” in the 2021 WMP Update, 2022 WMP Update, and 2023-2025 WMP, shows that this tool is first described in the 2022 WMP Update but the tree was not provided. Decision tree references in the 2023-2025 WMP are only made with respect to fire-rebuild and in response to ACI-PGE-22-34 regarding the 2022 WMP. Barring searching the tome of data request responses, we conclude that PG&E’s S-RNR is the first instance that PG&E has provided detailed information on either the EASOP or the Mitigation Decision Tree used to inform circuit selection based on WDRM v2 and v3. This appears to be a substantive WMP reporting gap. It also appears the EASOP and decision tree provided in the S-RNR may no longer be in use and an updated format, that is not provided, was used in conjunction with the WDRM v3.

Briefly, the combined WDRM v2 plus EASOP evaluation and decision tree “alternative risk mitigation” assessment advance a bias towards undergrounding. The 2022 WMP Update stated that the mitigation selection decision tree is not yet updated “to incorporate our updated 2022 goals of expanding EPSS and undergrounding” and for work in 2023, “PG&E anticipates

¹⁵ PGE S-RNR p. 88

¹⁶ PGE S-RNR p. 90

¹⁷ 2022-Wildfire-Safety-Plan-Update PGE, p. 1045

¹⁸ 2021-Wildfire-Safety-Plan Update PGE, p. 549, 557

¹⁹ 2021-Wildfire-Safety-Plan Update PGE, p. 549

adjusting our system hardening decision tree to place a greater emphasis on undergrounding.”²⁰ Locations where the EASOP recommended OH or hybrid solution hardening within a margin of risk reduction compared to the undergrounding solution were passed through a decision tree that could reassign the preferred OH or hybrid mitigation to undergrounding. An unbiased approach would minimally consider whether EASOP-determined undergrounding locations should be adjusted to an alternate OH or hybrid solution.

This biased approach to undergrounding selection appears to be even more entrenched for projects selected using WDRM v3. PG&E’s S-RNR states:

For the projects selected using WFE and WDRM v3, which considers feasibility, PG&E chose undergrounding as the preferred mitigation solution. PG&E was focused on hardening miles in the highest risk areas of our service territory and determined that undergrounding was the best hardening solution in these areas.²¹

The new version of PG&E’s cost benefit analysis and subsequent reassignment of preferred OH mitigation appears to function much like the previous method but may be even more biased towards undergrounding. PG&E’s S-RNR states:

Like the process applied in the EASOP analysis, if the estimated project scope risk reduced after mitigation was within 100 percent of the estimated risk reduction of undergrounding, PG&E evaluated the three decision tree factors: (1) tree fall-in risk, (2) ingress/egress risk, and (3) PSPS mitigation. If any one of the three additional risk factors exist at that circuit segment location, the model identified undergrounding as the preferred solution.

The results of the WDRM v3 alternatives analysis for the 2023-2024 undergrounding work indicate that undergrounding was the right mitigation based on a comparison of risk reduction per dollar spent when considering the three decision-tree factors.

PG&E fails to provide the updated decision tree that was used along with WDRM v3. We interpret the S-RNR to mean that any level of risk for any one of the three decision tree factors was used as sufficient justification for PG&E to select undergrounding versus OH system hardening. This is a very aggressive mitigation selection standard that amounts to little-to-no

²⁰ 2022-Wildfire-Safety-Plan-Update PGE, pp. 531-532

²¹ PG&E S-RNR, p. 91

risk tolerance and as intended will “place greater emphasis on undergrounding.”²² PG&E’s failure to provide the updated EASOP and decision tree for WDRM v3 “alternative mitigation selection” also suggests an intent to withhold the updated selection tools that informed the 2023-2025 WMP undergrounding scope of work.

The S-RNR also includes table SRN-PG&E-23-05-4 which show the results of the “alternative mitigation analysis.” As expected, and designed, it nearly exclusively recommends undergrounding. For the three projects that did result in preferred OH hardening, it appears that PG&E re-scoped them for undergrounding. We reviewed each of these three circuit segments risk scores.²³ Two of the three segments have below average wildfire risk. All three have order of magnitude below average PSPS risk. There does not seem to be a clear or reasonable explanation for undergrounding these segments in 2024. For example, the S-RNR identifies Silverado 2105 900104 at risk rank 90 and in the top 5 percent of WDRM Risk Ranking. Yet the baseline wildfire risk and Total Utility risk scores are three and two orders of magnitude less than the circuit segment maximum and average, respectively. The PSPS risk score is four and three orders of magnitude smaller than the circuit segment maximum and average, respectively. Similarly, the PoI scores for vegetation, equipment failure, and all other risk drivers are orders of magnitude less than the circuit segment maximum and average.

Silverado 2105 900104 rank 90 is based on PG&E’s “weighted composite for system hardening wildfire risk mean.”²⁴ It’s not clear how this metric is calculated or if it is based on the WFE that includes feasibility. When sorting the circuits based on this metric, the top 5 circuits are short (0.17 miles or shorter), and have orders of magnitude below average and below maximum Wildfire risk, PSPS risk, Total Utility risk, and PoI risk. The Top Risk Table, which is labeled as the circuits making up the top 5% of risk and that was also presented in the 2022 Q4 QRD, does not correspond with the ranking that results based on “weighted composite for system hardening wildfire risk mean,” Baseline Wildfire Risk, PSPS Risk, or Total Utility Risk Score. At its best, PG&E’s S-RNR further highlights a lack of transparency regarding undergrounding

²² 2022-Wildfire-Safety-Plan-Update PGE, pp. 531-532

²³ TN12120_20230426T114653_20230406_PGE_2023_WMP_R2_Section_642_Atch01

²⁴ TN12120_20230426T114653_20230406_PGE_2023_WMP_R2_Section_642_Atch01

selection basis. At its worst, the S-RNR indicates a strong bias for undergrounding and a project selection process that fails to target the highest risk circuit segments.

The CPUC formally recognized the methodological shortcomings and the S-RNR alludes to an impending Proposed Decision and Alternate Proposed Decision in a footnote:

The 2024 underground mileage target and 2025-2026 mileage forecasts could be reduced as a result of the Proposed Decision and Alternate Proposed Decision in PG&E's 2023 GRC, issued on September 13, 2023. PG&E will follow the appropriate processes for target update(s) pending a final decision in the GRC, if necessary.²⁵

Neither the RNR nor S-RNR adequately address Critical Issue RN-PG&E-23-05. Rather, it further eroded GPIs confidence in PG&E's risk-informed mitigation selection approach. GPI provides the following recommendations:

- PG&E's 2023-2024 Base WMP should be rejected in the basis that: (1) the undergrounding plan, which is the most costly aspect of PG&E's risk mitigation approach, fails to mitigate the highest risk circuits; (2) the justification for undergrounding locations is at best not entirely transparent and at worst unjustified; and (3) the CPUC is expected to issue a Decision on PG&E's undergrounding scope of work in the GRC proceeding, which will likely mandate that PG&E overhaul their 2023-2025 Base WMP undergrounding plan. The OEIS should not approve a plan that is being rejected in other CPUC proceedings, especially the GRC, which addresses plan cost.
- Base WMP rejection should include a requirement that PG&E overhaul and resubmit their Base WMP. Remedies should address undergrounding scope of work selection as well as other topics, including those identified in GPIs comments on the 2023-2025 Base WMP, RNR, and S-RNR, and should align with the pending GRC decision.
- GPI recommends the OEIS undertake a targeted and methodical assessment of the IOU risk modeling and model application approaches. Overhauling risk-based mitigation selection is only as good as the ability of the underlying risk model to identify granular risk and inform a

²⁵ PG&E S-RNR, p. 70

risk-based planning standard. PoI models are reported as having variable and, in some cases, very low predictive capabilities and/or model limitations based on available data. The data inputs for PoI models also reflect an ageing distribution system that in some cases has lapsed into overdue disrepair. This begs the question, should risk mitigation type be based on PoI models with limited predictive capabilities that are also based on a dataset that reflects existing asset degradation? GPI warns that caution should be exercised with respect to selecting mitigation location and type based on low performing PoI models that include risk due to asset condition. PoI models may be better suited for informing mitigation prioritization and in some cases mitigation type. Put another way, just because asset health on a given circuit segment has degraded and fallen into disrepair does not mean that undergrounding is the optimal risk mitigation approach, especially if the associated consequence risk is “low.” This also touches on issues linked with relying on combined PoI times Consequence scores, which mask the risk drivers at each location. Similarly, consequence models must be evaluated for their ability to granularly identify risk that correlates to a planning standard and informs mitigation type.

RN-PG&E-23-07: PG&Es Supplemental Response only addresses two of three identified issues.

Briefly, GPI raised three concerns in our comments on PG&E’s Revision Notice Responses to RN-PGE-23-07: (1) The replacement of a formal QC program with a Field Quality Control Program; (2) Insufficient justification regarding why they must evaluate the broad application of Level 2 inspections for strike trees; and (3) Plans to collect hardcopy records of their Tree Risk Assessment Qualification (TRAQ) forms.²⁶

PG&E’s S-RNR addresses issue (1) by including a VM and FTI QC program that outlines inspection targets and pass rates in response to RN-PGE-23-07. GPI recommends issuing an ACI that requires PG&E to address the other aspects of our past comments on RN-PG&E-23-07 and RN-PGE-23-02, that are not addressed in the S-RNR, namely:

...PG&E should also be required to provide details on its FQC asset and VM programs including whether the program is a temporary or long-term annual program, and whether it is envisioned as a

²⁶ GPI Comments on PG&E Revision Notice Responses, pp 9-10

training program, or more so constitutes an effort to require adequate jobsite oversight and management. If the program is a short-term (e.g. 1-3 years) training program for employees and jobsite managers, PG&E should be required to detail how it will maintain work quality through standard training and/or SOPs and how it will report on work QC during and after the program is closed.²⁷

The S-RNR addresses issue (2) by updating VM SOPs to include Level 2 inspections on all strike potential trees in FTI beginning in 2024.²⁸

The S-RNR does not address issue (3) that PG&E will not digitize their TRAQ form and inspector responses used during FTI inspections and will instead rely on hardcopies. PG&E S-RNR responses to RN-PGE-23-06 and RN-PGE-23-07 added the following statements (supplemental text is underlined):

PG&E is currently piloting the FTI Program on 250 miles with ISE TRAQ resources that do not preform Level 2 on all trees with strike potential and maintain paper records for strike potential trees that were identified for abatement.²⁹

And

The TRAQ form that is used during FTI Inspections will not be digitized at this time.⁷⁵ As described in Objective VM-21, Table SRN-PG&E-23-07-4 below, PG&E will enhance our record keeping practices for the FTI by creating records of all potential strike trees inspected using the Tree Risk Assessment form and improving the data management of the forms.³⁰

Data management improvements appear to be specific to the Enterprise Records and Information Management Standard (GOV-7101S) added in Table SRN-PG&E-23-07-04.³¹ While this “record keeping enhancement” standard provides a clear standard for record storage and management, it still allows PG&E to continue data collection using paper/physical documents.³² It also outlines protected and access restrictions, including to outside parties, although it is unclear if these stipulations will impact OEIS and/or stakeholder access via Data Requests.

²⁷ GPI Comments on PG&E Revision Notice Responses, p. 9

²⁸ PGE 2023 WMP Supplemental Revision Notice Responses, p. 108

²⁹ PGE 2023 WMP Supplemental Revision Notice Responses, p. 95

³⁰ PG&E 2023 WMP Supplemental Revision Notice Responses, pp 129-130

³¹ PG&E 2023 WMP Supplemental Revision Notice Responses, pp 131-132

³² GOV-7101S. https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/GOV-7101S-GOV-7101-records-management-standard-redacted.pdf (Accessed on October 12, 2023)

GOV-71001S does not remedy the concern that hardcopies of TRAQ forms used during FTI inspections does not readily support granular vegetation risk assessments. Notably, areas with tree strike potential is an element in the newly added Mitigation Decision Tree Figure SRN-PG&E-23-05-6A that impacts mitigation approach, whether overhead or undergrounding.³³ We are concerned that Focused Tree Inspection results that are record in hardcopy will inhibit risk assessments from strike trees when determining mitigation approach in the near-term as well as over the duration of ongoing and long-term system hardening timeline. Our comments on PG&E's Revision Notice Response still apply:

At best, paper copies of tens to hundreds of thousands of abated strike tree inspections is absolutely useless for the purpose of quantitative data analysis. While trees that are abated are no longer a risk, the data associated with strike tree abatements such as mortality cause (e.g. invasive species) could be critical to forecasting strike tree risk trends by location, or other useful wildfire risk and/or strike tree mitigation planning (e.g. forecasted workforce needs). Taking a photo of paper inspection forms for strike trees that are not recommended for abatement is nearly as useless. Inspector hand writing quality may limit the usefulness of these paper copy photos. Not to mention that failure to digitize the thousands of forms will prevent the data from use in applications such as quantitative analyses, trend assessment, QA/QC purposes, or future potential risk-prioritization based on strike tree attribute. Given PG&E's computing power in terms of both human resources, hardware, and software access, regressing to paper forms is unacceptable in 2023. Off-the-shelf customizable data collection and digitization software that supports mobile device use, such as WildNote, is readily available and can fill the interim inspection form digitization need until/unless PG&E develops an internal tool. There is no excuse to not digitize the inspection forms and only lost opportunities if they do not. PG&E should be required to digitize all VM strike tree abatement forms starting in 2023.³⁴

Minimally, PG&E should be issued an ACI that requires them to develop a TRAC form digitization method for use in 2024, whether for interim or long-term use. If PG&E proposes an interim solution for 2024, they should be required to provide milestones and a timeline for developing and implementing a long-term digitization solution.

³³ PG&E 2023 WMP Supplemental Revision Notice Responses, p. 89

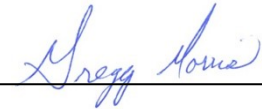
³⁴ GPI Comments on PG&E Revision Notice Responses, p. 10

Conclusions

We respectfully submit these comments and look forward to reviewing future wildfire mitigation plans and related filings. For the reasons stated above, we urge the OEIS to adopt our recommendations herein.

Dated October 13, 2023.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read "Gregory Morris", is written over a horizontal line.

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