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May 17, 2024

VIA ELECTRONIC FILING

Docket # 2023-2025-WMPs

Caroline Thomas Jacobs  
Director, Office of Energy Infrastructure Safety  
715 P Street, 20th Floor  
Sacramento, CA 95814

**RE: Reply Comments of San Diego Gas & Electric Company on the 2025 Wildfire Mitigation Plan Updates**

Dear Director Thomas Jacobs:

San Diego Gas & Electric Company (SDG&E or Company) hereby provides reply comments regarding the 2025 Wildfire Mitigation Plan Update (2025 WMP Update)<sup>1</sup> of the large investor-owned utilities (IOUs): SDG&E, Pacific Gas & Electric Company (PG&E), and Southern California Edison Company (SCE). Failure of SDG&E to address any other issue in these Reply Comments does not indicate agreement or waiver.

**I. SDG&E's 2025 WMP SHOULD BE APPROVED WITHOUT MODIFICATION**

SDG&E continues to innovate and enhance wildfire mitigation initiatives to promote community safety through enhancing risk-informed strategies, advancing technology integration, and continuing stakeholder engagement. These include enhancements to risk models to inform and refine the Company's mitigation investment strategies and initiative selections and optimize the ability to pinpoint mitigations to areas with the highest wildfire and Public Safety Power Shutoff (PSPS) risk. Ultimately, these efforts lead to more accurate insights and empower risk-informed investment decision-making.

SDG&E's 2025 WMP Update is a robust and complete update to the approved 2023-2025 WMP consistent with the Guidelines issued by the Office of Energy Infrastructure Safety (Energy Safety). The update demonstrates not only SDG&E's commitment to leadership in wildfire mitigation but also compliance with the requirements of Public Utilities Code Section 8386. SDG&E respectfully requests that Energy Safety approve SDG&E's 2025 WMP Update without modification.

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<sup>1</sup> SDG&E's 2025 Wildfire Mitigation Plan Update (May 14, 2024 (Revision 1)) (SDG&E 2025 WMP Update).

## II. CAL ADVOCATES

### A. Additional Reporting on Risk Modeling Enhancements is Unnecessary

The Public Advocates Office at the California Public Utilities Commission (Cal Advocates) prematurely criticizes SDG&E's effort to detail enhancements to risk modeling that include assessment of probability distribution values rather than use of maximum consequence values, and the two exploratory development tracks described in SDG&E's WMP update regarding incorporation of WiNGS-Operations (WiNGS-Ops) into SDG&E's WiNGS-Planning model and enhancements to the FireCast Model.<sup>2</sup> As acknowledged by Cal Advocates, SDG&E plans for its WiNGS Planning Model to be fully transitioned in time for the 2026-2028 WMP filing, which is anticipated in Spring 2025. It is not clear what more Cal Advocates is seeking when they seek a "more specific timeline"<sup>3</sup> to detail this transition.

Moreover, Cal Advocates prematurely seeks additional details on how the planned analysis SDG&E will be used before the analysis is complete.<sup>4</sup> SDG&E intends to explain its evaluation of probability distributions into risk modeling, the outputs of that evaluation, and how any lessons learned will be incorporated as it has more information, likely in SDG&E's 2026-2028 WMP submission in addition to SDG&E's May 2025 Risk Assessment and Mitigation Phase (RAMP) filing.

In SDG&E's WMP Update, SDG&E acknowledges its ongoing efforts to improve risk assessment methodologies and commitment to transparency, accuracy, and accountability. Although specific details are not extensively disclosed, this does not imply a lack of commitment or transparency. As indicated in Areas for Continued Improvement (ACI) SDGE-23-05, SDG&E has actively participated in Energy Safety ad-hoc presentations and the monthly Energy Safety led risk modeling working group (RMWG) meetings where in-depth details on WiNGS-Planning and WiNGS-Ops model methodology and assumptions have been discussed.

In addition, there are fundamental changes proposed in the Risk Based Decision Making Framework (RDF) Proceeding (R.20-07-013), currently under evaluation by the California Public Utilities Commission (CPUC or Commission), stakeholder advocates, and California IOUs that, if accepted, will significantly impact SDG&E's approach to identifying, quantifying, and reporting Wildfire and PSPS risks. SDG&E's Wildfire Risk team is monitoring this proceeding and will update its model methodology and assumptions to comply with the cost benefit framework expected to be included in its 2026-2028 WMP. SDG&E encourages Energy Safety to continue to actively monitor this and other CPUC proceedings to reduce the likelihood of duplicative work or conflicting regulatory mandates.

While reporting any transparency regarding those assessments is important to understanding mitigation selection, quarterly reporting on SDG&E's risk assessment processes is overly burdensome and unnecessary. Because of the short timeframe and substantial workload necessary to transition to the cost benefit framework, imposing additional reporting burdens may inadvertently hinder the process and result in unnecessary delays. SDG&E submits that it will be prepared to provide additional updates in these areas in its comprehensive 2026-2028 WMP

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<sup>2</sup> Comments of the Public Advocates Office on SDG&E's 2025 Wildfire Mitigation Plan Update (May 7, 2024) (Comments of Cal Advocates) at 3 (citing SDG&E's 2024 WMP Update at 42-43).

<sup>3</sup> *Id.* at 4.

<sup>4</sup> *Id.* at 5.

submission as well as subsequent annual updates. Additionally, Energy Safety may leverage the RMWG as a platform for knowledge sharing, discussing model updates, seeking alignment, and identifying best practices in Wildfire and PSPS risk modeling. If desired, Cal Advocates has the option to participate and utilize this platform for gaining insights into SDG&E's model advancements.

## **B. Integration of SDG&E's Operational and Planning Models**

Similarly, SDG&E remains on track in assessing the integration of the underlying probability of failure models and the conditional probability of ignition model developed for WiNGS-Ops into WiNGS-Planning. If SDG&E chooses to formally adopt this implementation, SDG&E will include comprehensive details in their 2026-2028 WMP submission regarding the approach and the underlying assumptions. In the event that SDG&E decides not to pursue this integration, SDG&E will explain the reasoning for this deviation and why any chosen approach is a better alternative to integrating WiNGS-Ops.

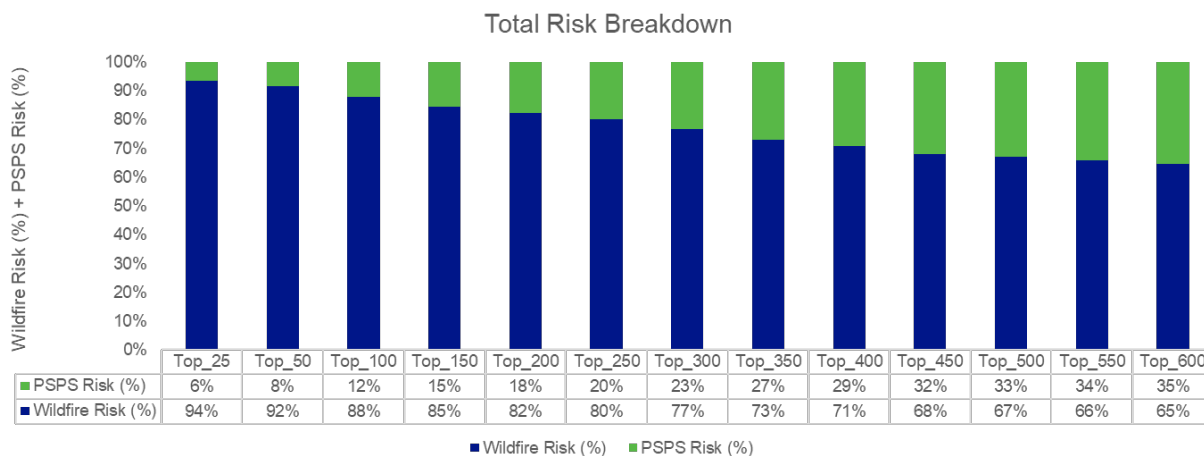
Cal Advocates' comments appear to misunderstand the purpose of this integration. For clarity, SDG&E seeks to enhance the probability of failure and ignition models at the span level to properly capture the relationship between asset failure and wind gust conditions; the integration is not to measure the inclusion of PSPS risk into its mitigation decision framework. As shown in Table 1 and Table 2 of its 2025 WMP Update,<sup>5</sup> SDG&E estimates PSPS risk at each feeder segment, however, it is not included in the Risk Spend Efficiency (RSE) calculation of the WiNGS-Planning model as the PSPS risk is considerably smaller than the Wildfire risk. PSPS risk analysis is performed outside of WiNGS-Planning to scope work in an optimal fashion that may promote the rapid reduction of both PSPS and wildfire risk. Nevertheless, SDG&E has created a feature in the WiNGS-Planning enhancement log for the incorporation of PSPS risk into the mitigation decision framework. This enhancement is not dependent upon the incorporation of WiNGS-Ops submodels into WiNGS-Planning.

SDG&E's prioritization of the reduction of wildfire risk is further supported by SDG&E's risk assessments and a breakdown of risk between PSPS and wildfire. The figures below illustrate the contribution of Wildfire Risk and PSPS risk to the top feeder-segments, which are ranked according to total risk. It is evident from the overall system picture depicted in Figure 1 that the contribution of Wildfire Risk significantly outweighs the PSPS risk. This figure is generated by ranking all feeder segments and calculating the average contribution of Wildfire Risk and PSPS risk to the total risk for each group. The top 25 group comprises feeder segments ranging from the segment with the highest risk to the 25<sup>th</sup> highest risk segment. The top 50 group comprises feeder segments ranging from the highest risk to the 50<sup>th</sup> highest risk, and so on. When further broken down by the top 25 segments (Figure 2), the wildfire risk again demonstrably outweighs the PSPS risk for these high risk areas.

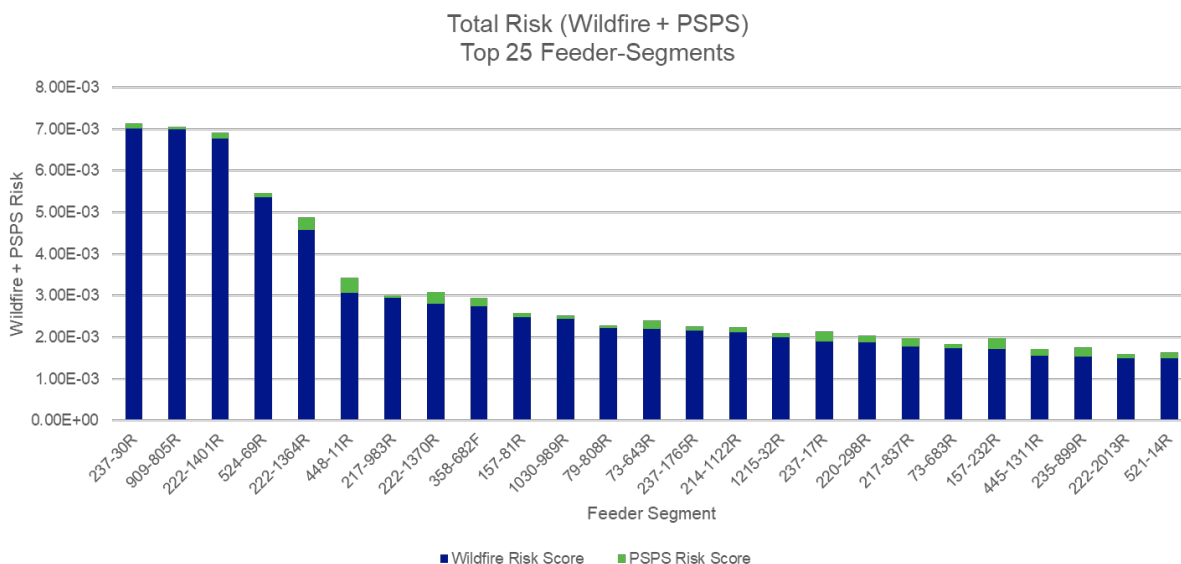
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<sup>5</sup> SDG&E 2025 WMP Update at 5-7.

**Figure 1: Total System Risk Breakdown (Wildfire + PSPS)**



**Figure 2: Risk Breakdown Across Top 25 Segments (Wildfire + PSPS)**



**C. SDG&E Incorporates Covered Conductor Effectiveness in Reducing PSPS Risk and Will Continue to Update Models to Reflect Additional Data**

Cal Advocates asserts that SDG&E should be required to revise and resubmit its response to ACI SDGE-23-03.<sup>6</sup> Cal Advocates incorrectly states that SDG&E does not calculate or understand how covered conductor can impact PSPS risk. SDG&E has been incorporating an estimated effectiveness of covered conductor on PSPS risk within the WiNGS-Planning tool since the inception of the model in 2021. The current WiNGS-Planning production model utilizes a wind speed threshold constant value of 55 mph for fully covered conductor circuit

<sup>6</sup> Comments of Cal Advocates at 8.

segments. SDG&E is therefore already calculating the PSPS risk reduction associated with fully covered circuit segments. Further, the results of SDG&E's analysis of impacts to potential PSPS by both undergrounding and covered conductor are detailed in SDG&E's 2025 WMP Update within the response to ACI SDGE-23-06 in section 5.6.<sup>7</sup> Thus, there is no need for a revision to ACI SDGE-23-03.

SDG&E continues to improve its understanding of the potential PSPS risk reduction associated with covered conductor and has completed testing and benchmarking for determining PSPS wind speed thresholds for fully covered circuit segments. SDG&E is in the process of raising the default wind speed threshold for fully covered segments to 58 mph by September 1, 2024. Upon adoption of the 58 mph wind speed threshold, the WiNGS-Planning wind speed threshold constant value for covered conductor will likewise be updated to 58 mph. SDG&E does not expect significant changes to the model's recommendations based on this update; however, the update is expected to be completed prior to the next WMP filing and any updates to the model's recommendations will be considered in future project scoping and reflected in future WMP submissions.

#### **D. QA/QC of Asset Inspections**

Cal Advocates encourages Energy Safety to require SDG&E to "correct shortcomings"<sup>8</sup> with respect to its Quality Assessment/Quality Control (QA/QC) programs for asset inspections and compliance with ACI SDGE-23-13. SDG&E is endeavoring to comply with ACI SDGE-23-13 to the best of its ability with the data available and has made significant enhancements to its asset inspection tracking and operations in response to this ACI. However, as explained to Cal Advocates, these operational changes require time and additional processes, and should be implemented in a manner that preserves data integrity and allows for consistency of use.

SDG&E reports on enhancements and changes to its programs pertaining to QA/QC of Detailed Distributions Inspection Program (WMP.491) in its response to ACI SDGE-12-13.<sup>9</sup> As explained, enhancements to the program have been implemented on a going forward basis and will allow for determining and tracking pass/fail results, which will be communicated directly to the inspector upon determination. Additionally, trends in findings will be monitored and appropriate training will be delivered either individually or through annual refresher training. While the program enhancements do not directly influence changes to inspections themselves, the results will inform inspector training and communications. SDG&E may consider alterations to inspection procedures if deemed necessary after sufficient review and analysis of results following implementation of the enhanced program.

As explained in SDG&E's response to ACI SDGE-23-13, it is not possible to accurately provide historical 2021-2023 pass/fail results for QA/QC activities because SDG&E did not previously determine or track pass/fail results specific to QA/QC activities for Detailed Overhead Visual Inspections. With that said, SDG&E is currently analyzing the 2021-2023 QA/QC data to quantify the number and percentage of infractions confirmed by the supervisors

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<sup>7</sup> SDG&E 2025 WMP Update at 59-60, Figures 5 and 6.

<sup>8</sup> Cal Advocates Comments at 9.

<sup>9</sup> SDG&E 2025 WMP Update at 101-102.

and the number and percentage of additional infractions or misidentifications observed. SDG&E is also sorting the QA/QC observations by High Fire Threat District area, since that was not done until 2023. Again, due to the three-months between inspection and audit activity, as we would not consider the results as a pass/fail result because it is not possible to ascertain whether results of the audit were present at the time of inspection or occurred during the period between inspection and audit. Thus, reporting on existing data, as Cal Advocates encourages, would not set an appropriate baseline for comparison with future years' data or assist in identifying trends related to wildfire mitigation activities.

As further discussed in its response, beginning in 2025, SDG&E will shorten the timeframe between inspection and QA/QC activity to enable a pass/fail determination and report on those results. Cal Advocates notes that this is a positive step and applauds SDG&E for increasing to audit a 5% sample of inspections.<sup>10</sup>

Furthermore, Cal Advocates encourages Energy Safety to require SDG&E to report its QA/QC activities in 2024. SDG&E confirms that it is in compliance with Energy Safety's reporting requirements per data guidelines. For similar reasons, it is not currently necessary for Energy Safety to require SDG&E to address any perceived or hypothetical increases in maintenance workload. SDG&E's existing inspection and QA/QC practices have not revealed a "sudden influx" of additional inspection findings and work orders.<sup>11</sup> As SDG&E performs the additional analysis in preparation for its 2026-2028 WMP submission, as described above, if SDG&E identifies a potential for increased maintenance workload, it may address such issues at that time.

### III. MUSSEY GRADE ROAD ALLIANCE

Generally, Mussey Grade Road Alliance (MGRA) devotes much of its comments to doubling down on its overall objections to utility undergrounding programs in favor of a combination of ongoing PSPS, use of Sensitive Relay Profiles (Fast Trip Settings), covered conductor, and advanced protection. As repeatedly cited in MGRA's comments, MGRA is an active participant in the electrical corporations' various General Rate Cases (GRCs), and its comments are largely reflective of an effort to engage Energy Safety in a collateral attack or relitigation of many of the areas currently at issue or previously decided by the CPUC. SDG&E requests that Energy Safety continue to monitor the electrical corporations' GRCs going forward and engage with the CPUC where necessary. Moreover, MGRA refuses to acknowledge that its preferred approach to wildfire hardening will result in ongoing safety, reliability, and financial impacts to areas that are often populated by tribal and Access and Functional Needs communities,<sup>12</sup> and that the combination of advanced protection and covered conductor preferred

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<sup>10</sup> Cal Advocates Comments at 11.

<sup>11</sup> *Id.*

<sup>12</sup> MGRA also advocates for a new strategy, including the purchase of \$60,000 per customer off-grid solutions for residents of circuits impacted by PSPS. MGRA's analysis is overly simplistic, based on false assumptions, and should be rejected by Energy Safety. See Mussey Grade Road Alliance Comments on the 2025 Update of the Wildfire Mitigation Plans of PG&E, SCE, and SDG&E (May 7, 2024) (MGRA Comments) at 10-11 and 72.

by MGRA will likely cost just as much—if not more—than undergrounding infrastructure over the long term.

**A. SDG&E’s Assessment of Covered Conductor Effectiveness Accurately Reflects the Data and SDG&E’s System Risks**

MGRA’s assertion that SDG&E is utilizing “an absurdly low value for the effectiveness of covered conductor”<sup>13</sup> lacks any support in SDG&E’s system analysis or the data. Within its 2025 WMP Update, SDG&E prepared a table documenting the estimated effectiveness of covered conductor for each risk event driver and calculated the overall effectiveness of covered conductor based on the types of risk events within SDG&E’s service territory over the past five years.<sup>14</sup> MGRA chooses to disagree and adopts the estimated effectiveness of 72% put forth by SCE as a more reasonable number, ignoring the fact that SDG&E and SCE have different risk event drivers on their systems and never identifying where SDG&E’s estimate should be considered incorrect. MGRA simply selects the higher overall estimated effectiveness value to help bolster their argument without following a reasonable process.

Because even SCE’s data does not generate the desired outcome, MGRA then attempts to further inflate the estimated effectiveness of covered conductor to 85% effectiveness based on an overly limited analysis of SCE’s ignition data.<sup>15</sup> This is contrary to existing efforts to study risk events and covered conductor effectiveness, and essentially changes the goalposts to bias the data in favor of the outcome. PG&E, SCE, and SDG&E have been utilizing risk events – i.e., faults that could result in a probable ignition – to estimate the effectiveness of covered conductor and other mitigations because risk events are a robust data set representing an adequate sample size, and are considered leading indicators for ignitions. MGRA admits that “SCE’s estimates are approximately equal to its observed reduction in outages on fully covered conductor segments... in which it demonstrated that fully covered circuits reduce 69% of the faults”<sup>16</sup> but then advocates for the use of 85% effectiveness within SDG&E’s risk models based on ignition data alone.

Ignition data is a much smaller data set when compared to risk events, which is evidenced in MGRA’s analysis which includes years of between 0 and 5 ignitions that occurred on covered conductor circuits. Utilizing such a limited sample size can lead to large swings when even minor changes occur. Additionally, ignition data is dependent on other outside factors such as the weather. These include the weather conditions at the time of ignition (such as temperature and prior precipitation levels), the types of fuel present at the ignition site, and the moisture content in both live and dead fuels. These elements play a crucial role in the data collected and seem to be ignored by MGRA in its analysis. During years of lower risk wildfire conditions, which California has seen from 2021-2023, fewer risk events will become ignitions when compared to years of higher risk wildfire conditions. Again, MGRA is selecting data and numbers that are more suitable for their desired conclusion instead of following established processes for analyzing the data.

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<sup>13</sup> *Id.* at 63.

<sup>14</sup> SDG&E 2025 WMP Update at 92-93, Figure 12.

<sup>15</sup> MGRA Comments at 23.

<sup>16</sup> *Id.* at 22 (citation omitted).

In conflict with MGRA's assertion that SDG&E should perform more covered conductor installation and reduce the use of undergrounding is MGRA's statements that SDG&E is underestimating the risk of wildfire. MGRA asserts that the multi-attribute value function framework leads to a bias where, "the overall risk of catastrophic wildfire (in lieu of PSPS) is larger overall than utility risk estimates indicate[,]"<sup>17</sup> that restricting fire spread to eight hours "leads to 1) predicted losses that are less than real losses and 2) predicted risk is underestimated in areas further from the ignition point[,]"<sup>18</sup> and that SDG&E does not fully capture the impact of wildfire smoke health effects which, "likely is the largest cause of health impacts and premature deaths from wildfire."<sup>19</sup> Increasing the risk associated with wildfire would naturally lead to the risk spend efficiency or cost benefit ratio of undergrounding growing even higher as it is the most effective mitigation against wildfire ignition.

### **B. SDG&E's Advanced Protection Initiative is Consistent with its Approved 2023-2025 WMP Targets**

MGRA misrepresents SDG&E's changes associated with the Advanced Protection initiative. MGRA misinterprets SDG&E's language and attempts to characterize the change in expenditures as, "de-emphasizing of its Advanced Protection technologies."<sup>20</sup> However, SDG&E does not claim any target reduction associated with its Advanced Protection initiative. SDG&E is merely reducing the cost required to complete the projects in 2025. SDG&E will install substation equipment required for these technologies prior to 2025 when the circuits will be enabled with the Advanced Protection capabilities. SDG&E remains committed to employing these Advanced Protection capabilities, especially in those areas where bare overhead conductor remains, to reduce wildfire risk. MGRA's comments to the contrary should be dismissed.

### **C. SDG&E's System Hardening Approach Does Not Default to Undergrounding**

MGRA continues to mischaracterize SDG&E's process of selecting system hardening mitigations as a "default" to undergrounding approach. SDG&E's WiNGS-Planning model is detailed in the 2025 WMP Update section, 5.6.2 Selection Process for Undergrounding Projects and has been the subject of ongoing review by Energy Safety, stakeholders, and SDG&E. To be clear, SDG&E's model evaluates RSE's for covered conductor and undergrounding for every circuit segment in the study area. When assessing if a segment qualifies for either mitigation, the hardening RSE must pass a threshold aligned with SDG&E's overall risk reduction targets. There is no default mitigation strategy. Only when the circuit segment RSE exceeds the threshold for a mitigation—i.e., there is a high enough risk associated with that segment—will it be considered for that mitigation. While the evaluation of the undergrounding RSE occurs prior to the evaluation of the covered conductor, this process is not a default mitigation in the true

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<sup>17</sup> *Id.* at 15 (citation omitted).

<sup>18</sup> *Id.* at 16 (citation omitted).

<sup>19</sup> *Id.* at 16.

<sup>20</sup> *Id.* at 27.



sense of the word as mitigations do not default to undergrounding. For instance, even if the segment was first assessed for covered conductor, and then undergrounding, if the segment met the RSE for undergrounding, SDG&E would determine that segment a likely candidate for undergrounding and it would go through the desktop review and scoping process for undergrounding.

**D. SDG&E is Planning Modeling Enhancements to Address Potential Alignment Regarding Probability of Failure and Probability of Ignition Model Differences**

MGRA advocates in favor of “incorporating elements of its WiNGS-Ops model into WiNGS-Planning if it is feasible to do so in order, among other things, to accurately represent areas where dangerous fire winds are likely to occur.”<sup>21</sup> As further addressed in its response to Cal Advocates above, SDG&E is currently working on the integration of the underlying probability of failure models and the conditional probability of ignition model developed for WiNGS-Ops into WiNGS-Planning. SDG&E’s goal is to enhance the WiNGS-Planning probability of failure and ignition models at the span level to properly capture the relationship between asset failure and wind gust conditions. This improvement will further refine capturing the correlation between asset failure and wind conditions, as well eliminate the so-called “hack” (a term used by MGRA) from the current WiNGS-Planning model.

**E. SDGE-23-06: Demonstration of Proper Decision Making for Selection of Undergrounding Projects**

MGRA relies on inaccurate information derived from other utilities, its own misunderstanding of SDG&E’s WMP, and its stated biases in favor of covered conductor and ongoing de-energization programs<sup>22</sup> to falsely claim that:

SDG&E notes that its current wildfire mitigation strategy is heavily reliant on PSPS and situational awareness. Nevertheless, they claim that with hardening done to date they have been able to achieve 98% risk reduction. To eliminate the residual 2% risk and reduce PSPS reliance, SDG&E proposes deploying 1,500 miles of strategic undergrounding and 370 miles of covered conductor by 2032. At \$3 million per mile, SDG&E’s elimination program cost for this portion of its

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<sup>21</sup> *Id.* at 62.

<sup>22</sup> *See, e.g., id.* at 51 (criticizing Energy Safety’s efforts and directives to reduce PSPS, stating “With PSPS classed as an ‘evil’ in its own right, with an OEIS directive to eliminate or severely reduce it, California has missed a chance to evangelize this low cost, moderate risk measure to prevent an almost inevitable catastrophe when unprecedented extreme fire weather meets unprepared utility infrastructure.” MGRA’s simplistic and underinformed assessment of the Maui fires—unsupported by any citations to research, fire analysis, or other assessments (most of which remain ongoing)—and claim that “nothing more than an effective PSPS plan” could have stopped the fires, again demonstrate why MGRA’s assessments of risk should be viewed with circumspect.).

mitigation program will be \$4.5 billion, working out to an average of \$1,500 per customer for SDG&E's 3 million customers, all to eliminate residual 2% risk.<sup>23</sup>

This statement is clearly misleading, inaccurate, and should be rejected in full. MGRA, an active participant in SDG&E's GRC, is well aware of SDG&E's risk modeling approach, its forecasted cost per mile for undergrounding, and the forecasted costs of its programs, all of which are misrepresented in the above statement. MGRA's first erroneous claim is the assertion that SDG&E's strategic undergrounding program costs \$3 million per mile – presumably derived from PG&E's General Rate Case. To the contrary, SDG&E reported in its 2023-2025 WMP that the current cost of undergrounding is approximately \$2.3 million per mile.<sup>24</sup> This \$700,000 error renders MGRA's analysis inapplicable to SDG&E and unworthy of further consideration by Energy Safety. As additional efficiencies are realized, SDG&E anticipates potential additional reductions in cost per mile for undergrounding, which may render the program even more cost-efficient.

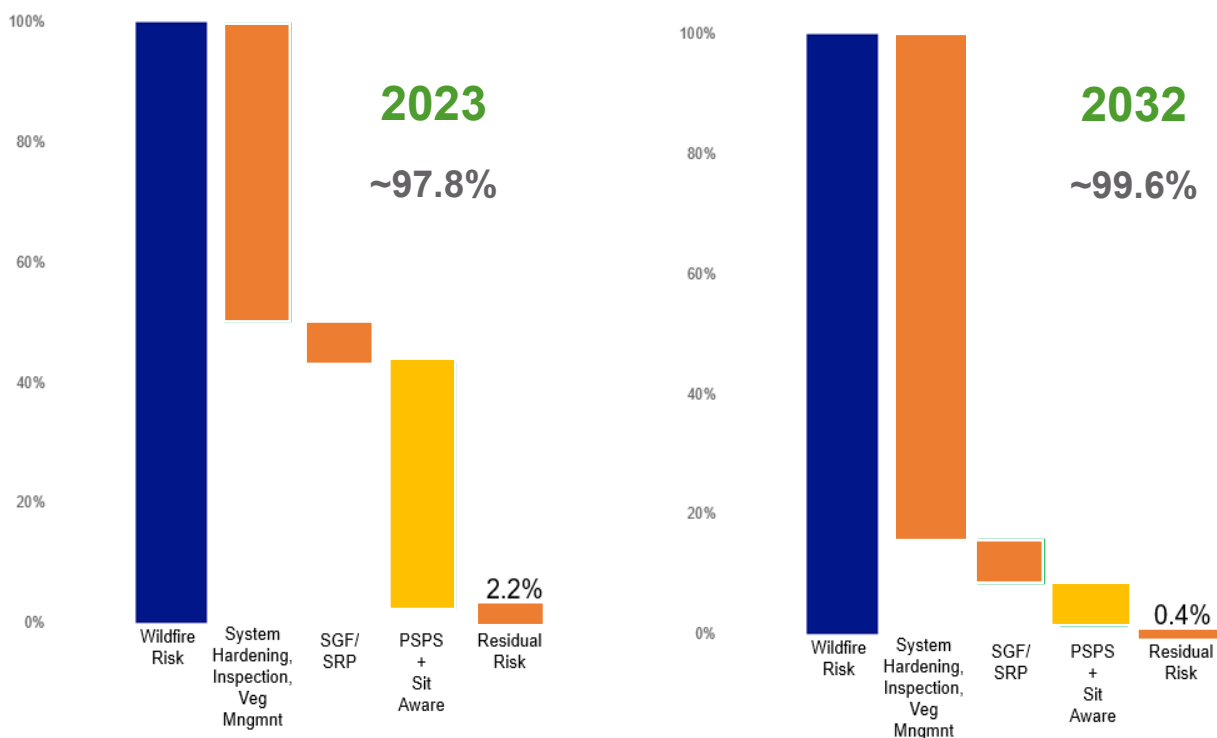
Moreover, MGRA misrepresents the risk reduction currently calculated by SDG&E. SDG&E has not reduced 98% of risk through its current hardening programs. The 98% risk reduction cited by SDG&E includes all aspects of its wildfire mitigation efforts, including ongoing use of PSPS and Fast Trip settings. These programs—as recognized by the Commission and Energy Safety—serve to reduce wildfire risk but introduce new risks to affected communities.

Operational mitigations are crucial during severe fire weather conditions when PSPS is justified. However, they come with an inherent risk due to their potential inefficiency or unpredictability. Furthermore, these mitigations do not eliminate the necessity for asset or vegetation inspections in preparation for a PSPS event, or eliminate the need for pre and post-event patrols needed to ensure the safety of our communities during extreme fire weather days. Additionally, there may be occurrences of ignitions on days when SDG&E's PSPS protocols or sensitive relay settings are not in effect. Even though these ignitions may not lead to catastrophic events, they could still pose a threat to residents, properties, and the environment in the SDG&E service territory. SDG&E's strategy does not tradeoff between an acceptable number of ignitions, fatalities, or structures destroyed in its service territory. A sustained approach to hardening that seeks to reduce both wildfire risk and PSPS risk is SDG&E's overall goal, targeting more than 80% risk reduction through hardening programs by 2032. This progression is summarized in the chart below:

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<sup>23</sup> *Id.* at 62 (citations omitted).

<sup>24</sup> SDG&E 2023-2025 WMP at 107.

**Figure 3: SDG&E 10-Year Risk Reduction Approach**

Evidently, the information presented in Figure 4 of SDGE's 2025 WMP Update is misconstrued by MGRA. SDG&E has articulated that its approach to strategic undergrounding is designed to severely reduce and/or eliminate, the utilization of PSPS as much as feasibly possible. This implies that the objective of SDG&E is to eradicate a significant portion (more than 50%) of the risk that persists within its service territory, rather than focusing on the 2% residual risk depicted in the waterfall chart that cannot be eliminated with Operational mitigations such as PSPS, Situational Awareness, or Sensitive Relay Profiles.

#### **F. Lifecycle Cost Analysis Identifies Segments that Benefits from Strategically Undergrounding Infrastructure to Reduce Long Term Risk**

MGRA's argument in favor of Covered Conductor over Undergrounding mitigation is solely based on its estimated effectiveness that is calculated based on data without severe fire weather conditions and the cost of installation without considering the operational costs. This limited scope fails to account for both the diminishing risk reduction of covered conductor—which degrades consistent with any above-ground asset due to normal wear and tear and weather impacts—and a comparison of overall lifecycle costs for each mitigation strategy.

Covered conductor remains a new technology that is untested for the duration of a typical asset lifetime—which is usually 40-50 years. A responsible way of conducting reliable testing and data analysis is to continue collecting the performance metrics mitigated by covered conductor, especially during actual severe fire weather conditions. Such effectiveness estimates require collected data across long periods to update the current most informed estimate which

incorporates historical event data and captures the degradation effect of the mitigation overtime. Whereas with the effectiveness of Undergrounding, it is almost certain that it is close to 99%, a fact supported by existing practices and data.

Based on the costs of installation alone, covered conductor seems to be a less expensive mitigation option than Strategic Undergrounding, although the risk reduction is much lower when compared to Strategic Undergrounding. However, the consideration and selection of an optimal mitigation option is more complex than sole consideration of upfront installation costs. This complexity should be assessed to inform its use given that the asset is expected to last almost 50 years. Given the amount of the overall investment and the expected lifespan of asset, it would be unreasonable to adopt an approach that does not take into account complete lifecycle costs.

As mentioned in SDG&E's Test Year 2024 GRC,<sup>25</sup> currently pending before the CPUC, SDG&E's preliminary analysis indicates a long-term offset of the investment associated with undergrounding through a reduction in numerous lifecycle costs that will be substantially reduced for underground infrastructure. In addition to anticipated reduction in upfront undergrounding costs, SDGE began incorporating the realized lifecycle costs of undergrounding in 2022.<sup>26</sup> SDG&E considered the historical cost of vegetation management activities, inspections, and cost associated with PSPS events over the lifetime of the overhead assets as part of the lifecycle savings associated with the Undergrounding mitigation strategy.

As SDGE identifies additional enhancements for the lifecycle cost analysis, it becomes clearer that utilities must consider the lifecycle operating cost as part of the overall realized mitigation cost. This holistic view of lifecycle costs includes the cost of operating such assets over the long term and potential benefits of mitigating other climate hazards, and not just exclusive consideration of the immediate short-term effect.

SDG&E is currently working on refining the analysis to capture the lifecycle costs at the span level, in preparation for its 2026-2028 WMP submission, based on circuit segments as of 2022. Based on preliminary analysis, undergrounding installation costs are currently higher than covered conductor alone and covered conductor + Early Fault Detection + Falling Conductor Protection initiative options. But for segments where inventory tree density is high and taking potential overhead structure degradation into account, the lifecycle cost of maintaining the overhead asset is likely higher for overhead hardening strategies, including Covered Conductor and Covered Conductor + Early Fault Detection + Falling Conductor Protection, than for undergrounded infrastructure. When considering both the lower lifecycle cost as well as the higher overall wildfire and PSPS risk reduction associated with undergrounding, SDG&E's models continue to support strategic undergrounding of assets in these higher risk areas.

When considering both installation cost and operational costs over the asset's lifecycle (vegetation management, PSPS operations, asset maintenance), SDGE's approach evaluates both undergrounding and alternative mitigations based on the individual segment characteristics.

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<sup>25</sup> A.22-05-015/016 (cons), *Second Revised Prepared Direct Testimony of Jonathan T Woldemariam - Wildfire Mitigation and Vegetation Management* (October 2022) (Exhibit SDG&E-13-2R) at 174.

<sup>26</sup> A.22-05-015/016 (cons), SDG&E 2020-202 WMP Update (February 11, 2022) at 323, ("Enhancements planned for 2022 include: ... Incorporate lifecycle cost analysis into WiNGS-Planning.").

There are other costs associated with maintaining overhead assets which are not yet included in this preliminary analysis, such as weather station maintenance.

SDGE continues to investigate all climate hazards, such as storms, with the goal to increase reliability and safety across the whole system, and to do so in the most cost-effective way possible. The holistic view of all climate-hazard mitigations in an ever-changing climate environment will produce greater benefit to the community at large in the long term.

#### **IV. GREEN POWER INSTITUTE**

##### **A. Commitment to Cost Benefit Ratio incorporation into WiNGS-Planning**

Green Power Institute (GPI) has expressed concerns over SDG&E's commitment to advancing towards a cost benefit framework and has further flagged its roadmap as being too vague. As previously addressed, SDG&E intends to move to a cost benefit framework prior to its RAMP filing. It is furthermore expected for the cost benefit framework to be implemented in the WiNGS-Planning model by the 2026-2028 WMP filing. The language used in section 5.2 SDGE-23-02: Calculating Risk Scores Using Maximum Consequence Values of SDG&E's 2025 WMP Update, reflects the adaptable development strategy needed for any methodology change of a significant magnitude.<sup>27</sup>

In the course of integrating a cost benefit framework, the development team will need to evaluate every dependency outlined in the roadmap with its associated impact on downstream risk scores. Flexibility to alter course during development is key to reducing the likelihood that errors are introduced into the model. The milestones outlined in the roadmap were developed at a high level. Milestones may have one or many associated code enhancements. Code enhancements are generated prior to development; however, many are often generated during the course of development as the team encounters issues that need to be resolved prior to moving to the next phase of implementation. Each enhancement in the WiNGS-Planning model requires testing, validation, with a peer code review prior to acceptance.

To further address the specifics sought by GPI and other stakeholders, SDG&E suggests repurposing one of the 2024 Risk Modeling Workshops as a cost benefit workshop. This workshop could furthermore be leveraged to report progress on each IOU's cost benefit framework roadmap. In lieu of a dedicated cost benefit workshop, progress on cost benefit implementation will be reported during regularly scheduled WMP updates.

##### **B. Updates on SDG&E's collaboration with Moody's RMS**

GPI recommends SDG&E to provide annual updates on its collaboration with Moody's RMS as well as traceable timelines and benchmarks. SDG&E is expecting to finalize the validation and applicability of the Moody's RMS data into its WiNGS-Planning model by the end of the year and will report its findings in its 2026-2028 WMP submission.

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<sup>27</sup> SDG&E 2025 WMP Update at 44-46.

**V. CONCLUSION**

SDG&E respectfully requests that Energy Safety consider the above comments and approve SDG&E's 2025 WMP Update without modification.

Respectfully submitted,

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