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August 14, 2025

VIA ELECTRONIC FILING **Docket # 2026-2028-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 its 2026-2028 Wildfire Mitigation Plan R1

Dear Director Thomas Jacobs:

San Diego Gas & Electric Company (SDG&E or Company) hereby provides reply comments regarding its 2026-2028 Base Wildfire Mitigation Plan R1 (WMP).[1]

I. SDG&E's 2026-2028 WMP SHOULD BE APPROVED WITHOUT MODIFICATION

SDG&E remains committed to wildfire mitigation through continued leadership and innovation addressing risk-based strategies, advanced technology integration, and ongoing stakeholder engagement to protect the safety of our customers, communities, and employees. The company's 2026-2028 Base WMP describes enhancements to risk models to better inform infrastructure hardening decision making and facilitate targeted mitigations in areas where those mitigations can most effectively and efficiently reduce wildfire and Public Safety Power Shutoff (PSPS) risk. These improvements support more accurate insights and more cost-effective, risk-informed decisions. SDG&E's 2026-2028 Base WMP meets all of the requirements of Public Utilities Code Section 8386, as well as Energy Safety's WMP Guidelines, and should be approved without modification.

Only one party, Mussey Grade Road Alliance, filed comments addressing SDG&E's 2026-2028 Base WMP, requesting that Energy Safety take the unprecedented step of rejecting SDG&E's submission. As detailed in these Reply Comments, MGRA's criticisms of SDG&E's 2026-2028 Base WMP stem from misinterpretation and misunderstanding of data presented and should generally be disregarded.

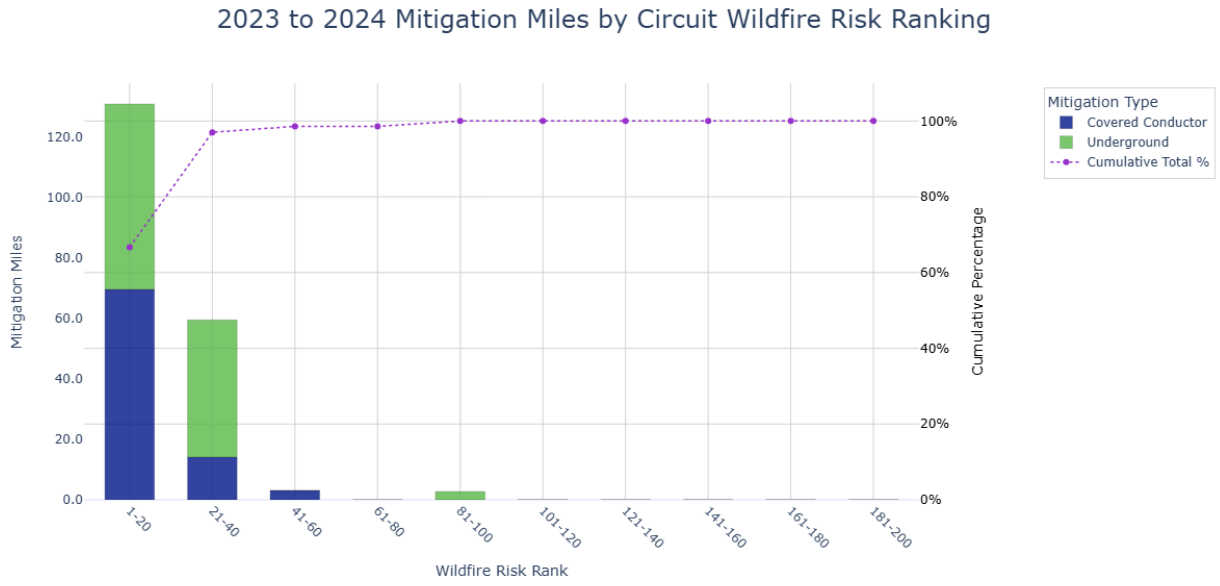
[1] Failure of SDG&E to address any other issue in these Reply Comments does not indicate agreement or waiver.

II. RESPONSES TO THE COMMENTS OF MUSSEY GRADE ROAD ALLIANCE

A. Regarding prioritization of circuit segments, other critical factors are considered in addition to the risk ranking of the segments.

Contrary to MGRA's contention that, "[r]esults suggest that deferral of risk reduction may be occurring in order to facilitate adoption of future undergrounding plans,"[2] SDG&E's 2026-2028 hardening proposals reflect years of advanced planning, scoping, and construction to maximize cost efficiency and risk reduction based on evolving data and regulatory requirements. MGRA's comments—which continue to myopically focus on its opposition to undergrounding electric infrastructure—fail to recognize that several factors beyond the current risk ranking of circuit segments impact segment mitigation prioritization.

It is important to recognize SDG&E has successfully installed roughly 174 miles of underground lines and 86 miles of covered conductor, for a total of 260 miles hardened, in the current 2023-2025 WMP cycle. As shown in the figure below, nearly all (97%) installed work from the current cycle was completed on the top 40 highest risk ranked circuits as determined in WiNGS 3.0, demonstrating SDG&E's commitment to prioritizing its highest risk areas for hardening mitigations. Furthermore, and as stated in SDG&E's 2026-2028 Base WMP Revision 1 (WMP R1) for the 2026-2028 cycle, "all grid-hardening work planned for Strategic Undergrounding is contained in the top 3 percent of circuit-segments and all Combined Covered Conductor work is contained in the top 14 percent."[3]



MGRA continues to mischaracterize and misunderstand the operational and planning challenges that accompany grid hardening, which is a time and resource intensive effort

[2] Mussey Grade Road Alliance Comments on the R1 Revision of the 2026 to 2028 Update to the Wildfire Mitigation Plans of SDG&E (MGRA Comments), p. 4.
[3] SDG&E's 2026-2028 WMP at 133.

regardless of the hardening method. Projects must be scoped, engineered, and planned well in advance to facilitate timely land acquisition, environmental review, and construction, which process can take multiple years and cannot easily be adjusted. The hardening miles planned in the 2026-2028 WMP cycle were scoped in 2022 and 2023 utilizing a different risk assessment methodology and previous versions of risk models – specifically, risk-spend efficiencies and WiNGS-Planning versions 2.0 and 3.0, respectively. Therefore, the mitigation activities presented in OEIS Table 6-4 reflect prior risk assessment and scoping and do not reflect mitigation selection and scoping for the current risk ranking. Diverting from these scoped activities due to subsequent updates to risk modeling would only further delay risk reduction and result in inaction out of a desire for a "perfect" risk model. This would be contrary to the intention of Public Utilities Code Section 8386 and the Wildfire Mitigation Plans generally.

The current WiNGS-Planning 4.0 described in the 2026-2028 WMP, its resulting segment risk ranking, and its recommended mitigation assignments are utilized to determine hardening scope for *future* WMP cycles (i.e. 2029 and beyond). The nature of designing, engineering, and constructing large infrastructure projects necessitates multiple years to implement, therefore the results of current risk assessment – namely, WiNGS-Planning 4.0 – will be realized in future years beyond 2028. It is not possible to pivot construction activities on large infrastructure projects, and therefore pivot scope, as quickly and as frequently as prescribed risk methodology changes may occur due to new regulatory requirements.

SDG&E acknowledges that in response to its Test Year (TY) 2024 GRC Decision and its 2025 WMP Petition to Amend Decision, there has been a significant reduction in the scope of its 2025 Strategic Undergrounding (SUG) program for the 2026-2028 WMP cycle, which postpones mitigating miles initially planned for 2025 until 2028. As noted in the 2026-2028 Base WMP, SDG&E may revise the 2028 targeted circuit segments to implement a plan more aligned with the evolving risk assessment.[4] SDG&E also notes that there is uncertainty with its TY 2028 GRC that will ultimately impact the implementation of its hardening strategy in 2028 and beyond. Depending on the outcome of the TY 2028 GRC – specifically whether funding is authorized – scoping for 2028 could increase beyond the currently scoped 50 miles of undergrounding and 30 miles of covered conductor.

Appendix G of SDG&E's R0 WMP presented a larger set of circuit segments – including higher risk segments – demonstrating SDG&E's intent to underground more miles in 2028. Upon receiving Energy Safety's rejection and order to revise Appendix G to account for only the 50 miles targeted for 2028, SDG&E included 50 miles of segments that have been designed, engineered and are ready for construction, to maximize feasibility and efficiency. *Undergrounding of these circuit segments will still achieve the same level of system-wide risk reduction than if the top two highest risk ranked segments were selected*. This approach was intentional and considered the ultimate system-wide risk reduction achieved with the segment-miles selected, consistent with Energy Safety's direction to revise Table 8-1 with system-wide risk reduction.

[4] SDG&E's 2026-2028 WMP, OEIS Table 8-1 at 148

It would be unreasonable to require SDG&E to blindly shift its currently scoped undergrounding strategy to covered conductor without careful consideration, when all current risk assessments, including but not limited to SDG&E's cost-benefit ratio (CBR) calculations, support a conclusion that undergrounding is a more appropriate mitigation for the highest risk segments—even when those risk assessments include some of MGRA's recommended revisions. Doing so would completely disregard the complex and data-driven risk analysis developed through years of efforts and regulatory process and would disregard the Commission's guidance to implement risk-informed decision-making strategies. Further, it would ultimately leave a considerable amount of wildfire and PSPS risk in the service territory, calling into question the efficiency of the costs to implement covered conductor in the first place.

SDG&E considers multiple factors when selecting the appropriate mitigation, including the following:

- CBRs and WiNGS-Planning model output recommendation for either SUG, CCC, or no mitigation for each circuit segment – estimates the baseline risk and quantifies the expected risk reduction for CCC and SUG
- Feasibility review – considers length and physical location of segment, upstream and downstream feeder configuration, and engineering and permitting constraints
- Bundling efficiencies – considers advantages of bundling the hardening of upstream feeder segments to optimize PSPS risk reduction (i.e. there may be less efficiency to undergrounding one downstream segment when upstream segments remain overhead and subject to PSPS de-energizations) and leverage economies of scale in both operational planning and construction (e.g. reducing engineering, permitting and mobilization costs)
- Maximum wind gust – considers maximum wind gust speed experienced on the segment, which influences whether CCC would be an effective PSPS mitigation; without timely activation of PSPS protocols, the system as hardened would remain vulnerable to ignition risks during periods of moderate to high wind activity

Understanding that SDG&E continues to prioritize its high-risk segments with the appropriate mitigation to "minimize the risk of catastrophic wildfire posed by [] electrical lines and equipment,"[5] he table below demonstrates SDG&E's anticipated mitigations for the top 20 riskiest circuit segments from OEIS Table 6-4.[6] For each circuit segment, the CBR (excluding risk aversion) for undergrounding exceeds the CBR for covered conductor. Further, 14 segments have a maximum wind gust of over 50 mph, rendering covered conductor a generally ineffective mitigation for these segments.

[5] Pub. Util. Code §8386(a).

[6] Note that OEIS Table 5-5 referenced by MGRA sorts segments by a circuit-mile-weighted normalized risk, which is not used to constitute a high-risk segment.

Proposed Mitigation for Top 20 Riskiest Segments (OEIS Table 6-4)

Risk Rank	Feeder-Segment	OH Miles	Proposed Mitigation	Maximum Wind Gust (mph)	SUG CBR* >= CCC CBR*
1	222-1986R	21.26	SUG	64	2.40 >= 1.54
2	237-30R	33.47	SUG	63	1.54 >= 1.08
3	909-451	20.6	Under review	60	1.71 >= 1.33
4	222-1990R	14.24	SUG	75	2.23 >= 1.33
5	908-2038R	17.93	SUG	54	1.55 >= 1.08
6	524-69R	34.17	Under review	46	1.00 >= 0.87
7	358-682F	12.51	SUG	76	2.22 >= 1.70
8	1458-601R	15.45	Under review	59	1.66 >= 1.26
9	1021-1748F	17.73	CCC	47	1.35 >= 1.02
10	909-805R	13.42	Under review	60	1.55 >= 1.27
11	237-2R	16.72	SUG	42	1.45 >= 0.88
12	971-2050R	20.7	Under review	49	1.11 >= 0.65
13	1030-42R	16.72	SUG	68	1.29 >= 0.80
14	237-1765R	8.34	SUG	74	2.17 >= 1.44
15	237-17R	14.64	Under review	74	1.35 >= 1.11
16	907-1716R	12.78	Under review	33	1.41 >= 0.95
17	1030-989R	19.58	SUG	66	1.14 >= 0.75
18	214-1122R	19.91	SUG	73	1.07 >= 0.70
19	599-19R	27.93	Under review	34	0.75 >= 0.59
20	1030-20R	15.72	SUG	52	1.22 >= 0.67

** CBRs presented in this table are calculated based on the WACC discount rate and do not include Risk Aversion.*

B. SDG&E remains committed to reducing risk across its service territory while grid hardening efforts are completed

SDG&E disagrees with MGRA's conclusion that SDG&E's grid hardening plans intentionally leave high-risk segments unmitigated, leaving residents of the service area exposed to potential ignitions from these high-risk circuits.[7] As it has done successfully for 17 years and as discussed in the 2026-2028 Base WMP, SDG&E actively implements a range of interim mitigations to manage wildfire and PSPS risk while permanent grid hardening measures are being developed and constructed. These interim activities[8] include PSPS de-energizations,

[7] MGRA Comments, Section 2.3.2, Appendix G – Selection of Mitigation, pp. 9-10.

[8] Interim Mitigation is discussed in the 2026-2028 Base WMP, Section 6.2.2.

backup battery programs, operational adjustments, and targeted equipment replacements based on inspections. These measures are deployed in the HFTD and are informed by annual efficacy studies to ensure they are effectively and appropriately prioritized. Therefore, even as long-term solutions are being developed, SDG&E continues to mitigate risk and protect communities through a layered and adaptive approach.

C. Regardless of the risk aversion framework, the cost-benefit ratios for Strategic Undergrounding remain higher than those for Combined Covered Conductor. [9]

MGRA's anti-undergrounding bias is demonstrated in its continued misinterpretation of SDG&E's risk aversion framework and inaccurately suggests that SDG&E's incorporation of risk aversion reflects self-serving motivations rather than the obvious and reasonable societal aversion to disasters such as catastrophic wildfires.

MGRA's comments reflect a fundamental misunderstanding of the mathematical application of the risk aversion function within SDG&E's decision-making framework. This misinterpretation is clearly illustrated in MGRA's analysis of the 2025 Eaton Fire, where it erroneously concludes that SDG&E's risk aversion framework would result in $128 trillion as the reasonable cost for loss avoidance.[10] When the risk aversion framework is correctly applied, however, the estimated impact of the Eaton Fire can be calculated as: $16 million × ($10,000 / $16)$^{1.47}$ = $206 billion, which is significantly less than the $128 trillion calculated by MGRA. This discrepancy calls into question the overall reliability of MGRA's analysis and underscores the need for careful scrutiny of its comments and recommendations.

Moreover, while MGRA acknowledges that SDG&E provided a copy of Appendix G without the explicit inclusion of the risk aversion function, it fails to recognize a critical point: independent of the risk aversion framework, the cost-benefit ratios for all feeder segments selected under SDG&E's 2026-2028 WMP and 2025 RAMP consistently demonstrate that strategic undergrounding of those segments is more cost-effective than combined covered conductor.

Regardless of whether risk aversion (abbreviated RA in the figures below) is considered and regardless of which discount rate scenario is used (WACC or Societal), nearly all SDG&E feeder segments presented in Appendix G (with one exception) exhibit higher cost-benefit ratios for undergrounding (dots under the diagonal line represent segments where the CBR is higher for undergrounding).

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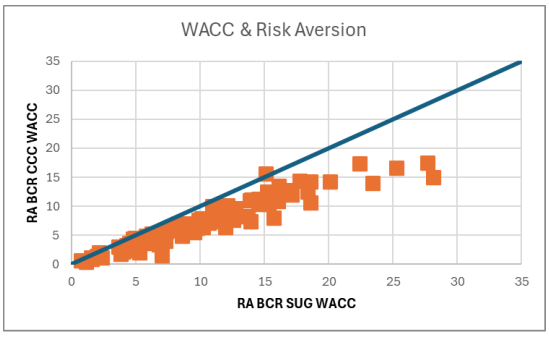
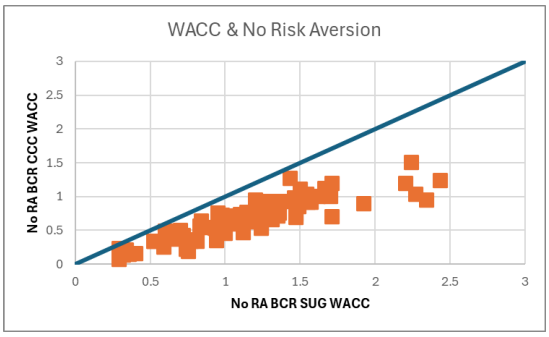
9 MGRA Comments, pp. 20-21

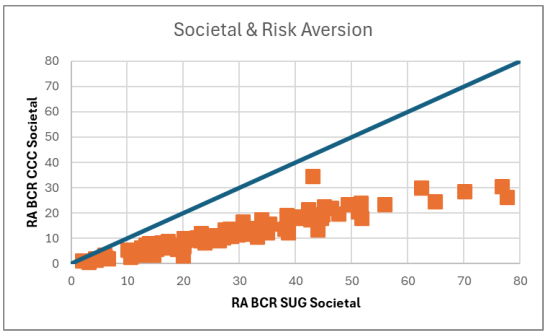
10 MGRA Comments, p. 21.

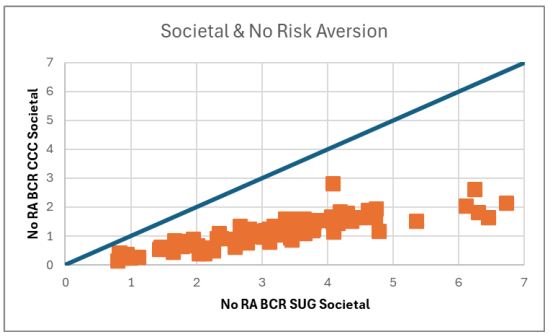
Cost-Benefit Ratios Calculated Under WACC Discounting





Cost-Benefit Ratios Calculated Under Societal Discounting





Accordingly, MGRA's criticisms of SDG&E's use of risk aversion are without merit, and SDG&E recommends that Energy Safety disregard MGRA's comments pertaining to the risk aversion framework and broader risk assessment methodologies.

D. SDG&E's lifecycle cost methodology is transparent, data-driven, and not skewed in favor of strategic undergrounding mitigation

While MGRA agrees with SDG&E's position that a proper cost-benefit analysis must account for all end-to-end lifecycle costs, it misrepresents the primary drivers of those costs.[11] Contrary to MGRA's conclusions, long-term foundational costs, capital and O&M, are not the dominant factor. The most significant component of lifecycle costs lies in the long-term operational and mitigation expenses associated with maintaining overhead infrastructure over a 55-year lifespan, which significantly exceed those associated with underground systems, an aspect MGRA fails to acknowledge.

These ongoing O&M costs, including vegetation management, routine and ad-hoc asset inspections, reactive and proactive corrective actions, and potential costs related to PSPS de-energizations and PSPS mitigation efforts, accumulate significantly over the 55-year lifespan of an asset and are the true drivers of lifecycle cost differences between overhead and underground

[11] MGRA Comments, pp. 12-14.

infrastructure, far outweighing initial installation or long-term foundational costs. By comparison, within SDG&E's HFTD, long-term foundational costs are estimated to account for approximately 15% of lifecycle costs for CCC segments and approximately 6% for SUG segments on average. As such, focusing solely on foundational costs fails to capture the full economic impact and risk mitigation value of undergrounding compared to overhead alternatives.

Despite this, MGRA presents extensive arguments challenging the criteria SDG&E uses to allocate long-term foundational costs that support CCC and SUG projects, currently modeled as $M/mile-year metric. These cost allocations are informed by subject matter expert assessments of the relative contribution of various activities to each mitigation strategy. They are not intended to reflect the direct benefit or secondary value of those activities, nor do they serve as endorsements for the continuation or discontinuation of any particular activity. Rather, the purpose of these allocations is to ensure that costs are appropriately attributed to the mitigation strategies they support, enabling more accurate cost-benefit analysis and informed decision-making. In order to optimize a mitigation strategy focused on maximizing wildfire risk reduction and accurately capturing programmatic costs, it is essential to allocate foundational activities to the specific mitigation they support.

SDG&E recommends that Energy Safety disregard MGRA's comments pertaining to lifecycle cost comparisons between overhead and underground infrastructure, as they place disproportionate emphasis on long-term foundational costs, while overlooking the more impactful long-term O&M expenses that fundamentally differentiate overhead and underground infrastructure over their full lifecycle.

E. SDG&E's Inclusion of Evidence of Heat in its Covered Conductor Effectiveness Estimate is Well-Supported and Does Not Materially Impact Cost-Benefit Ratios.

While MGRA acknowledges that SDG&E provides a transparent explanation of its CCC effectiveness methodology in Section 6.1.3.1.5, it disagrees with the inclusion of 'Evidence of Heat' recordable events alongside CPUC Reportable Ignitions.[12] MGRA argues that Evidence of Heat events should be excluded solely because they do not meet the formal CPUC reportable ignition criteria. However, this position overlooks the fact that 'Evidence of Heat' events are collected by SDG&E field teams using the same protocols, reviewed with the same rigor, and treated with the same operational significance as CPUC Reportable Ignitions. These events pose potential ignition risks and are reasonable to consider when developing risk reduction strategies.

Evidence of Heat refers to observed signs of arching, charring, or ignition, such as a char mark on a cross arm, that may not always meet the definition of CPUC reportable ignitions but may indicate a potential ignition risk. These events are tracked through SDG&E's Ignition Management Program (IMP), which collects data on both CPUC-reportable ignitions and non-reportable heat-related incidents. The IMP involves input from internal stakeholders to identify actual and potential ignition events, determine specific causes of equipment failures, document modes of failure, and assign corrective actions to mitigation owners. All Evidence of Heat

[12] MGRA Comments, pp. 16-19.

events, whether they meet CPUC reporting criteria or not, are reviewed by SDG&E's Engineering, Risk Analytics, and District teams. This comprehensive review process supports SDG&E's internal risk management, regulatory reporting as applicable, and proactive mitigation to enhance system safety and reliability.

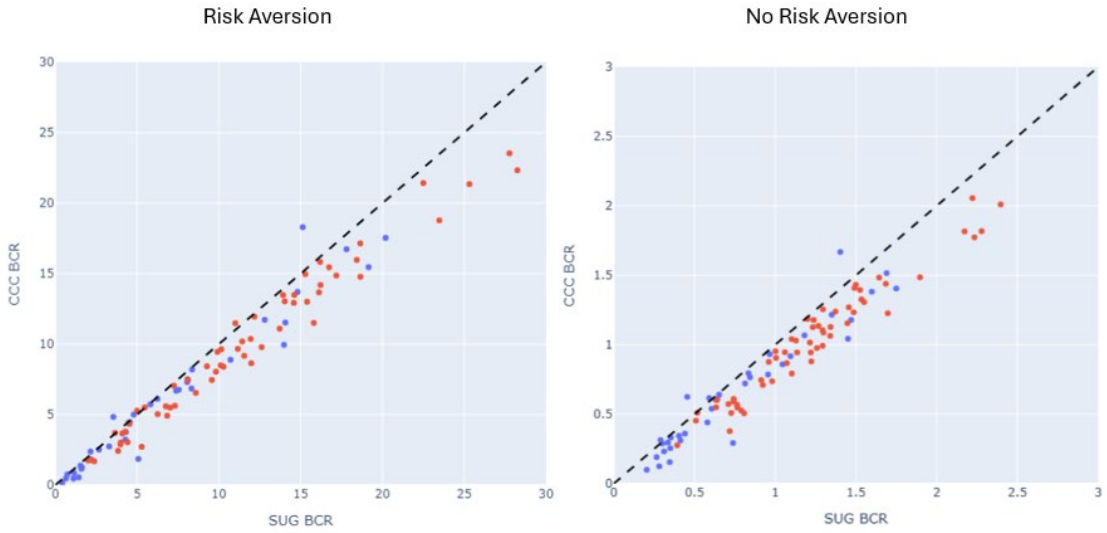
The following two images depict Evidence of Heat events recorded within SDG&E's service territory. The image on the left shows an ignition-related incident involving an animal contact with CALFIRE-exempt equipment in a crossarm mounted on a steel pole. The image on the right captures a wire-down event that landed on turf (artificial grass) rather than dry grass. Had the wire contacted dry vegetation, the outcome could have escalated into a CPUC Reportable Ignition.

Contrary to MGRA's assertions, these Evidence of Heat events provide valuable insights into ignition risk and asset vulnerability. They play a critical role in informing SDG&E's long-term grid hardening strategy by highlighting conditions that, while not meeting CPUC's formal reporting criteria, still represent significant operational and safety concerns. It is reasonable to include these risk events to inform an overall understanding of the effectiveness of covered conductor or any other mitigation strategy.

While SDG&E maintains that including Evidence of Heat events in mitigation effectiveness calculations is valuable, SDG&E's mitigation effectiveness calculations presented in Section 6.1.3.1.5 also include a scenario in which CCC effectiveness is evaluated using only CPUC Reportable Ignitions. Under this approach, the documented effectiveness rate for covered conductor increases from 61.71% (when including Evidence of Heat data) to 70.11% (based only on CPUC reportable ignitions). Similarly, the effectiveness of undergrounding improves from 98.52% to 99.48% when calculated exclusively with CPUC Reportable Ignitions.

Even using the 70% mitigation effectiveness for combined covered conductor based only on CPUC reportable ignitions and a conservative modeling assumption of 98% mitigation effectiveness for SUG, SDG&E's cost-benefit analysis demonstrates that undergrounding

continues to show superior cost-benefit performance compared to combined covered conductor, reinforcing its strategic value in long-term wildfire mitigation planning. The scatter plot below presents cost-benefit ratios for strategic undergrounding and combined covered conductor, assuming a mitigation effectiveness of 98% and 70% respectively. Cost-benefit ratios, calculated using WACC-based discounting, are presented under two planning assumptions: one incorporating risk aversion (left plot) and one without risk aversion (right plot). Red markers denote feeder segments preliminarily selected for undergrounding, while blue markers represent those initially identified for combined covered conductor. The black dashed line indicates the 1:1 ratio, marking the point at which the cost-benefit performance of undergrounding and covered conductor is equal.



Accordingly, the exclusion of Evidence of Heat events from mitigation effectiveness calculations results in minor differences in effectiveness metrics that do not materially impact cost-benefit ratios or alter SDG&E's long-term grid hardening strategy.

III. CONCLUSION

SDG&E respectfully requests that Energy Safety consider the above reply comments and approve SDG&E's 2026-2028 WMP without modification.

Respectfully submitted,

/s/ Laura M. Fulton
Attorney for
San Diego Gas and Electric Company