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COMMENTS OF THE GREEN POWER INSTITUTE ON THE GROUP 1 2025 WILDFIRE MITIGATION PLAN UPDATES

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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 Group 1 2025 Wildfire Mitigation Plan Updates*.

Introduction

GPI reviewed the 2025 WMP Updates of the large IOUs with a focus on risk modeling and initiative target updates, as well as ACI responses that relate to risk modeling and vegetation management. Our comments and recommendations address the following topics:

1. Wildfire Risk Planning Model Recommendations.
2. Target and Expenditure Changes: PG&E.
3. Target and Expenditure Changes: SCE.
4. Target and Expenditure Changes: SDG&E.
5. Recommendations for Near-Term and Long-Term WMP Development.

1. Wildfire Risk Planning Model Recommendations.

1.1. Require PG&E, in its 2026-2028 WMP, to report on any changes to its short-term risk mitigation work plan (e.g. impactions) and its long-term system hardening work plan as a result of its WDRM V4 update.

PG&E's WDRM v4 includes multiple updates developed in 2023 and is slated to inform short-term work as soon as 2025, and long-term system hardening by 2026. Two of the major updates to the model are two new sub-models, Suppression and Egress, within its wildfire risk consequence model. Other consequence model updates included extending wildfire match drop simulations from 8 hours to 24 hours.

Through multiple data requests PG&E has provided its WDRM v3 and v4 model outputs, as well as an updated "precent of risk in top 10%", risk-ranked circuit-segment table with both WDRM V3 and V4 ranks.[1,2,3] A net total of 318 circuit segments were added from WDRM V3 (11,164 circuit segments) to V4 (11,482 circuit segments).[4] Circuit segment risk reported for WDRM V3 included "SH Risk" scores, while WDRM V4 outputs included System Hardening (SH), Vegetation Management (VM), and an "All Composite" risk score. GPI reviewed changes in circuit segment risk values and relative risk rank between WDRM V3 and V4 based on SH risk scores. Circuit segment ranks are based on SH Risk per OH mile while risk scores are SH Risk times the overhead primary miles for each circuit segment. The SH risk per mile range decreased from 6 orders of magnitude to 4 orders of magnitude in WDRM V3 versus V4. Total SH risk increased from 113.9 to 1,251.3 units in WDRM V3 and V4, respectively. This territory-wide increase in risk and risk range compression constitutes a substantial change in PG&E's WDRM risk valuation.

The average and circuit-segment-specific rank changes indicate that model changes from WDRM V3 to V4 have a substantial impact on relative risk rank across most circuit segments. The average circuit segment SH risk rank change (rank(V3) - rank(V4), absolute values) from WDRM V3 to V4 was 1,259 positions. The circuit segment that experienced the largest rank decrease was DIABLO CANYON 1101CB (-9,591 positions; rank(V3) = 1,881; rank(V4) = 11,472). The circuit segment that experienced the largest increase in rank was CALPINE 1144276-G (11,157 positions; rank(V3) = 11,159; rank(V4) = 2). Although this circuit segment ranked 36 in consequence risk in WDRM V3, it did not have an SH Ignition Probability score at the time. Circuit segment PUTAH CREEK 1105665952, which included both an SH Ignition Probability score and SH Consequence score in WDRM V3, ranked 11,042 in WDRM V3 and rose to position 146 in WDRM V4 (top 12.4 percent of risk).

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[1] WMP-Discovery2023_DR_MGRA_001-Q001-009Supp02Atch01.
[2] WMP-Discovery2023-2025_DR_CalAdvocates_041-Q005Atch01.
[3] WMP-Discovery2023-2025_DR_CalAdvocates_042-Q009Atch01.
[4] WDRM V3 data response contains two duplicate circuit segments, CALPINE 1144962 and ALLEGHANY 11011101/2, which were not included in our assessment.

PG&E has aimed to complete 80 percent of its work in the top 20 percent highest risk circuit protection zones. In assessing circuit segments in the top ~20 percent of SH risk (SH risk x OH miles) it is apparent that there is substantial top risk, circuit-segment turnover. Based on WDRM V3 the top 20 percent of wildfire risk is contained in 118 circuit segments totaling 1,039.8 primary overhead miles. These same circuit segments re-evaluated based on WDRM V4 drop an average of 234 relative risk ranks and total only 8.9 percent of total SH risk (total overhead miles (V4) = 973.5 mi.), risk that is also not necessarily coincident with the riskiest circuit segments. Based on WDRM V4, the top 20 percent of SH risk is concentrated in 220 circuit segments totaling 1,771.3 miles (total overhead miles). These circuit segments moved up in rank an average of 623.7 positions relative to their WDRM V3 risk rank. The corresponding WDRM V3 total percent SH risk equivalent for these same 220 circuits drops to 17.0 percent (1,501.5 primary overhead mi, V3). Only 33 of the WDRM V3 top 20 percent of risk circuits segments (28 percent of 118 circuit segments) were included in the top 20 percent of risk circuit segments based on WDRM V4. This trend carries through to the top 8,000 miles of circuit segment overhead risk, such that WDRM V4 versus V3 contain 49.9 percent and 73.7 percent of total system risk, respectively.

While PG&E's overall risk planning model design was unchanged, the addition of the new sub-models has had a significant effect on model output stability. Ongoing model output instability is evidenced by substantial turnover in top SH risk circuit segments, increased risk score magnitude, a compressed risk score range, and less concentrated risk. These substantive changes raise questions regarding the suitability of using developing risk models to accurately inform targeted high-cost system hardening work. The dramatic changes from PG&E's WDRM V3 to V4 model outputs over just 1-2 years also indicate that model design may be too unstable to inform portfolio planning over near-, mid-, and long-term planning horizons.

The substantive wildfire risk rank and valuation changes to date are resulting in proverbial risk management whack-a-mole. WDRM V4 could potentially lead to large shifts in PG&E's risk-informed undergrounding and covered conductor plans. Changes in circuit segment prioritization and grid hardening approach may change even if the scope of work follows the Test Year GRC Decision. WDRM V4 also suggests that more miles of system hardening across more circuit segments would be required to achieve the same risk reduction. A need to reduce risk

across more overhead line miles would support a faster and more cost-effective risk reduction strategy, such as covered conductor combined with other OH system mitigations versus widespread deployment of a slower and more costly undergrounding approach. GPI recommends requiring PG&E, in its 2026-2028 WMP, to report on circuit-segments removed and/or added to its short-term risk mitigation work plans (e.g. inspections) and its long-term system hardening work plan, as well as any potential scope of work changes (overhead miles) for each mitigation type due to WDRM V4. PG&E should also be required to evaluate and report on system hardening plan risk reduction and risk-spend efficiency for its GRC approved plan, as well as any alternative system hardening portfolios (mitigation and circuit segment overhead miles) based on both the WDRM V3 and WDRM V4 model outputs. These portfolios should be presented for review in the 2026-2028 Base WMP.

The WDRM V3 to V4 update effectively changes the definition of PG&E's wildfire risk definition to include egress and suppression consequence. These embedded quantitative risk assessments and their design will have practical implications for granular risk valuation, risk tolerance, and risk mitigation type. PG&E reported that the suppression model had the largest impact on WDRM output and circuit-segment rank. It will be critical to evaluate the practical implications of the suppression model and its effect on granular mitigation selection. GPI recommends requiring PG&E to report on the sensitivity of the WDRM output to each of the model updates and to provide comprehensive documentation on sub-model design in the 2026-2028 WMP.

1.2. Require SCE, in its 2026-2028 WMP, to report on model output sensitivity to each update as well as any changes to its short-term risk mitigation work plan (e.g. impactions) and its long-term system hardening work plan on account of its updated IWMS model.

SDG&E updated their wildfire risk planning PoI and consequence model components. The PoI model update included increased granularity and refreshed data inputs such as flood and corrosion zones, outage and failure data, asset replacements and locations, and tree and avian data. Consequence model updates included updated surface fuels, more granular ignition point spacing, and location of assets. SCE reported that both PoI and consequence model updates resulted in the removal and replacement of 29 of 48 total circuits (60 percent) that originally

comprised the top 5 percent of risk. Based on the top 5 percent ignition risk circuit table and updated SCE Figure 7-1, the updates did increase the total HFRA risk, but not as substantially as PG&E's WDRM updates. SCE's model updates appear not to substantially alter model design or the definition of wildfire risk by adding new sub-models, but by-in-large improve granularity, asset geometry, and refresh and/or improve data inputs. This is notable since SCE's data input updates and increased model granularity were sufficient to substantially change which circuits comprise the top 5 percent of risk – indicating that the top risk circuits are sensitive to updates and error in the updated datasets. GPI recommends requiring SCE, in its 2026-2028 WMP, to provide a summary of model output sensitivity to each update. Model sensitivity to completed updates will inform future standardization needs (e.g. asset location accuracy requirements, fuel model input) and best practices for similar models as the WMP moves towards risk planning model standardization.

SCE's risk-informed system hardening approach does not directly employ its circuit mile weighted Ignition Risk Score. Rather it uses a combination of models and model output thresholds to classify locations into tranches that subsequently provide the baseline for mitigation selection. Its top risk tranche, Severe Risk Areas, is based on thresholds for egress risk, a simulated 8-hour unsuppressed fire-consequence risk, high winds, and/or Communities of Elevated Concern. SCE's described risk planning model updates could therefore have downstream impacts on its risk tranche assignment and resulting risk mitigation plan. SCE explains that new system hardening scope is informed by the newest risk model outputs, though "There are some exceptions in which the latest risk model output may supersede the risk model output used for existing scope."[5] However, SCE does not provide any detail on the extent to which the model updates are resulting in downstream changes to planned or future system hardening work scopes. GPI recommends requiring that SCE, it its 2026-2028 WMP, provide an explanation of how its risk planning model updates have changed the locations (circuit/segment miles and circuits/segments) included in each of its risk planning tranches, and whether these changes will alter the type of mitigations SCE chooses to implement in locations that have changed risk tranche. SCE's explanation should also clarify whether SMEs will re-assess

[5] SCE 2025 WMP Update, p. 22.

location-specific, risk-model outputs and tranche designations manually to adjust planned and future mitigations.

1.3. OEIS should work directly with SCE to clarify language in ACI-SCE-23-02 and to find a suitable pathway forward to testing/piloting model updates that can inform future system-wide model updates.

ACI-SCE-23-02 Calculating Risk Scores Using Maximum Consequence Values addresses multiple objectives, including moving to probabilistic WMP risk planning models that improve IOU model standardization. It can also create a pathway to assessing multiple design-basis scenarios, and developing an improved utility wildfire planning standard. In its 2025 WMP update SCE states it has no plan to transition from maximum consequence values to probability distributions through 2028. They provide two primary arguments: (1) average values and normal probability distributions are not appropriate for wildfire risk assessment; and (2) maximum consequence values capture tail risk events that appropriately direct wildfire risk mitigation activities.

GPI supports a departure from averaging and assumptions of normal probability distributions for the purpose of wildfire consequence modeling. We agree with SCE and other stakeholders that averaging is generally not an appropriate approach for wildfire risk consequence modeling because it is really only appropriate for normal distributions. The use of averaging in granular risk-planning models can result in a smoothing effect on local risk. In the case of PG&E's WDRM, their application of an averaged destructive wildfire consequence makes the implicit assumption that all future destructive wildfires will result in the same singular consequence outcome regardless of location-specific characteristics (e.g. population density, buildings, etc.). This use of an average essentially caps granular wildfire consequence outcomes, flattening the risk valuation. As E3 clearly identifies "the consequence cost estimates use of mean historical fire data" as an area of remaining concern in PG&E's WDRM V3[6]:

> The use of the mean for prioritization may poorly characterize risks in areas with large ranges of consequence. The use of the mean cost to calculate total risk could overlook areas with potentially very high risk or prioritize them lower. Using the mean to calculate risk-spend-efficiency could

[6] E3 review of PG&E's Wildfire Risk Model Version 3, May 2022, p. 7.

> also improperly overlook areas with high mitigation efficiency and promote smaller scale mitigations in areas that actually require more fundamental changes. The reverse is true if the mean is obviating a very low range. We recognize the clarity a point estimate brings to the prioritization process but recommend exploring other more robust measures than the average expected value to replace the single point estimate which might improve the quality of information communicated to decision-makers and SMEs. These new metrics, which could be supplementary, could capture more of the long-tail effects that may impact decision- making.[7]

To SCE's credit, its granular maximum consequence model is not plagued by this same averaging issue. However, GPI does not interpret the ACI SCE-23-02 option for transitioning to probability distributions as requiring a transition to normal distributions. GPI recommends the OEIS work directly with SCE to clarify the language and expectations in ACI SCE-23-02. Developing the capability to assess risk based on probability distributions need not be constrained to normal distributions.

SCE provides the Afternoon Fire in Lahaina Hawaii as a justification for retaining its maximum consequence risk-model approach that subsequently informs wildfire risk mitigations. As SCE explains, the Afternoon Fire occurred under 1 in 2,000-year conditions and included wind speeds six standard deviations above the mean, which itself has a 1-in-85-year return interval. While a maximum consequence model could capture this event and apply the consequence simulation towards informing a risk mitigation selection, there are several potential issues with this approach.

(1) A risk model will obviously only capture the event if it is included in the dataset at the time the model is run, and mitigations would have to be deployed before the next extreme event. While it may seem obvious, in the Lahaina example a utility maximum consequence wildfire-risk-planning model analysis executed prior to August 2023 (e.g. using a 20-year dataset terminating in 2022) could not have captured the conditions of the Afternoon fire, and therefore would not include them as a consideration in mitigation selection or prioritization. These specific rare conditions and the associated potential consequences can of course only be captured via a deterministic maximum consequence model output generated after the event occurs. At present none of the IOU models can capture the wildfire consequence potential of future rare

[7] E3 review of PG&E's Wildfire Risk Model Version 3, May 2022, pp. 22-23.

events (e.g. 1-in-2,000 year) *in the many locations where they have yet to be recorded* in modern input datasets that span on the order of 13-30 years. It is therefore unreasonable to suggest that a maximum consequence model is necessarily capable of capturing and planning for similarly rare events across many, if not most, locations within a utility territory. If very rare conditions have already occurred and are include in a maximum consequence risk model, resulting mitigation work in the specific location based on those conditions would of course come too late to prevent the prior event, and the likelihood for a similar repeat rare event (e.g. 1 in 2,000-year conditions) occurring again within the mitigation lifetime (20-50 years) may be relatively low.

(2) Maximum consequence models that inform mitigations based on the highest risk conditions recorded in the dataset result in a patchwork of probabilistic planning standards. Locations that have experienced a very low probability, high consequence event (e.g. 1 in 2,000-year conditions) may receive more robust mitigations based on the single event even if it is unlikely that these same conditions will occur again over the lifetime of the mitigation. Those residing in a location that, due to sheer probability and the stochastic nature of weather, have yet to experience a 1 in 2,000-year event in the last 20-30 years (input data set) will receive mitigations based on higher frequency lower consequence events (e.g. 1 in 10-, or 20-year conditions) and therefore might not receive equivalent mitigations. This effectively establishes incongruent and perhaps inequitable location-specific planning standards across a utility territory. GPI recommends that the OEIS review SCE's risk model output to better understand whether their risk tranche assignments coincide with locations that have experienced more-or-less rare weather events within the input data.

(3) It may not be necessary or cost effective to build electrical grid infrastructure that can operate under 1-in-2,000-year risk conditions. It is entirely possible that locations that have experienced low probability, high consequence events (e.g. 1 in 2,000 years), may have also recorded conditions with a higher recurrence interval that are sufficiently severe to warrant equivalent system hardening. That is, is it perhaps not necessary for a location to experience 1 in 2,000-year wildfire risk conditions in order to be scoped for the maximum system hardening approach. The same location-specific mitigation might be recommended based on a 1-in-20-year or 1-in-50-year event conditions? GPI recommends that OEIS review SCE's risk model output to understand whether granular wildfire risk conditions with rarer versus more common recurrence

intervals and resulting consequence model outputs result in the same location-specific mitigation selection in SCE's territory. This is a rough steppingstone to a probabilistic method which could inform changes in risk-planning tranche footprint and location-specific mitigation recommendations for different probabilistic planning standards.

Even if location-specific higher frequency / lower severity events would not result in the same mitigation as inputs for a very rare event (e.g. 1 in 2,000-year conditions), deploying a range of engineering solutions combined with the less frequent use of backup mitigations such as PSPS may still provide effective solutions during rare extreme wildfire risk events. This underpins cost effective risk buy down – it may not be necessary to design a distribution grid that can operate under 1 in 2,000-year conditions. Instead, designing an electric grid that can operate during, for example, 1-in-10-year wildfire risk conditions, and that infrequently relies on relatively short-lived backup mitigations (e.g. 1-day-in-10 years), such as EPSS and PSPS, during more rare wildfire risk conditions (e.g. 1-in-2,000-year events) would balance cost with customer impacts while ensuring safety during extreme events. This type of mitigation approach and probabilistic risk tolerances cannot be evaluated using a deterministic maximum consequence approach. California's Integrated Resources Planning provides a good example of balancing ratepayer costs with system reliability and customer impacts by establishing a 1-day-in-10-year Loss of Load Expectation (e.g. widespread blackouts) planning standard or risk tolerance that establishes the acceptable amount of customer impact risk, and informs the appropriate amount of capacity procurement.

(4) Probabilistic risk models and model outputs do not need to eliminate or mask maximum consequence values. SCE states:

> Most fundamentally, SCE's use of maximum consequence values enables its modeling efforts to identify the types of extreme events that have harmed Californians in recent years—events that could be missed or otherwise obscured if SCE was required to look solely at averages or probability-adjusted values.[8]

[8] SCE 2025 WMP Update p. 36.

GPI sees no reason why a probabilistic risk modeling method would necessarily prevent SCE SMEs from also reviewing location specific maximum consequence values. OEIS should work with SCE to better understand why SCE believes this is the case.

It may be prudent to require that SCE pilot a probabilistic wildfire consequence model on a subset of representative distribution circuits prior to formally adopting a new method and updating its territory-wide risk model output. Benefits include the opportunity to report on method design in the WMP prior to formal adoption, and to assess method barriers and limitations. GPI recommends the OEIS work with SCE to assess whether a pilot phase would facilitate method development and evaluation.

Moody's RMS website summarizes a wildfire risk modeling collaboration with SCE:

> Using SCE's data, Moody's RMS was able to deliver loss analytics that allowed insight into the company's loss analytics that allowed insight into the company's loss distributions, over a 50,000-year simulation period, from wildfire events potentially ignited by its network. For each year, the Moody's RMS model simulated multiple wildfire events, the total burn area, and loss total associated with the event (including the number of structures damaged or destroyed). Then it determined which of those events could be attributed to SCE's network...
>
> … Using Moody's RMS analytics, SCE could measure the effectiveness of its risk buydown program while assessing the potential for future wildfire losses, with a view to incorporating the likely impact of climate change on weather conditions.
>
> In modeling the risk profile of all SCE's overhead lines in high fire risk areas and comparing that to mitigations, Moody's RMS was able to deliver a number of use cases for the modeled data, including:
>
> - Measurable outcome of the effectiveness of current mitigation efforts in reducing incidents of wildfire ignition
> - Statistical basis for the net benefit of mitigation investment showing that the cost of mitigations reduces wildfire losses. [9]

Conducting a keyword search for Moody and RMS, GPI was unable to find a reference to this work in SCE's WMP. GPI recommends that OEIS work with SCE to better understand the

[9] Moody's RMS, Wildfire Risk: Quantifying the Impact of Mitigation Measures in the Power Sector, https://www.rms.com/customer-success-story/southern-california-edison Published 2003, Accessed May 6, 2024.

methods used in its collaboration with Moody's RMS and the risk modeling outcomes, as well as where SCE can leverage this work to better inform migration to a probabilistic methodology. GPI also recommends requiring SCE to report on its collaboration with Moody's RMS in its 2026-2028 WMP in order to develop a transparent record of the existing wildfire risk modeling efforts that will be critical for informing next steps in Utility wildfire risk modeling decision making at the OEIS.

1.4. Require SDG&E to provide a roadmap for its plan to align risk modeling with the RAMP and to incorporate probability distributions.

SDG&E largely reports updates to its WiNGS-Planning PSPS model, resulting in minimal turnover in the top 5 percent of segments ranked by wildfire risk. SDG&E has multiple other planning model updates in progress, including but not limited to egress model development, a tree strike model update, social vulnerability update, an assessment of how windspeed sensitivity impacts mitigation selection, and assessing probability distributions for consequence modeling per ACI SDGE-23-02. SDG&E reports that it is also exploring new methods in collaboration with Moody RMS regarding a stochastic approach to fire consequence modeling. GPI recommends ensuring that SDG&E provide ongoing updates on progress as well as traceable timelines and benchmarks.

Moody's RMS North American Wildfire HD model Suite appears to employ a probabilistic method that takes into account weather stochasticity. Related materials were presented by an external presenter at the July 11, 2023, RMWG on "Approaches to Modeling Long Duration, High Intensity Wildfires." GPI recommends requiring SDG&E to provide annual updates on its collaboration with Moody's RMS. SDG&E should also be required to provide a timeline for this work, planned milestones/benchmarks, interim updates, and a white paper or final report on the risk modeling methodology and output as an attachment to its WMP. GPI further recommends inviting Moody's RMS representatives to present their wildfire risk modeling methodology at a RMWG meeting.

Planned model testing includes a 24-hour Technosylva wildfire simulation version and the assessment of various methods that would incorporate probability distributions into its consequence model. In response to ACI SDG&E-23-02, SDG&E reports:

> …in an effort to align with the 2025 Risk Assessment Mitigation Phase (RAMP) cost-benefit framework, the validity and application of probability distributions in the WiNGS-Planning model will be examined and adjustments will be made as deemed necessary to enhance the model's accuracy and effectiveness in supporting risk assessment and mitigation efforts.[10]

A commitment to making adjustments "as deemed necessary" is inadequate to provide a transparent summary of the development and testing process such as work planned, progress reports, output and outcome reports, methods assessed, and method benefits and limitations. In the absence of comprehensive external reporting, engagement, and review, SDG&E will have free reign to selectively deploy risk modeling approaches that may or may not align with OEIS requirements, expectations, or long-term objectives.

While SDG&E provides a high-level timeline for its plan to incorporate cost/benefit, it is too vague and does not provide an adequate roadmap with milestones/benchmarks for each wildfire risk modeling updates, including its plan to evaluate probabilistic methods. GPI recommends requiring SDG&E to provide a more detailed roadmap of its wildfire risk planning model updates, including those that address ACI SDG&E-23-02. The roadmap should include an up-to-date summary of method development, testing, any third-party contractors, collaborations, or partnership activities, and milestones/benchmarks that include interim reporting as well as a final report on method testing, inclusive of any models that SDG&E may not "deem necessary" to incorporate into its risk modeling methodology.

2. Target and Expenditure Changes: PG&E.

2.1. PG&E ARC Surge Arrestor Removals (GH-08): Require PG&E to provide a schedule for completing the previously misclassified surge arrestor removal and replacements by 2025 and, in their 2026-2028 WMP, report on the 145 additional surge arrestors that need to be verified for completion.

PG&E's ARC identifies 612 surge arrestor removals and replacements that were misclassified as complete. It also refers to, "145 additional surge arresters that need to be verified for completion in the field but are currently inaccessible due to external factors."[11] The ARC only states that

[10] SDG&E 2025 WMP Update, p. 42-43.
[11] PG&E's 2023 Annual Report on Compliance (2023 Annual Report) for the 2023-2025 Wildfire Mitigation Plan (WMP) (Docket #: 2023-EC_ARC), April 2, 2024. pp. 28-29.

they are addressing the issue expeditiously and will provide updates on progress. The ACR fails to provide a workplan with targets and a timeline for completion, or to specify when it will provide updates on progress.

GPI recommends requiring PG&E to complete the 612 incomplete non-exempt surge arrestor removals/replacements by 2025. Previous work targets from 2020-2023 totaled between 4,590 to 15,000 units per year. It should therefore be feasible to complete just 612 incomplete non-exempt surge arrestor removals/replacements by 2025. If it cannot complete the work by 2025, PG&E should be required to provide an explanation.

GPI further recommends requiring PG&E, in the 2026-2028 WMP, to report on progress towards removing/replacing the additional 145 non-exempt surge arrestors that are hindered by accessibility issues. The report should include a breakdown of inaccessibility cause and a plan to overcome the access issues.

2.2. PG&E PS-06 portable batteries: PG&E should be required to provide a justification as to why its original 2023-2025 target is still optimal.

In their 2025 WMP Update, PG&E proposes to reduce its original 2025 Portable Battery target from 4,000 units to 3,300 units (-700 units) based on outperforming its 2023 target by 700 units. This proposal includes maintaining the original 2023-2025 target total of 12,000 units.

The +700 unit increase in planned-versus -actual portable/permanent battery disbursement to eligible customers in 2023 could indicate high demand and customer need in addition to the 2023 program eligibility expansion. With only Q1 2024 complete, PG&E reports a planned and "actual" 2024 target of 4,000 units. It remains to be seen what actual customer demand and unit disbursement will be relative to the 2024 4,000-unit planning target. PG&E's 2025 WMP Update may indicate a plan to cap the number of units disbursed in 2024 at 4,000, regardless of customer demand.[12] Alternatively, if PG&E's actual unit disbursement in 2024 exceeds its 4,000-unit target, it may request a further 2025 target reduction less its 2024 "excess." The decision to essentially ramp down the battery program units from 2023-2025 and retain a static program

[12] PG&E's 2025 WMP Update, April 2, 2024. p. 25.

total cap is not supported by adequate evidence of customer need or demand. To ensure this program is right-sized and provides equitable customer support, PG&E should be required to provide an updated assessment of customer eligibility and demand that informs any necessary updates to the *total* 2023-2025-unit target.

PG&E's 2024 ARC explains that program eligibility was increased in 2023 to included additional customers based on 2021 and 2022 PSPS and EPSS event eligibility thresholds.[13] In 2024, it is also reasonable for PG&E to reassess its PSPS and EPSS event thresholds for new or replacement battery program eligibility based on 2023 PSPS and EPSS outage impacts to its customers. PSPS and EPSS Events in 2023 may warrant an increase in the number of customers eligible for this program and/or may have resulted in an increase in the number of already eligible customers that want to participate in the program. Despite this, PG&E does not indicate any plans to reassess customer eligibility based on 2023 events.

PG&E's new and replacement battery program remains a salient solution for customers that continue to experience PSPS and/or EPSS outage events. This is likely to remain the case for years to come as PG&E continues to advance its relatively slow and extended undergrounding program. This initiative can also provide ongoing support for customers serviced by overhead hardened systems that will remain susceptible to PSPS and EPSS impacts under unfavorable wildfire weather conditions. It is therefore prudent for PG&E to conduct an updated assessment of eligible customers and customer demand, especially if the program can support a higher distribution rate per the 2023 target to actual results.

PG&E should not be permitted to cap its PS-06 program at the 12,000-unit target established in its 2023-2025 Base WMP without reassessing the 3-year total target based on updated customer eligibility and demand. This includes considering the apparently high demand for new or replacement batteries according to 2023 actuals. GPI recommends requiring PG&E to provide additional justification that the original target of 12,000 units is right-sized. The assessment should minimally include: (1) updated customer eligibility based on 2023 PSPS and EPSS events; (2) total eligible customers in 2022, 2023, and 2024; and (3) known customer demand for

[13] PG&E's 2023 Annual Report on Compliance (2023 Annual Report) for the 2023-2025 Wildfire Mitigation Plan (WMP) (Docket #: 2023-EC_ARC). April 2, 2024. pp. 29-30.

the PS-06 program including the number of customer inquiries, awarded and pending requests for 2024, and any wait list data from 2022-present.

Based on the resulting assessment, OEIS should consider whether to accept PG&E's proposal to lower its 2025 unit target and maintain its original 2023-2025 total unit target. This consideration should assess whether capping the program at 12,000 units is justified, or if it will fail to provide much needed backup battery support to customers exposed to PSPS and EPSS outages. It may be prudent for PG&E to right-size its PS-06 total 2023-2025 unit target based on the total customer eligibility change from 2023 to 2024 and/or based on eligible customer demand and the number of customers that have yet to benefit from the battery program. These data and a more holistic analysis are also necessary to inform what constitutes a right-sized target in the forthcoming 2026-2028 WMP.

2.3. PG&E-23-12: Require PG&E to complete annual tag closures as scheduled in the RN response revised plan and develop an incentivization and/or penalty structure to encourage cost-effective ahead-of-schedule work plans.

PG&E outperformed its 2023 backlogged tag closure target of 29,000 units by +15,453 units. This 53 percent increase in backlog closures above the target could indicate several factors, one being that the feasible closure rate may exceed utility-set targets. The issue lies in their updated plan to apply excess closed backlogged tags towards the 2023-2025 total of 154,200 backlog tag closures instead of striving to complete each "revised plan" annual tag closure target and *exceed* the 3-year total. Whether rolling over excess tag closures to achieve 3-year targets or limiting work to the proposed annual target, the completion timeline would remain the same.

PG&E's open tag backlog is different from other wildfire mitigation plan targets in that it remedies existing non-compliance with GO-95 Rule 18. Its distribution system should be brought back into regulatory compliance as quickly as possible. The objectives should therefore be twofold: (1) minimally maintain the planned year over year growth in tag closure capacity based on the revised plan; and (2) reduce the amount of time required to achieve regulatory compliance. GPI recommends requiring PG&E to achieve each annual target as planned and disallow future year reductions based on prior year excesses. PG&E should be held to

completing annual targets as proposed in the Revision Notice revised plan and should provide updated completion timelines that apply any excess tag closures towards shortening the timeline.

At present, the only existing penalty structures are WMP Denial, which is based on an as yet undetermined threshold, and ACI issuance, which serves more as a development and/or expectation guide rather than a penalty. There are no transparent penalty mechanisms that encourage timely utility target or deter non-compliance with regulatory requirements. Nor are there incentivization structures that encourage approved, cost-effective above-target achievements on annual and 3-year timeframes. It would be prudent to explore the use of penalty or incentivization structures that can reinforce the objective of timely and cost-effective risk buy down – in this case, reducing the amount of time required to achieve GO-95 Rule 18 regulatory compliance (Objective 2). In this example, a penalty for non-compliance both with utility set targets and GO-95 Rule 18 (e.g. WMP score deduction, transparent WMP denial thresholds) could incentivize utilities to achieve GO-95 Rule 18 compliance ahead of schedule and maintain compliance. GPI recommends exploring incentivization and/or penalty structures as part of the WMP process to guide utility performance and increase transparency.

3. Target and Expenditure Changes: SCE.

3.1. Covered Conductor (SH-1): Require SCE to achieve higher risk reduction with its downsized Covered Conductor scope of work and take into consideration a forthcoming GRC Decision.

As noted in SCE's 2025 WMP Update, it is possible if not likely that SCE will have to alter its CC and UG targets in the WMP based on debate over Covered Conductor (CC) and Undergrounding (UG) scope of work in the GRC proceeding, as well as the precedence set in PG&E's GRC that reduced their approved CC and UG scope of work. Per the CPUC website for SCE's Test Year 2025 GRC, a proposed decision is anticipated in Q1 2025.[14] A Q1 2025 Proposed Decision may result in a Q1 or Q2 Decision, subsequent to which point major adjustments to SCE's 2025 work plan may be difficult to achieve. This creates a gap of ~ 1 year between 2025 WMP Update approved target changes and pass-through regulatory requirements

[14] Southern California Edison GRC Proceeding (Phase 1) https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-rates/general-rate-case/southern-california-edison-grc-proceedings Accessed 4/30/2024.

from GRC decisions. It is unknown if approving SCE's 2025 WMP Updated CC and UG targets could influence the outcome of a CPUC decision via the GRC proceeding. GPI urges the OEIS to consider alignment between the WMP and GRC approval processes, and to assess ways in which WMP target approval can flexibly accommodate and align with the forthcoming GRC decision as needed.

Independent of proposals in the GRC, GPI is concerned that SCE's proposed 2025 covered conductor target reduction has an outsized impact on the amount of risk reduction achieved. SCE proposes to reduce their original CC circuit mileage target from 700 miles to 500 miles (-29 percent), reducing the percent risk impact from 4 percent to just 1.5 percent, indicating 63 percent less risk mitigated by the updated 2025 workplan. SCE also reports only a 22 percent reduction in cost, which exacerbates a lower average RSE. Assuming equal or averaged risk buydown per mile of CC installed for illustrative purposes, the reduced scope of work (500 miles) should achieve a cumulative risk reduction impact of approximately 2.8 percent.

There are at least three possible explanations for this relatively large loss in risk reduction and RSE: (1) the risk impact is based on a new risk planning model output which lowered the cumulative risk of miles scoped for CC; (2) the 200 miles SCE is proposing to remove from the covered conductor scope of work have above average (planned scope) wildfire risk relative to the average risk per circuit mile in the original scope of work; or (3) a combination of 1 and 2.

GPI recommends requiring SCE to provide additional justification for their reduced Covered Conductor targets. The justification should include comparisons to active WMP-relevant scope of work proposals filed in the 2025 Test Year GRC proceeding. The justification should also include an explanation of why the reduced scope of covered conductor work results in an incongruent reduction in risk impact and cost that indicates a lower risk spend efficiency for work planned in 2025. SCE should also be required to provide a percent risk impact for both its compliance and strive targets (original and updated). GPI further recommends that OEIS require SCE to achieve a higher average risk impact per line mile, proportionally equivalent to, or greater than the original proposed covered conductor scope of work risk impact of 4 percent for 700 circuit miles. This requirement can mitigate deprioritizing or delaying work on the riskiest circuit miles. If this is not feasible, SCE should provide an explanation as to why not.

Due to SCE's apparent selective application of undergrounding strive targets to determine total 2025 planned costs, all of SCE's cost reporting must be questioned as to whether it reflects strive targets versus compliance targets. GPI recommends requiring SCE to clarify its covered conductor costs by providing separate costs for both its original and updated compliance and strive targets.

3.2. Undergrounding (SH-2): Require SCE to revise its 2025 WMP Update to reflect its purported UG strive target and report adjusted costs specific to the compliance and strive targets.

GPI does not contest SCE's request to lower its 2025 undergrounding target from 48 to 30 miles. The lack of percent risk impact reporting for its undergrounding target as well as recent updates to the IWMS risk model suggest that this work has an unknown and/or changing impact on risk reduction. It will also afford additional time to review risk model updates and risk model alignment efforts prior to their application for larger, long-term system hardening work scopes. GPI recommends requiring SCE to provide a percent risk impact for both the original and updated compliance and strive targets based on SCE's prior and updated IWMS risk model. If SCE is unable to provide this information it should explain why not, and then provide an alternative estimation of risk reduction.

Reducing the Undergrounding scope of work for 2025 may also reduce the potential for scoping high-cost system hardening work that could be misaligned with a GRC Decision. GPI recommends requiring SCE, in its 2026-2028 WMP, to report on its 2025 Test Year GRC status, and an estimated GRC Decision date if one is not yet issued.

GPI is concerned that SCE proposes a 38 percent decrease in its undergrounding compliance scope of work with no concomitant expenditure reduction. SCE's response to a CalAdvocates' Data Request is that the undergrounding scope of work cost is based on the workplan strive target, and therefore was not changed.[15] A strive target of 60 miles of undergrounding is listed in the Redlined 2025 WMP Updates and remains unchanged per the 2025 WMP Update.[16]

[15] DATA REQUEST SET CalAdvocates-SCE-2025WMP-04, Question 2.
[16] Redlines to SCE's 2023-2025 Wildfire Mitigation Plan, p. 24.

It is reasonable to assume that SCE is lowering its undergrounding compliance target to 30 miles because it does not expect to be able to complete 48 miles of undergrounding in 2025, or to comply with a future GRC decision. It is therefore especially concerning that SCE is electing to report the cost for 60 miles of undergrounding in its total 2025 planned cost, reflecting a scope of work it does not anticipate being able to complete. It is also grossly misleading to include stive target costs in the total planned 2025 Expenditures without indicating the target source (compliance or strive). This misleading practice can result in reviewers and the public misconstruing purported plan cost as well as cost efficiencies when actual costs and target achievements are reported. GPI recommends requiring SCE to revise its 2025 WMP Update with planned undergrounding expenditures that include separate cost estimates for original and updated, compliance and strive targets, as well as separate updated total 2025 Planned costs reflecting aggregate compliance versus strive target costs.

3.3. REFCL (SH-17): Approve SCE's requested REFCL target reduction only if they can establish a record of good faith effort, and require that SCE provide revised cost and risk impact data.

REFCL combined with other mitigations is one of SCE's foundational system hardening approaches for its highest wildfire risk planning tranches. GPI has previously supported the design features of SCE's combined mitigation approach as a way to enhance cost-effective risk reduction beyond siloed, single mitigations. GPI is concerned with SCE's proposal to reduce its 2025 REFCL target by 50 percent, from 4 substations to 2 substations, but appreciates the proposal to retain its target of 4 substations as a strive target for 2025. SCE cites supply chain and engineering challenges as the cause. GPI recommends OEIS assess the completed and planned efforts conducted by SCE to overcome these barriers, and to establish a record of good faith effort to achieve the original target prior to approving the target reduction. SCE should also be required to revise its 2025 WMP Update to include separate costs and percent risk-impact data for its REFCL compliance and strive targets, as well as any cost estimate updates due to design changes.

GPI further recommends requiring SCE, in its 2026-2028 WMP, to provide lessons learned based on the identified barriers to REFCL deployment, as well as planned solutions to overcome those barriers in the future. SCE should also provide updated timelines, lifetime risk reduction impact

estimates, cost, and long-term scope feasibility updates based on lessons learned from the 2023-2025 REFCL installation work.

3.4. Transmission HFRI Inspections and Remediations (IN-1.2): Require SCE to report on the specific barriers to completing Transmission system HFRI inspections and provide a summary of steps it is taking to overcome those barriers.

Permitting and access issues resulting in the proposed 13 percent reduction in Transmission HFRI Inspection and Remediation scope are significantly limiting SCE's ability to conduct inspections and resulting maintenance on its transmissions system that are necessary to manage associated wildfire risk. While the utilities must report on permitting processes in their Base WMP, these summaries are generic and do not specifically identify barriers to completing work according to initiative specific targets and timelines. SCE's 2025 WMP Update also does not clarify the specific drivers of the cited permitting and access barriers. It is not clear whether or when SCE will gain access to the referenced transmission assets, raising questions as to how long these assets will go without inspection and potentially remain in disrepair. GPI recommends requiring SCE, in its 2026-2028 WMP, to report on the number of HFRI Transmission line miles it has been unable to gain access to, the amount of time passed since the last inspection, the specific barriers it is facing, steps it is taking to overcome those barriers to ensure Transmission HFRI inspections and maintenance work is possible, and a timeline to remedy any delayed transmission inspections.

GPI also recommends requiring SCE to provide planned costs for both its compliance and strive targets separately, and to include these costs in corresponding separate plan totals.

3.5. Expanded Clearances for Generation Legacy Facilities (VM-03): Require that SCE achieve expanded clearances for generation legacy facilities at a minimum of 160 sites by the end of 2025.

SCE requests to reduce its 2025 target for expanded clearances for generation legacy facility (VM-03) according to Table 1. They justify this based on achieving above target site work in 2023, totaling 63 sites treated. According to their proposal and assuming a static 2024 target, the updated minimum 3-year target plan would decrease to 148 sites (-7.5%, Table 1). Assuming SCE completes the minimum annual target sites in 2024 and 2025, the total sites worked over the

3-year plan (161 sites) will be essentially equivalent to the original minimum 3-year cumulative target (160 sites).

GPI recommends clarifying that SCE is required to complete expanded clearances at legacy generation facilities for a minimum of 160 sites over the 3-year 2023-2025 WMP cycle to comply with their Approved 2023-2025 Base Plan. OEIS should further establish that SCE is not permitted to reduce the cumulative 3-year target below 160, to 148. For this initiative, GPI recommends requiring that SCE establish a minimum cumulative 3-year target of 160 sites, restore the 2025 target to 60 sites, and allow SCE to *rollover* excess work from 2023, 2024, and 2025 annual targets to count towards a 3-year cumulative compliance target. This eliminates a formal target change, and ensures that SCE achieves the original objectives over the 3-year WMP cycle while affording some flexibility to address year-over-year uncertainty.

Table 1. SCE targets and achievements for expanded clearances for generation legacy facilities.

Source	2023	2024	2025	Total	% Change (rel. to 2023-2025 WMP target)
Target (2023-2025 WMP[17])	50	50	60	160	0%
Strive (2023-2025 WMP)	60	60	70	190	18.8%
Target (2025 Update)	50	50	48	148	-7.5%
Strive (2025 Update)	60	60	56	176	10%
Actual	63	NA	NA	NA	
Recommended Minimum Requirement	63	50	48	161	0.6%

GPI notes that decreasing future targets due to above expected performance in prior years negates the purpose of SCE's "strive" targets. Strive targets suggest efforts above and beyond the minimum required work, and can imply improvements in efficiency and/or workforce capacity. Completing the minimum work ahead of schedule can result in earlier risk reduction, and therefore higher cumulative risk reduction. However, the outcome is likely a smaller total

[17] Redlines to SCE's 2023-2025 Wildfire Mitigation Plan.

risk reduction impact compared to achieving the cumulative 3-year strive targets, which would reduce risk at more sites and earlier (i.e. up to 190 sites in 3 years, Table 1). While SCE made some gains with above-target achievements in 2023, GPI suspects the total number of sites worked will likely reflect the cumulative 3-year minimum target, or minimum compliance, and not the strive target. These outcomes are relevant to establishing standards for annual versus cumulative targets for WMP initiatives and considering how incentive mechanisms might facilitate cost effective, above-target ("strive") work.

SCE's 2023-2025 WMP strive targets for this initiative totaled 190 sites, suggesting there are more legacy generation sites that require timely expanded clearance work than those treated in the current 3-year cycle. GPI recommends requiring SCE, in its 2026-2028 WMP, to report on the frequency of treatment for all legacy generation facilities in the HFTD (e.g. every n years) and its compliance with or exceedance of regulatory requirements.

3.6. Require SCE to consistently report separate costs and percent risk impact for all initiatives that have compliance and strive targets as well as aggregate plan year costs for compliance (low end) versus strive targets (high end).

SCE reports qualifying expenditure changes for its Covered Conductor and Expanded Clearances for Generation Legacy Facilities initiatives but does not report similar expenditure changes for its reduced Undergrounding, REFCL, and Transmission HFRI Inspections and Remediations compliance targets. A CalAdvocates Data Request revealed that SCE's cost estimate for its undergrounding initiative is based on its strive target despite lowering its compliance target.[18] This practice of reporting only one estimated cost for two separate planning targets is unacceptable and is misleading to reviewers and the public. Moreover, GPI is concerned that SCE could be selectively and inconsistently applying strive versus compliance-target-based costs for other initiatives in its WMP cost reporting and total planned expenditures. Reviewers and the public should be able to directly compare targets, risk reduction estimates, and planned cost estimates (initiative specific and plan year total) for both compliance and strive targets.

[18] DATA REQUEST SET CalAdvocates-SCE-2025WMP-04, Question 2.

GPI recommends requiring SCE to provide a comprehensive revision to its 2025 planned expenditures that includes separate costs estimates for every compliance versus strive target, as well as separate total 2025 Planned costs that aggregate costs associated with compliance versus strive targets. That is, SCE's revision should report a range of costs with compliance target costs reflecting the low end and strive costs bookending the high end.

SCE also selectively provides percent risk impact for compliance and strive target percent risk impact reporting in SCE Table 2-11.[19] An SCE footnote identifies the "percent risk impact: original" data as being based on the compliance target when both a compliance and strive target are provided. However, for the REFCL "percent risk impact: updated" entry the footnote clarifies that the value is based on the original compliance target, which is now the strive target and does not reflect an updated risk reduction estimate for the reduced scope of work. This is misleading, especially since SCE is questioning its own ability to complete the original REFCL target and is proposing to lower the compliance target. GPI recommends requiring SCE to provide separate percent risk impact values for both its compliance and strive targets for both the original and updated work plan. These data are necessary to achieve consistency and transparency regarding the average risk reduction associated with the original scope of work, scope changes, and parallel reported costs.

4. Target and Expenditure Changes: SDG&E.

4.1. Expulsion Fuses (WMP .459): SDG&E must provide a target and completion date for the ~300 unaccounted for expulsion fuse replacements.

SDG&E proposes to extend its non-exempt expulsion fuse replacement program from its original completion year of 2023 to 2025. SDG&E reports that ~ 1,000 fuses in the HFTD have not yet been replaced, and that the program extension is largely due to supply chain issues. Its justification regarding the 2025 target increase from 0 to 700 units is to: "ensure all expulsion fuses in the HFTD are replaced with Cal FIRE-approved fuses."[20] However, the proposed target of 700 units in 2025 increase does not account for the approximately 1,000 remaining fuses. GPI recommends requiring SDG&E to revise their 2025 WMP Update to report on whether the ~ 300

[19] SCE 2025 WMP Update, p. 26.
[20] SDG&E 2025 WMP Update, pp. 23-24.

remaining non-exempt fuses are scheduled for completion in 2024. If not, SDG&E should provide a target and completion date for the remaining expulsion fuse replacements.

4.2. Hotline Clamps (WMP .464): SDG&E should report on its progress identifying the locations of HLCs in its 2026-2028 WMP.

SDG&E proposes to extend its hotline clamp replacement program from its original completion year 2024 through to 2028 and increasing the 2025 target from 0 to 950 units on account of identifying an additional 4,000 HLCs for replacement. The IIP technology used to identify and locate the additional hotline clamps was described as a combination of aerial surveys and AI data processing.[21] The AI analysis is reported to have improved over the process of analyzing the survey data. SDG&E plans to re-analyze its system with updated aerial imaging and the improved AI analysis. SDG&E also expects to find additional HLCs for replacement using this method.

GPI recommends requiring SDG&E, in its 2026-2028 WMP, to report on its progress implementing the addition drone/aerial survey and updated AI analysis. The report should include a timeline for completion and method QA/QC. An implementation timeline will clarify when SDG&E can be expected to have a more accurate assessment of remaining HLCs in their system and will provide additional insight on the end date for the HLC initiative and risk remaining in association with HLCs. Understanding method accuracy is necessary to estimate the effectiveness of the aerial survey + AI method for identifying all remaining HLCs and whether complimentary methods are necessary to ensure all HLCs are identified and replaced.

SDG&E's HLC replacement initiative states that its 2025 target adjustments from 0 to 950 resulted from the same "fielding assessments performed in tandem with Lightning Arrestor Removal and Replacement (WMP.550), Avian Protection (WMP.972), and Expulsion Fuse Replacement (WMP.459) fielding."[22] This many mean that the same aerial survey/AI analysis method resulting in new HLC findings may have also contributed to expulsion fuse findings. SDG&E's summary of progress on implementing the addition drone/aerial survey and updated

[21] Group 1 2025 WMP Update Workshop, April 25, 2024.
[22] SDG&E 2025 WMP Update, p. 25.

AI analysis should also explain whether this method is anticipated to identify new locations requiring lightning arrestors, avian protection, and/or expulsion fuses that could result in further target expansions and updates, and if so, provide an estimate of when it will address new findings via future target updates and timeline extensions.

4.3. Covered Conductor (WMP .464) and Undergrounding (WMP .455): Establish an expectation that SDG&E file a change order with updated targets, as needed, when the CPUC issues a Decision on its 2024 Test Year GRC.

SDG&E aligns its updated 2025 Undergrounding target with Cal Advocates 2024 Test Year GRC Settlement Agreement. The CPUC has yet to issue a decision on SDG&Es 2024 Test Year GRC, though it is likely forthcoming in Q2 2024. The final Decision may have further effect on SDG&Es approved cost recovery for undergrounding as well as covered conductor initiative work scopes. At this stage, GPI recommends conditionally approving SDG&E's proposed UG and CC system hardening target updates, but require that they request updates, as needed, to all relevant 2025 expenditure, target, and percent risk impact updates for undergrounding, covered conductor, and any other WMP system hardening initiatives based on the 2024 Test Year GRC Decision.

4.4. Distribution Infrared Inspections (WMP .481): SDG&E should provide an update on the find rates of their CC IR inspection pilot and risk-informed WUI IR inspection method in their 2026-2028 WMP.

SDG&E is lowering its Distribution Infrared Inspection target by 97 percent on account of a low find rate of 0.2 percent.[23] Their target reduction is based on a new strategy to conduct risk informed IR inspections on distribution assets located in the WUI that experience higher loading and as a pilot on CC. GPI appreciates the updated deployment methods intended to increase distribution IR inspection efficiency and effectiveness. SGD&E should report on its findings for both updated Distribution IR Inspection applications and find rates in its 2026-2028 WMP.

[23] SDG&E 2025 WMP Update, p. 27-28.

4.5. Percent Risk Impact: Require SDG&E to revise their 2025 WMP Update to include percent risk impact for updated targets and the corresponding original targets.

SDG&E does not provide original and updated percent risk impact for its proposed 2025 targets. PG&E provides these metrics in its narration while SCE provides the data in tabulated format. GPI recommends requiring SDG&E to revise its 2025 WMP Update to include percent risk impact for its updated targets and the corresponding original targets.

5. Recommendations for Near-term and Long-term WMP Development.

5.1. Vegetation Management: improve the reporting transparency and bolster expectations for the treatment and disposition of VM residues.

GPI has long been advocating for more thoughtful treatment of vegetation management residues in the WMPs of the wires utilities. Our advocacy succeeded in inserting instructions in the guidelines for the 2023-2025 WMPs that consideration should be given to the treatment and disposition of VM residues as part of the package that utilities offer to landowners whose trees were being trimmed in the course of the utilities' VM activities. As we indicated in our comments on the initial 2023-2025 WMPs, SDG&E, Liberty, and BVES included positive progress on developing VM residue management programs, while the others seemed to be just beginning to consider their options.

The 2025 WMP Updates offer little in the way of new information from any of the IOUs regarding their VM residue management efforts. SCE and SDG&E each include a paragraph in their updates that explain that the three large IOUs are working together through workshops on their debris management practices, and that they are discussing collaborating on, "a possible scoping study on best practices and efficacy of fuels management."[24,25]

At this point the collaborative efforts of the IOUs on the handling of VM residues is a process that is occurring without any kind of public transparency. This precludes the development of performance metrics or long-range goals. We strongly encourage the OEIS to require a much greater degree of transparency in this effort in the future. Not only would greater transparency

[24] SCE 2025 WMP Update, p. 49.
[25] SDG&E 2025 WMP Update, p. 53.

help the public better understand the range of options available for their residues, it would also encourage a wider exchange of information and ideas that could benefit the IOUs and SMJUs as they seek to improve their comprehensive VM practices.

We are particularly interested in the prospect of a scoping study that would be supported by the three IOUs, as referenced by the SCE and SDG&E updates. We urge the OEIS to get involved in the scoping and administration of such a study, should plans to conduct one move forward. Indeed, we suggest that the OEIS consider requiring that the IOUs conduct the study and do so in as transparent a manner as possible.

OEIS issued ACI PG&E-23-16 to PG&E in order to improve their planning efforts regarding VM residue management. PG&E's 2025 WMP Update reiterates the ACI, which imposes various requirements on the 2026-2028 PG&E WMP with regards to its VM residue management section. PG&E's response to the ACI in its 2025 WMP Update is a terse: "As instructed, this ACI will be addressed in PG&E's 2026-2028 WMP." The WMP development process would benefit from PG&E providing a summary of initial forward thinking at this point in the process, before the 2025 WMP Update is adopted.

5.2. Wildfire Risk Modeling: Update the WMP Update guidelines to require that Utilities provide an updated Table 1-1 and 1-2 regardless of whether qualifying risk model updates are considered "qualitative" or "quantitative."

PG&E classified its significant wildfire risk modeling updates as "qualitative" based on the 2025 Updated Guideline criteria.[26] They utilize this classification to justify their decision to not include an updated Table 1-1 and 1-2 of top risk circuits/segments/spans in the top 5 percent of risk that reveals top 5 percent risk circuit/segment/span turnover. While a Cal Advocates data request made the updated tables available, this information should be standard issue for any model updates that result in turnover in the top 5 percent of risk-ranked circuits/segments/spans.[27] So-called qualitative model updates will have quantitative model outputs that are relevant to risk-informed mitigation selection, especially in this relatively nascent stage of wildfire risk model development. GPI recommends updating the WMP Base Plan and Update

[26] PG&E 2025 WMP Update, p. 3.
[27] WMP-Discovery2023-2025_DR_CalAdvocates_042-Q009Atch01.

Guidelines for future years to require that all utilities must provide an updated Table 1-1 and 1-2 regardless of whether their risk modeling updates qualify as quantitative or qualitative, and significant or non-significant.

5.3. Wildfire Risk Modeling: Consider developing a process for guiding IOU model updates that includes reporting on the design development and testing phase prior to finalization and adoption.

IOU wildfire risk planning model updates continue to result in substantial turnover in the top risk ranked circuits/segments/spans. While some updates and methodologies are discussed in the monthly RMWG meetings, the specific approaches and implementation timelines are sometimes not known until the model is approved by the IOU and implemented for risk-informed mitigation selection. This puts OEIS, third-party review (e.g. E3), and stakeholders one step behind the utilities, resulting in a post development review process after the model is already informing updated mitigation work scopes. There is currently no requirement for OEIS to review and approve a model before it is already IOU approved and applied. Similarly, third party reviews of IOU risk models appear to occur after each version has been finalized, such that the version-specific reviews can only inform updates to future versions rather than guiding modifications to the most recent version.

IOU's risk modelling modifications can select implementation options which may not be specified by, or intended by, the original recommendation. For example, the E3 review of PG&E's WDRM V3 suggested that 8-hour match drop simulations have drawbacks.[28] PG&E reported that it followed "E3 Validation Recommendations" and "improve[d] the WFC model transparency and validity using 24 h simulations."[29] However, E3's WDRM V3 model review never specifically instructed PG&E to adopt 24-hour, match-drop simulations. PG&E also does not report on sensitivity testing for other wildfire simulation durations including resulting model outputs and the justification for moving forward with 24-hour simulations rather than the original 8-hour or some other duration of simulation. In general, while PG&E does report overall wildfire consequence model improvements, the summary does not inform which consequence

[28] E3 Review of PG&E's Wildfire Risk Model Version 3, p. 22.
[29] PG&E 2025 WMP Update, p. 7.

model updates had the largest impact on model performance or the basis for sub-model designs and input updates.

PG&E's consequence model updates from WDRM V3 to V4 included new sub-models for egress and suppression effects as well as longer wildfire simulations. At a high level these model updates generally align with E3, OEIS, and/or stakeholder recommendations. However, under the current WMP development process, the specific impacts that these model updates will have on risk planning model outputs due to design cannot be fully known by external recommending parties until the work is already completed and approved by the IOU. This issue is germane to all utilities and especially the IOUs. The outcome of any externally recommended model update, when implemented within the complex wildfire risk planning models, can only be generally conceptualized until the update is designed and tested, and a final method is selected. This IOU design and testing phase is generally occurring behind closed doors until a final version is internally approved for implementation, at which point OEIS and external reviewers have little time to review the model design or ability to impact the development process before it is adopted and applied.

IOUs also currently have the latitude to cherry pick elements of external recommendations for incorporation. For example, the E3 report and PG&E's selection of "E3 Validation Recommendations" is evidence of this. Notably, PG&E did not elect to move away from relying solely on mean consequence scores in its granular WDRM risk planning model – a model shortcoming discussed in detail in the E3 review of WDRM V3 as well as in other WMP platforms.

GPI recognizes that wildfire risk modeling method development and standardization is discussed in other WMP venues. However, the 2025 WMP Updates serve as a reminder that without clear agency guidance, the utilities are largely left to their own devices when it comes to selectively updating disparate models and launching new versions without prior external review. GPI recommends that the OEIS consider developing a process for guiding IOU model updates that includes reporting on the design development and testing phase prior to finalization and adoption.

GPI has also previously discussed and advocated for wildfire risk model sensitivity testing and reporting as a tool to facilitate prudent as well as transparent model development.[30] In model development ACI, and in WMPs in general, GPI recommends minimally requiring utilities to report on the sensitivity of model outputs to each model update, including the impacts of any model testing prior to finalization.

5.4. Wildfire Risk Modeling: GPI recommends developing a unifying risk model development roadmap that can reduce the occurrence of incongruent alterations to the quantitative definition of wildfire risk during the process of risk model standardization.

Lessons learned from the 2025 WMP Updates for the WMP development process must include that the iterative and ongoing stepwise approach to model design, updates, and application creates an ever-changing definition of granular wildfire risk that can result in large risk valuation changes on both a granular and system wide scale. For example, it must now also be considered that PG&E's definition of what constitutes localized risk includes ingress/suppressibility and the new definition serves as its risk planning baseline for scoping long-term system hardening mitigation work from 2026+. Other IOUs do not currently include suppression in their quantitative definition of granular wildfire risk for planning purposes. SCE and SDG&E's migration to probabilistic consequence models may also slow their development of suppression modeling. The quantitative and applied definition of utility wildfire risk is now even more inconsistent across California and that inconsistency may persist for years to come.

PG&E's WDRM V3 to V4 model changes also highlight that it is problematic to haggle over risk-spend efficiency and prudent risk buy down approaches based on circuit segment risk values when the underlying risk valuation definition, magnitude, scale, distribution, and relative ranking changes every couple of years. In this example, even if PG&E or California agencies (OEIS, or CPUC) ultimately approve the scope of PG&E's undergrounding and covered conductor initiatives based on a given WDRM version, a new version (e.g. WDRM V4) that changes the risk definition, distribution, magnitude, and risk ranking may warrant risk mitigation portfolio adjustments. These types of substantive changes effectively render the prior risk planning

[30] GPI Comments on the 2022 WMP Updates, p. 6.

threshold outdated, and a new planning threshold relevant to the new risk definition and model output must be evaluated. That is, what may constitute a prudent risk reduction plan based on a prior model may no longer be optimally designed when the definition of risk is changed.

Large adjustments to IOU models and resulting outputs are not new, are not constrained to PG&E, and are expected to continue for the foreseeable future. It is also a fact that model maturation requires multiple design iterations. If, or perhaps when, other IOUs adopt a suppression model as part of their granular consequence planning model, their risk model outputs may experience similarly large, although likely different granular risk value adjustments due to different model designs. The same goes for migrating to probability distributions versus maximum or average consequences. These and other major risk planning model adjustments are likely to unfold over the next 1-5+ years and can result in large changes in granular risk valuation that materially changes utility system hardening plans. The Catch 22 is that this is amounting to a dramatically and inconsistently changing definition of granular wildfire risk and risk valuation over the duration of the modern WMP process across California.

Uncoordinated incremental changes to each disparate IOU model over different timelines and using utility-specific methods will perpetuate unstable risk planning models and resulting outputs for years to come while also incrementally changing the very definition of utility wildfire risk and IOU determined risk planning thresholds across California. This current approach to risk model updates is only serving to perpetuate model instability and disparate risk planning standards across California. GPI supports the early efforts in the RMWG to move toward standardization and looks forward to continued progress on this front. GPI recommends establishing a risk model development Track that can guide risk model standardization.

5.5. Wildfire Risk Modeling: Caution should be exercised when attempting to incrementally standardize risk planning model inputs and elements across models with different designs.

Granular risk model standardization is a critical issue for the WMP process. PG&E's risk model updates reported in their 2025 WMP Update provide an example of how different updates can have varying effects on the final output. For example, during the Group 1 2025 WMP Update Workshop it was reported that increasing wildfire spread simulations from 8-hours to 24-hours

had less of an effect on risk score than initially anticipated, due to model design. However, the effects of shifting from an 8-hours to 24-hours match-drop simulation in PG&E's consequence model, which utilizes simulation flame length and spread rate to assign mean consequence scores, could be very different when applied in SCE's model, which uses the simulated burn footprint to assess local consequence. In this example, requiring that each utility adopt 24-hour wildfire match drop simulations could have different effects on utility wildfire risk planning model outputs due to dramatic differences among the models. Care should be taken to understand how wildfire risk planning model standardization efforts could have unintended outcomes when applied to very different model designs.

5.6. Target setting and enforcement: Determine whether Utilities should achieve annual versus cumulative 3-year targets over each WMP cycle for each initiative based on initiative-specific expected outcomes.

The IOUs propose updates to quantitative initiative targets that include decreasing forward annual targets based on prior year "excesses" towards achieving a cumulative 3-year target. GPI recommends addressing these proposed changes on both a long-term policy development basis, and on a near-term 2023-2025 WMP cycle basis.

Requiring target achievement on a cumulative 3-year basis provides flexibility in work plan over the WMP cycle, allowing utilities to adapt to changing conditions over the 3-year cycle while still achieving initiative targets. There is precedence for this type of multi-year compliance period (CP) assessment with annual reporting in the Renewable Portfolio Standard (RPS) program. In the RPS program utilities are held to 3- or 4-year CP requirements enforced through financial penalties, meaning shortfalls in one year must be made up for in other CP years, and totals are aggregated over the CP to determine compliance. Benefits permit annual adjustments to account for uncertainty, towards achieving CP versus specific annual targets. Cons could include a failure to incentivize performance above and beyond the pre-established annual and CP targets and/or the potential for delayed risk reduction. Other considerations include fewer compliance assessment years such that WMP Updates become interim reports on progress versus annual compliance assessments.

Alternatively, OEIS could require target compliance on an annual basis, like in the IRP proceeding. Pros could include prevention of delays in wildfire risk buydown (annual and cumulative over time), and the ability to encourage excess unit achievement to avoid penalties linked to shortfalls. Cons may include unintended incentivization for utilities to set smaller annual targets to ensure annual compliance. Annual target compliance may require annual assessments of whether utilities conducted good faith efforts that permit leniency for target shortfalls, and may require that OEIS issue annual compliance assessments and penalties.

These are not intended as exhaustive lists of pros and cons associated with annual versus 3-year compliance enforcement options. Rather, GPI recommends considering the development of policy mechanisms that operationalize annual and/or 3-year cumulative targets as compliance requirements enforced through transparent penalties that incentivize timely target achievement.

For the 2025 WMP Update (near-term), it is prudent to assess whether proposed annual target changes are reasonable, and whether they achieve the preferred outcome of each initiative. GPI recommends assessing each target adjustment based on the initiative objectives and expected or required outcomes. For example, in the case of backlog tag closures, the OEIS can require that PG&E either: (a) achieve cumulative 3-year targets for backlog tag closures with target reallocations between years that keep the extended plan on track; or (b) achieve compliance on an annual target basis, such that "excess" tag closures must count toward shortening the total workplan. In both cases a disincentive or incentivization mechanism (long-term policy development need) may be used to encourage on-time, and preferably early, achievement of the total backlog closure workplan. The preferred outcomes that must be considered in this example are achieving as soon as possible regulatory compliance and maintenance of regulatory compliance. Since PG&E is already out of compliance with GO-95 Rule 18, GPI recommends that OEIS require annual target compliance for this WMP initiative, and that PG&E apply excess annual tag closures to shorten the backlog tag closure timeline. For other initiatives however, achieving the total 2023-2025 WMP target over three years may be adequate to timely achieve the intended outcomes.

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.

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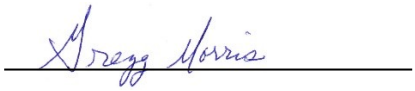
Respectfully Submitted,



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