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**COMMENTS OF THE GREEN POWER INSTITUTE ON THE DRAFT
DECISION ON PG&E'S 2025 WILDFIRE MITIGATION PLAN UPDATE**

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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 Draft Decision on PG&E's 2025 Wildfire Mitigation Plan Update*.

Introduction

GPI reviewed the OEIS Draft Decision on PG&E's 2025 WMP Update with a focus on technical revisions as well as opportunities for additional, improved utility guidance. Our comments and recommendations address the following topics:

1. Recommended technical revisions to the Draft Decision on PG&E's 2025 WMP Update.
 - 1.1. The Draft Decision Executive Summary should provide a congruent summary of areas that can be further developed or improved.
 - 1.2. Provide a record of consultation with CalFIRE and cite CalFIRE input.
 - 1.3. Redundant summaries of ACI responses and Energy Safety Evaluation should be streamlined and supplanted with more thorough evaluations.
 - 1.4. The Draft Decision misses multiple opportunities to provide reporting guidance for PG&E's 2026-2028 WMP filing that could substantially improve Base WMP quality and review.
 - 1.5. The Draft Decision body should cite intervenor Data Requests, supporting evidence, and WMP evaluations.
2. The Draft Decision errs in finding WDRM V4 revisions an improvement to precision based on turnover in the top risk-ranked circuits.
3. The OEIS should take into account intervenor risk model assessments and undertake its own more thorough assessment of PG&E's WDRM prior to making statements about model improvements.
4. Require ongoing "Cross-Utility Collaboration on Risk Model Development."

5. Require continued reporting on ACI PGE-23B-07 Deployment of New Technologies in the 2026-2028 WMP.
6. The Draft Decision should not permit an official update to PG&E's 2025 tag backlog closure target that alters the total allowable 3-year target.

Comments

1. Recommended technical revisions to the Draft Decision on PG&E's 2025 WMP Update.

1.1. The Draft Decision Executive Summary should provide a congruent summary of areas that can be further developed or improved.

The Executive Summary provides a summary of PG&E's strength areas based on the 2025 WMP Update. The same section only states that there are "areas" where PG&E can improve without providing a summary of what those areas are and why they are critical to cost effective utility wildfire mitigation according to current best practices.¹ This incongruity in Plan strength versus weakness summaries reduces public transparency and weights in favor of utility strengths. We are primarily concerned that this incongruity masks transparency of Plan weaknesses for the public, whose engagement may be more limited to reviewing filing summaries versus the entirety of the 93-page Draft Decision. GPI recommends updating the Executive Summary to include a congruent and more transparent summary of PG&E's Plan areas for improvement, instead of only highlighting plan strengths.

1.2. Provide a record of consultation with CalFIRE and cite CalFire input.

While the Decision may be the sole action of the OEIS, stakeholder engagement serves an important role in the WMP development process by transparently soliciting and integrating external reviews and recommendations. CalFIRE is one such stakeholder. However, CalFIRE consultation has a higher bar compared to other stakeholders in that its consultation is required by law according to Public Utilities Code section 8386.3(a).² GPI is appreciative that the OEIS continues to source and integrate feedback from CalFIRE into the WMP review and Decision process in alignment with the statutory requirement. However, since CalFIRE is separate from

¹ OEIS Draft Decision on PG&E's 2025 WMP Update, August 2024. p. 1.

² Ibid. p. 2.

the OEIS and does not file comments on the WMP review or development process, therefore there is no record of CalFIRE input or OEIS integration of CalFIRE input. The delivery method, content, and outcomes of CalFIRE consultation on the WMP process are opaque, and it cannot be confirmed whether, when, or how an information exchange occurred.

Comments filed by the California Natural Resources Agency, Department of Fish and Wildlife (CDFW) sets a precedent for state agencies to engage in the WMP review and development process through transparent filings that contain agency-specific recommendations. Similarly, the Wildfire Safety Advisory Board, statutorily created through AB 1054, files formal recommendations on WMP development that OEIS reviews. Subsequent OEIS Decisions inform the public whether comments and recommendations are included in WMP development and actions (e.g. as plan Decisions, ACI, Revisions Notices, WMP process development, etc.). CalFIRE input and OEIS review and adoption should follow the same transparent, public-facing process. GPI strongly recommends updating the Draft Decision to include a summary of CalFIRE consultation and OEIS adoption within the Draft Decision on PG&E's 2025 WMP Update. We also strongly recommend that future WMP development, review, and approval cycles include public CalFIRE comments that create traceable inputs and OEIS adoption decisions. Statutory consultation from CalFIRE on the WMPs should not be exempt from the existing transparent comment, review, and adoption processes guiding WMP development.

1.3. Redundant summaries of ACI responses and Energy Safety Evaluation should be streamlined and supplanted with more thorough evaluations.

Energy Safety Evaluation sections are largely redundant to summaries of PG&E 2025 WMP Update responses. Summaries of Energy Safety evaluations are cursory at best. For example, the Energy Safety Evaluation of ACI PG&E -23B-02 "PSPS and Wildfire Risk Tradeoff Transparency" largely re-summarizes PG&E's response to the ACI. Only the third and last sentence determines that the response is sufficient.³ In this example the Draft Decision fails to provide any meaningful evaluation of PG&E's PSPS and Wildfire risk tradeoff method, such as methodological pros and cons, and how it compares to peer utility methods. The Draft Decision essentially approves the now more transparent method at face value with no apparent analysis.

³ Ibid. p. 14.

In a second example, the Energy Safety Evaluation on Asset Inspections, “Targets, Objectives, and Projected Expenditures” amounts to a summary of PG&E updates in response to RN-PGE-23-02 and QC target updates.⁴ This information belongs in the PG&E response summary section and does not qualify as an evaluation. As such there is little-to-no evaluation of PG&E’s updated QA/QC sample sizes and pass-rate targets. The Draft Decision also completely ignores the QA/QC pass rate data uncovered by CalAdvocates discovery and comments.⁵ Though it is a comparatively minimal omission, the Draft Decision also fails to provide context on RN-PGE-23-02 in alignment with its recounting of ACI requirements.

While an evaluation may find that a utility responds to each ACI and update reporting requirement this box checking for completeness should only be a small portion of the evaluation. The evaluation should also include but not be limited to a review of methodological benefits or deficits, inclusive of intervenor comments, comparisons to other utility methods and best practice benchmarking, whether the topic is subject to further review, and whether additional or ongoing work is expected in order to fully address the issue. In its current format the Draft Decisions on the IOU 2025 WMP Updates largely amounts to a box checking exercise with redundant summaries of Utility Plans that risk tacit approval of largely unvetted updates. GPI urges the OEIS to elevate its criteria for WMP review and evaluation.

1.4. Redundant summaries of ACI responses and Energy Safety Evaluation should be streamlined and supplanted with more thorough evaluations.

Many party comments on the Group 1 2025 WMP Updates, including but not limited to CalAdvocates, CDFW, GPI, MGRA, and RCRC, provide recommendations that would improve the quality and completeness of the forthcoming 2026-2028 “Base” WMPs. Annual WMP filings for the first 3-year WMP cycle on the new year-ahead filing schedule will come to a close with OEIS Decisions on the 2025 WMP Updates. The truncated 2023-2025 WMP cycle allowed for a shorter interval between Base WMP filings at a time when Utility planning continues to undergo substantive changes to critical WMP elements such as risk modeling methods, model

⁴ Ibid. p. 31.

⁵ Comments of the Public Advocates Office on PG&E’s 2025 Wildfire Mitigation Plan Update, May 7, 2024. pp. 29-32.

application, and mitigation approaches. Decisions on the 2025 WMP Updates therefore mark a pivotal opportunity for the OEIS to set clear reporting guidance and expectation for individual Utilities in their 2026-2028 WMPs.

Where possible ongoing reporting requirements and improvements should be amended to existing ACI as updates. For example, while PG&E may have checked the required reporting boxes for ACI PGE-23B-07 “Deployment of New Technologies,” the root causes that led to the ACI, such as of unsatisfactory progress and reporting on emergent technology pilots, are not yet adequately addressed. Addressing these and other ongoing WMP deficits should remain in scope for the transition from the 2025 WMP Update to the 2026-2028 WMP base filing.

The OEIS may determine that some 2026-2028 WMP reporting recommendations may not fall neatly into the category of reportable changes per the 2025 WMP Update, or necessarily qualify as ACI at this time. This regulatory Tetris should not preclude the inclusion of additional guidance that will improve the WMPs. This is also a prudent approach to prevent the Draft Decision on the 2025 WMP Updates from becoming a form of tacit approval that permits the stagnation of WMP development. WMP development should be treated as an ongoing process, not neatly constrained to 3-year WMP cycles. Providing guidance in the 2025 WMP Decision on what to include in the 2026-2028 WMP that is specifically relevant to PG&E’s WMP and programs therein is likely to improve Base Plan comprehensiveness and facilitate an efficient review process. It is also in keeping with the objective of supporting continued WMP maturation, and would improve the value of the Draft Decision as well as the depth of the Energy Safety evaluation.

Utility-specific guidance for the 2026-2028 WMP filing cannot be readily supplanted by formulaic Base WMP Guidelines. WMP reporting Guidelines are generalized and apply to all utilities without regard for utility-specific programs or stages of development and plan maturity. Maturity survey responses and results may also have limited ability to guide timely WMP development towards the adoption of current best practices for priority capabilities as well as developmental aspects not addressed within the survey. For example, to our knowledge maturity survey responses and scores are not able to specifically guide and track PG&E progress on its REFCL pilot. Updating utility-specific guidance on what to include in the 2026-2028 WMP

filings as it relates to ongoing WMP programs and development would likely improve the quality of Base WMPs prior to the review phase, even if the OEIS determines that the guidance does not fall under the definition of a WMP Update reportable change or ACI. It could also help to reduce the number of data requests required to acquire necessary information, reduce the likelihood of a Revision Notice, reduce the number of ACIs, and could overall provide Utilities with helpful guidance that improves the plan review process and efficiency.

GPI recommends that the 2025 WMP Update Decisions be expanded to include additional utility-specific guidance on what to include in the forthcoming 2026-2028 WMPs. This guidance should especially take into consideration intervenor findings and recommendations. Additional recommendations within the Draft Decision can occur through updated ACI or be distinct from ACI and should be geared towards guiding Base WMP completeness and quality that will improve the WMP review process for in-development WMP programs and capabilities (e.g. risk modeling). This additional guidance would improve the impact of the Draft Decision by supporting continued WMP development.

1.5. The Draft Decision body should cite intervenor Data Requests, supporting evidence, and WMP evaluations.

The Draft Decision fails to cite intervenor-initiated Data Requests, comments, and analyses that support or contradict the Draft Decision findings. For example, the Draft Decision fails to cite intervenor Data Requests and comments on PG&E's WDRM V3 and V4 models. CalAdvocate and MGRA Data Requests provide more comprehensive data on WDRM outputs and the changes from V3 to V4 compared to the limited OEIS data requests.^{e.g.6,7,8} Analysis from intervenors on WDRM V3 versus V4, as well as its impacts on risk mitigation work is also grossly overlooked in the Draft Decision. This issue is compounded by the fact that the OEIS assessment of WDRM V3 versus V4 adjustments to location-specific risk is based on both a limited model output subset and what appears to be a misinterpretation of the figures provided in

⁶ WMP-Discovery2023_DR_MGRA_001-Q001-009Supp02Atch01.xlsx.

⁷ WMP-Discovery2023-2025_DR_CalAdvocates_041-Q005Atch01.xlsx.

⁸ WMP-Discovery2023-2025_DR_CalAdvocates_042-Q009Atch01.xlsx.

response to an OEIS Data Request.⁹ WDRM interpretation in the Draft Decision is addressed in comments below. The issue of inadequate intervenor recognition extends beyond WDRM evaluation to other topics including but not limited to QA/QC pass rates and REFCL pilot progress reporting and is especially concerning given the cursory level of Energy Safety Evaluation provided in the Draft Decision. OEIS should work to remedy its failure to cite stakeholder and intervenor Data Requests and comments in the Draft Decision on PG&E's 2025 WMP Update and going forward.

2. The Draft Decision errs in finding WDRM V4 revisions an improvement to precision based on turnover in the top risk-ranked circuits.

The Draft Decision states:

As a result of these significant risk model updates, PG&E's wildfire mitigation prioritization has changed. The number of circuit segments comprising the top 5 percent of total utility risk decreased from 49 circuits to 14 circuits. PG&E stated that the decrease is due to a flattening of the risk buydown curve, with a more even distribution of risk across the system when compared to WDRM V3. When comparing the top 100 riskiest circuit segments in the WDRM V4 output to the WDRM V3 output, the majority of the circuit segments still fall in the top 20 percent of risk between WDRM V3 and WDRM V4, with only 10 circuit segments within the top 20 percent for WDRM V4 falling outside of the top 20 percent in WDRM V3. This indicates that the changes made by PG&E are improvements to the precision of its risk model. Additionally, while some movement occurred to the risk ranking based on model output changes, the changes in prioritization that result from the risk model updates from WDRM V3 to WDRM V4 do not have as much movement as the previous changes in prioritization when PG&E implemented a new model version.²⁸ This indicates that PG&E's modeling may be advancing to the point that its updates are more refinements to previous model versions instead of significant changes, which should be indicative of PG&E having a better understanding of the risk on its system.¹⁰

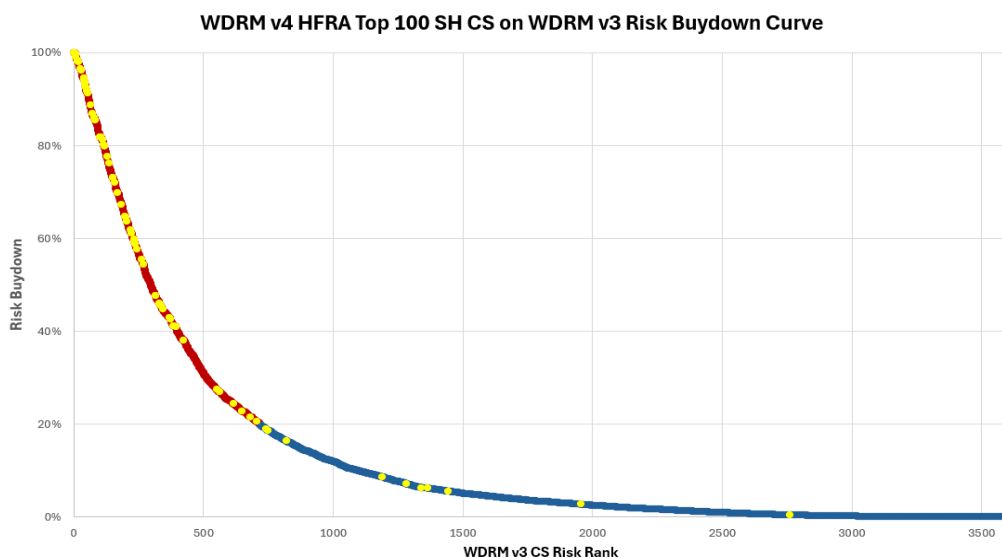
First, the Draft Decision attempts to explain the relationship between the "top 100 riskiest circuit segments", the "top 20 percent of risk," and the "top 20 percent" for WDRM V3 and V4. We infer that the "top 20 percent" means the "top 20 percent of risk-ranked circuit segments." The data summary is flawed. In the cited Data Request response PG&E provided two figures

⁹ Data Request OEIS_016-Q003 Supplemental Response 001, Attachment 01 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56640&shareable=true>, accessed July 15, 2024).

¹⁰ OEIS Draft Decision on PG&E's 2025 WMP Update, August 2024. p 11.

comparing WDRM V3 and V4 Risk Buydown versus Risk Rank.¹¹ Figure 1, reproduced from Data Request OEIS_016-Q003 Supplemental Response 001, Attachment 01, presents percent “Risk Buydown” on the y-axis, which maxes out at 100 percent (i.e. total system wildfire risk). Risk Buydown values refer to residual or remaining percent of total risk on the system. This is in contrast to the data in red, which are originally referred to as the “top 20 percent of circuit segments” for each WDRM version in an earlier discovery response.¹² The issues lie in the fact that the “top 20 percent of risk” and the “top 20 percent of [risk-ranked] circuit segments” are not interchangeable terms. As previously reported the top 20 percent of risk ranked circuit segments totals 720 circuit segments.¹³

Figure 1. Reproduction from PG&E data request response “Data Request OEIS_016-Q003 Supplemental Response 001, Attachment 01”



The specific circuit segments that comprise the top 720 risk-ranked circuit segments and the percent total risk, risk distribution, and mileage, change to varying degrees with each model version. This is apparent in the WDRM V3 and V4 comparison figures, where the percent of system risk associated with the “top 20 percent” of risk-ranked circuit segments in red decreases

¹¹ Data Request OEIS_016-Q003 Supplemental Response 001, Attachment 01 (<https://efiling.energy.ca.gov/eFiling/Getfile.aspx?fileid=56640&shareable=true>, accessed July 15, 2024).

¹² WMP-Discovery2022_DR_OEIS_016-Q01.

¹³ Comments of the Green Power Institute on the PG&E 2023 Wildfire Mitigation Plan Final Revision Notice Response, October 13, 2023. p. 7.

from approximately 80 percent to 60 percent.¹⁴ The Draft Decision statement that the majority of the 100 top CS fall within the “top 20 percent of risk” is incorrect since the top 20 percent of risk is contained in circuit segments that span the 100 to 80 percent risk buydown portion of Figure 1. The statement is further confounded by asserting that just 10 of the 100 top WDRM V4 circuit segments fall outside the WDRM V3 “top 20 percent,” presumably referring to the risk-ranked circuit segments denoted by red data points (Figure 1). Based on Figure 1, 10 of the WDRM V4 top 100 SH circuit segments (CS) fall outside the *top 80 percent of risk* based on WDRM V3 and outside the top 20 percent of risk-ranked circuit segments. Consequently, the correct finding is that the majority of the WDRM V4 HFRA top 100 SH circuit segments fall outside the WDRM V3 top “20 percent of risk” according to the risk buydown curve (Figure 1).

GPI generally recommends extreme caution when working with percentages as the threshold basis for risk model assessments and risk buydown planning. Percentages are relative values that are dependent on the quantitative basis (e.g. total risk versus total circuit segments), and can change dramatically when the underlying assumptions are adjusted. Similarly, assessing risk buydown based on risk rank is misleading since rank is a relativistic linear scale that does not reflect mitigation scope of work (i.e. mileage) required to buydown the associated system risk as highlighted by intervenors.^{15,16,17} We address these concerns in more detail below.

Second, it is incorrect to conclude that risk model “precision” is “improved” based on circuit turnover in the top risk-ranked circuit segments. Individual circuit segment turnover in the top risk ranked circuits due to input data modifications or model adjustments is an indicator of model *stability*. The fact that the majority of the top 100 riskiest circuit segments based on WDRM V4 lie outside the top 100 riskiest circuit segments and the top 20 percent of risk based on WDRM V3 suggests that WDRM is still undergoing substantive maturation and stabilization. This is on account of changes to both the quantitative definition of wildfire risk, which now includes suppression and egress sub-models, and updates/changes to data inputs.

¹⁴ WMPDiscovery20232025_DR_OEIS_016Q003Supp01Atch01.xlsx; Tab “OEIS 016 Q03f.”

¹⁵ Comments of the Green Power Institute on the PG&E 2025 Wildfire Mitigation Plan. pp. 1-4.

¹⁶ Comments of the Public Advocates Office on PG&E’s 2025 Wildfire Mitigation Plan Update pp 5-10.

¹⁷ Mussey Grade Road Alliance Comments on the 2025 Update of the Wildfire Mitigation Plans Of PG&E, SCE, and SDG&E, May 7, 2024. pp. 24-26.

Result “precision” and “accuracy” have technical definitions specific to quantitative analyses such as measurements and machine learning.^{e.g.18,19} In general, a showing of improved model precision or accuracy would require, for example, a comparison of model inputs or outputs to actuals. Comparing model version outputs is not an adequate basis for concluding that a newer model version is more precise or accurate.

Circuit segment turnover within risk rank-based percentage thresholds should also not be relied on to assess whether model version outputs are more-or-less precise or accurate. Risk rank-based percentage thresholds for reporting purposes are arbitrary since they are not calibrated to specific risk reduction targets linked to the elimination of utility caused catastrophic wildfires. Similar principles apply to percent-of-risk-ranked circuit segment targets for mitigation selection and planning. Any risk rank-based percentage thresholds used as planning thresholds should be calibrated based on modeled risk when it comes to targeting and cost-effectively mitigating system wildfire risk. These percentage targets should be evaluated against the most up to date data-informed risk metrics including modeled risk per mile, total risk, and risk exposure (e.g. mileage). Relating percent of risk-ranked circuit segment work plan targets to risk model version outputs is especially important when each model version results in substantive changes to utility wildfire risk and risk distributions indicating relatively unstable models and ongoing maturation.

We also advise against using the terminology “prioritization” in the WRDM update evaluation. “Prioritization” specifically addresses mitigation location and work order and includes additional inputs that adjust granular risk mitigation prioritization relative to the WDRM circuit segment risk-ranking.

The Draft Decision should be modified to correct these factual and technical errors. GPI recommends the following corrections to the Draft Decision (additions in blue underline, deletions in red strikethrough):

¹⁸ Classification: Accuracy, recall, precision, and related metrics. <https://developers.google.com/machine-learning/crash-course/classification/accuracy-precision-recall> Accessed on 9/17/2024.

¹⁹ Practices of Science: Precision vs. Accuracy. <https://manoa.hawaii.edu/exploringourfluidearth/physical/world-ocean/map-distortion/practices-science-precision-vs-accuracy#:~:text=Precision%20and%20accuracy%20are%20two.Precision%20is%20independent%20of%20accuracy.> Accessed on 9/17/2024.

As a result of these significant risk model updates, PG&E's wildfire mitigation prioritization has changed. The number of circuit segments comprising the top 5 percent of total utility risk decreased from 49 circuits to 14 circuits. PG&E stated that the decrease is due to a flattening of the risk buydown curve, with a more even distribution of risk across the system when compared to WDRM V3. When comparing the top 100 riskiest circuit segments in the WDRM V4 output to the WDRM V3 output, the majority of the circuit segments ~~still fall outside in~~ the top 20 percent of risk ~~according to between~~ WDRM V3 ~~and WDRM V4, with only 10~~ Ten of the top 100 riskiest circuit segments in the WDRM V4 output fall ~~circuit segments within the top 20 percent for~~ ~~WDRM V4 falling~~ outside of the top ~~20~~ 80 percent of risk in WDRM V3. ~~This indicates that the changes made by PG&E are improvements to the precision of its risk model. This suggests that the maturing WDRM risk model is still unstable. Additionally, while some movement occurred to the risk ranking based on model output changes, the~~ The changes in ~~prioritization~~ risk-rank that result from the risk model updates from WDRM V3 to WDRM V4 do not have as much movement as the previous relative rank changes ~~in prioritization~~ when PG&E implemented a new model version. This indicates that PG&E's modeling may be progressing ~~advancing towards stabilization.~~ However, this remains uncertain since we expect additional substantive model revisions such as the inclusion of an outage to ignition risk analysis. ~~to the point that its updates are more refinements to previous model versions instead of significant changes, which should be indicative of PG&E having a better understanding of the risk on its system.~~²⁰

3. The OEIS should take into account intervenor risk model assessments and undertake its own more thorough assessment of PG&E's WDRM prior to making statements about model improvements.

GPI refrained from a more nuanced assessment of PG&E's WDRM V4 in our opening comments on the 2025 WMP Update due to time limitations. However, this does not indicate a lack of ongoing concern over PG&E and other planning risk model approaches, outputs, and output applications. We outline some of these ongoing concerns here.

We note that the risk buydown curve presented in the OEIS Data request response is assessed on the basis on Risk Rank.²¹ Risk Rank is a relativistic linear scale and does not directly translate to the primary overhead mileage that must be worked to mitigate the associated risk since each circuit segment has a different primary overhead length. Total risk buydown as a function of miles worked, and therefore risk buydown cost, is dependent on circuit segment per mile risk and length. The specific circuit segments, total risk, and/or overhead system mileage contained with

²⁰ OEIS Draft Decision on PG&E's 2025 WMP Update, August 2024. p 11.

²¹ Data Request OEIS_016-Q003 Supplemental Response 001, Attachment 01. (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56640&shareable=true>, accessed July 15, 2024).

the top n-percent of risk-ranked circuits changes with each WDRM version. Simplistic reporting on the top n-percent of risk-ranked circuit segments obscures meaningful changes in risk per mile, risk distribution, risk-location, and associated risk buydown efficiency. It also does not directly relate to long-term WMP risk mitigation work that is tracked in conventional units (e.g. miles) that correspond to critical risk-spend efficiency factors such as cost and time. The OEIS should expand reporting requirements for PG&E risk model updates that inform more robust evaluations of risk-model outputs and resulting risk mitigation investments.

In PG&E's OEIS discovery response, we infer that the “Top 5% Highest Risk per PriOH Mile Rank” True/False designation is based on percent of total risk-ranked circuit segments (n=11,472 CS), putting the “Top 5 percent” threshold at circuit segment rank 573 of 11,472 circuit segments total.²² “Risk per PriOH Mile” rankings in the Top Risk Circuit Segments range from 10 to 571, where lower numbered ranks equate to higher per-mile risk. These top n-percent of risk-ranked circuit segment thresholds and linear, relativistic risk rankings do not consider the quantitative change in risk-per-mile or total-system risk. For example, the normalized per-mile risk for circuit segment rank 573 (n=0.0486 SH Risk per PriOH Mile) is one one-hundredths of the per mile risk compared to the number one ranked CS (n=4.66 SH Risk per PriOH Mile). Too much focus on risk rankings also neglects to recognize related factors such as the substantive change in total system risk and risk distribution between WDRM V3 and V4.^{e.g.23,24,25} Put simply, the top n-percent of circuit segments based on total number of circuit segments (i.e. risk rank) does not equate to the same amount of risk in WDRM V3 and V4. Basing risk buydown work plans on a static top n-percent of risk-ranked circuit segments applied across model updates is imprudent since risk ranks are linear and relativistic, and the quantitative risk per overhead mile, total mileage, total risk, and risk locations – factors critical to selecting cost effective mitigations – associated with a percent-of-risk-ranked circuit segments changes with each model iteration.

Circuit segment length could bias wildfire mitigation selection. In theory, a circuit segment with a low per-mile risk score could reflect no history of “destructive” wildfire risk conditions (e.g.

²² Ibid. Tab “OEIS 016 Q03a.”

²³ Comments of the Green Power Institute on the PG&E 2025 Wildfire Mitigation Plan. pp. 1-4.

²⁴ Comments of the Public Advocates Office on PG&E’s 2025 Wildfire Mitigation Plan Update pp 5-10.

²⁵ Mussey Grade Road Alliance Comments on the 2025 Update of the Wildfire Mitigation Plans Of PG&E, SCE, and SDG&E, May 7, 2024. pp. 24-26.

based on PG&E’s FPI “R” value 1-5). If the circuit segment has a relatively long primary overhead length it could elevate the circuit segment to mitigation priority over a circuit segment with a shorter Primary OH length but higher normalized risk associated with historic “destructive” wildfire conditions. There is some cursory evidence for potential CS length biases that could favor the most rigorous wildfire mitigation work on relatively long circuit segments.²⁶ The average length of PG&E circuit segments analyzed in the WDRM V4 model is 8.42 miles with a standard deviation of 8.97 miles.²⁷ Nine of PG&E’s 14 WDRM V4 “Top Risk Circuit Segments” are two standard deviations above the average circuit segment length. More work is needed to understand whether and how interactions between circuit segment length and risk per mile impact mitigation deployment and risk reduction.

Circuit segment length could bias wildfire mitigation selection. In theory, a circuit segment with a low per mile risk score could reflect no history of “destructive” wildfire risk conditions (e.g. based on PG&E’s FPI “R” value 1-5). If the circuit segment has a relatively long primary overhead length it could elevate the circuit segment to mitigation priority over a circuit segment with a shorter Primary OH length but higher normalized risk associated with historic “destructive” wildfire conditions. There is some cursory evidence for potential CS length biases that could favor the most rigorous wildfire mitigation work on relatively long circuit segments.²⁸ The average length of PG&E circuit segments analyzed in the WDRM V4 model is 8.42 miles with a standard deviation of 8.97 miles.²⁹ Nine of PG&E’s 14 WDRM V4 “Top Risk Circuit Segments” are two standard deviations above the average circuit segment length. More work is needed to understand whether and how interactions between circuit segment length and risk per mile affect mitigation deployment and risk reduction.

GPI comments on PG&E’s 2025 WMP Update noted that WDRM V4 includes a modified definition of wildfire risk that now includes suppression and egress sub-models. Sub-model

²⁶ Data Request OEIS_016-Q003 Supplemental Response 001, Attachment 01 (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56640&shareable=true>, accessed July 15, 2024). Tab “OEIS 016 Q03a.”

²⁷ WMP-Discovery2023-2025_DR_CalAdvocates_041-Q005Atch01.

²⁸ Data Request OEIS_016-Q003 Supplemental Response 001, Attachment 01. (<https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56640&shareable=true>, accessed July 15, 2024). Tab “OEIS 016 Q03a.”

²⁹ WMP-Discovery2023-2025_DR_CalAdvocates_041-Q005Atch01.

accuracy and the effect on total wildfire risk has not been reported nor independently verified. As part of this same issue, it's also not clear what PG&E's WDRM wildfire risk output values functionally mean, or calibrate to, in terms of specific risk factors such as granular historic occurrence of "destructive" wildfire risk conditions, suppression risk, egress risk, probability of ignition, and the resulting likelihood that a *catastrophic* wildfire can occur at a given circuit segment. The functional meaning of quantitative risk values and resulting system hardening thresholds is a critical requirement for appropriate risk assessment and resulting mitigation selection.

We illustrate this effect using the preceding example of circuit segments ranked according to risk per overhead mile. The per mile risk at the CS ranked 573 ($n=0.0486$ SH Risk per PriOH Mile) presents one one-hundredths of the per mile risk compared to the number one ranked CS based on SH Risk per mile ($n=4.66$ SH Risk per PriOH Mile). What conditions do a 4.66 SH Risk per primary overhead mile value equate to in terms of risk factors such as the number of historic FPI R3+ events, risk event drivers, Technosylva modeled fire spread simulation outcomes, wildfire suppression potential, and egress risk? What do these same risk factors equate to for a circuit segment with 1/100th the risk per mile (i.e. Top 5 percent CS risk per mile rank 573)? At what quantitative threshold(s) is the risk per mile score associated with, for example, zero historic "destructive" wildfire risk conditions, minimal to no barriers to suppression, and/or minimal to no egress risk? Are relatively long circuits with low "catastrophic" wildfire risk elevated to top total risk positions and scoped for high-cost undergrounding? Additional functional definitions or calibrations of risk-based planning thresholds that relate to eliminating catastrophic wildfires are needed beyond total risk reduction and percent of risk-ranked circuits.

GPI recognizes that the OEIS must make imminent determinations via a Decision on the 2025 WMP Update and WDRM V4 therein. For the imminent determination, GPI urges that the OEIS include intervenor risk model assessments and recommendations on next steps that call for the Decision to require additional risk model and model application reporting in the 2026-2028 WMP.^{30,31} We also urge the OEIS to avoid making any imminent determination as to the

³⁰ Comments of the Green Power Institute on the PG&E 2025 Wildfire Mitigation Plan. p. 4.

³¹ Comments of the Public Advocates Office on PG&E's 2025 Wildfire Mitigation Plan Update Sections III-IV.

“precision” or “accuracy” of WDRM V4 and the associated implications for its use in determining appropriate location-specific system hardening mitigations without conducting a thorough assessment of the updated model.

For future determinations on WDRM, GPI urges OEIS to minimally undertake (1) a more thorough (perhaps 3rd party) assessment of WDRM V3 versus V4 and future updates; (2) improve understanding of percentage-based risk buydown and planning thresholds as well as how these relative planning targets and their relevance changes with risk model versions; (3) and improve understanding of the functional and statical meaning of WDRM risk scores and their implications for risk buydown and risk mitigation work plans. These more comprehensive evaluations should inform future determinations in WMP Decisions that better support the maturation of planning risk models, risk model alignment, and mitigation selection.

4. Require ongoing “Cross-Utility Collaboration on Risk Model Development.”

The Draft Decisions on PG&E’s, SCE’s, and SDG&E’s 2025 WMP Updates appear to sunset the ACI that requires “Cross-Utility Collaboration on Risk Model Development.”^{e.g.32} This ACI was previously an ongoing requirement initiated by a 2021 WMP Action Statement. GPI does not support sunsetting this ACI for any utility without an alternative requirement or approach aimed towards ongoing planning risk model review, development, and alignment. GPI recommends modifying the Draft Decisions to conclude that the IOUs: “... sufficiently addressed the required progress thus far; Energy Safety will continue to monitor progress.” OEIS can later determine that the ACI is closed and supplanted by a new requirement or approach for ongoing planning risk model review, development, and alignment. This will maintain the expectation that model development continues through cross-utility collaboration pathways and will reduce the likelihood that risk model development and alignment efforts pause or cease altogether.

5. Require continued reporting on ACI PGE-23B-07 Deployment of New Technologies in the 2026-2028 WMP.

PG&E reports that it remains in the pilot stage of REFCL and FCP testing. There is clearly a need for ongoing reporting on its REFCL pilot, which it reports remains in the evaluation phase

³² OEIS Draft Decision on PG&E’s 2025 WMP Update, August 2024. p. 12.

and has been plagued by equipment failure and delays. Similarly, the FCP pilot is still in progress as well as testing to overcome barriers to deployment and assess mitigation effectiveness. Even the EFD/DFA technologies, which PG&E reports have progressed past the pilot phase, are still undergoing feasibility studies in 2024-2025. All these emerging technologies warrant ongoing reporting on progress in the 2026-2028 WMP. Despite this the Draft Decision deems the response to PGE-23B-07 as “sufficient” and closes the ACI.³³

ACI PG&E was informed by the prior lack of adequate reporting on pilot project progress in the 2023-2025 WMPs. GPI specifically recommended the following for REFCL:

GPI strongly recommends requiring PG&E and SDG&E to proactively build out and report on REFCL feasibility studies and subsequent pilots. An ACI should stipulate a reporting requirement for REFCL feasibility studies for these two IOUs. Reporting should require an update, both quantitative and qualitative, regarding the current state of REFCL feasibility studies that include, but are not limited to cost estimates, eligible installation locations (substations and circuit basis), associated line miles that could be protected by REFCL installations, accompanying overhead system hardening portfolios (e.g. SCE’s CC++/REFCL), and whether the locations are scoped for undergrounding. If PG&E and SDG&E cannot adequately justify their decisions to sideline REFCL they should be required to develop a plan to expand feasibility and pilot studies.³⁴

Despite the direct relevance of our recommendation to the issuance of ACI PG&E-23-07, GPI was not credited for our contribution.³⁵ Regardless, PG&E’s ongoing REFCL pilot and preliminary answers regarding lessons learned, feasibility, cost effectiveness estimates including in combination with other mitigations, and pilot informed percent mitigation effectiveness indicate that this ACI is not, in fact, sufficiently addressed. Namely, the lack of progress on PG&E’s REFCL pilot and feasibility study gap that the ACI intended to address is not resolved. That is, while PG&E did provide an update on its REFCL pilot, responding to the ACI requirements, these responses do not resolve the root cause of the ACI.

Our positions are in agreement with CalAdvocates’ corresponding comments on the Draft Decision.³⁶ GPI recommends revising the Draft Decision to update ACI PG&E-23B-07 to

³³ Ibid. p. 25.

³⁴ GPI Comments on the IOU 2023-2025 WMPs, p. 79.

³⁵ Decision on Pacific Gas and Electric Company’s 2023-2025 Wildfire Mitigation Plan, December 29, 2023. p. A-57-58.

³⁶ Comments of the Public Advocates Office on PG&E’s 2025 Wildfire Mitigation Plan Update. p. 22-23.

extend its reporting requirements to the 2026-2028 WMP for at least REFCL. We also recommend extending the same ACI reporting requirements for FCP, EDF, and DFA technologies in the 2026-2028 WMP given their ongoing in-development phases. This recommendation is consistent with other ACI determinations in the Draft Decision. For example, in response to ACI PG&E-23B-11 the Energy Safety evaluation finds that:

While PG&E stated its plans to test the accuracy and evaluate the risk-spend efficiency of the transformer predictive maintenance project in 2024, PG&E did not commit to reporting on the evaluation outcomes. In its 2026-2028 Base WMP, PG&E must provide all testing results and documentation, reports, and/or whitepapers related to the IONA project. PG&E must also provide all risk-spend efficiency calculations relevant to the IONA project.³⁷

A similarly structured evaluation finding and requirement should be issued for PG&E-23B-07.

6. The Draft Decision should not permit an official update to PG&E's 2025 tag backlog closure target that alters the total allowable 3-year target.

The Draft Decision approves a downward backlog reduction target adjustment for 2025 from 79,000 to 63,747 tags on account of PG&E's 2023 target exceedance, and that it is on pace to complete the 3-year backlog tag closure. GPI does not support this adjustment on account that it addresses a condition of ongoing non-compliance with GO-95 Rule 18 that presents wildfire risk, and that the adjustment will effectively alter the total 3-year target, as outlined by CalAdvocates.^{38,39} Assuming the Decision ultimately allows PG&E to apply its 2023 excess towards achieving its 2025 target, GPI recommends permitting PG&E to roll over excess tag closures within the 3-year plan period only and without a formal change to its 2025 target in order to prevent an adjustment to the total 3-year target. Targets provide plan evaluation and compliance metrics and adjustments to the targets should only be permitted if it is acceptable for the utility to achieve the updated target over the plan timeframe. That is, OEIS should only allow PG&E to alter its 2025 backlog tag closure target if it is also prepared to approve PG&E's WMP and wildfire safety certification if PG&E closes only 109,747 backlogged tags from 2023-2025.

³⁷ OEIS Draft Decision on PG&E's 2025 WMP Update, August 2024. p. 34.

³⁸ Comments of the Green Power Institute on the PG&E 2025 Wildfire Mitigation Plan. p. 15.

³⁹ Comments of the Public Advocates Office on PG&E's 2025 Wildfire Mitigation Plan Update. p. 44.

Conclusion

We urge the OEIS to adopt our recommendations herein.

Dated September 18, 2024.

Respectfully Submitted,

A handwritten signature in blue ink that reads "Gregory Morris". The signature is written in a cursive style and is positioned above a horizontal line.

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