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September 18, 2024

VIA ELECTRONIC FILING

Tony Marino
Acting Deputy Director
Electrical Infrastructure Directorate
Office of Energy Infrastructure Safety

**RE: MUSSEY GRADE ROAD ALLIANCE COMMENTS ON OFFICE OF ENERGY SAFETY
INFRASTRUCTURE DRAFT DECISION ON PACIFIC GAS AND ELECTRIC COMPANY
2025 WILDFIRE MITIGATION PLAN UPDATE**

Dear Acting Deputy Director Marino,

The Mussey Grade Road Alliance (MGRA or Alliance) files these comments pursuant to the Cover letter to the Stakeholders for Southern California Edison Company 2025 Wildfire Mitigation Update¹ which authorizes stakeholders to file comments on SCE's and SDG&E's 2023-2025 Wildfire Mitigation Plan Draft Decisions by September 18th, 2024. The Alliance filed comments on the 2022 Wildfire Mitigation Plans of all major IOUs April 11, 2022,² and filed Reply Comments on April 18, 2022.³

The Alliance reply comments are authored by the Alliance expert, Joseph W. Mitchell, Ph.D.

¹ 2023-2025-WMPs; OFFICE OF ENERGY INFRASTRUCTURE SAFETY; DRAFT DECISION; 2025 PACIFIC GAS AND ELECTRIC COMPANY 2025 WILDFIRE MITIGATION UPDATE; August 29, 2024 (Draft Decision or DD).

² 2023-2025-WMPs; MUSSEY GRADE ROAD ALLIANCE COMMENTS ON 2023-2025 WILDFIRE MITIGATION PLANS OF PG&E, SCE, AND SDG&E; May 26, 2023. (MGRA Comments)

³ 2023-2025-WMPs; MUSSEY GRADE ROAD ALLIANCE REPLY COMMENTS ON 2023-2025 WILDFIRE MITIGATION PLANS OF PG&E, SCE, AND SDG&E; June 6, 2023. (MGRA Reply)

Respectfully submitted this 18th day of September, 2024,

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**COMMENTS ON THE OFFICE OF ENERGY SAFETY INFRASTRUCTURE DRAFT
DECISION ON PACIFIC GAS AND ELECTRIC COMPANY 2025 WILDFIRE
MITIGATION PLAN UPDATE ON BEHALF OF THE MUSSEY GRADE ROAD
ALLIANCE**

The Mussey Grade Road Alliances' (MGRA or Alliance) comments are authored by MGRA's expert witness Joseph W. Mitchell, Ph.D.⁴

1. INTRODUCTION

As MGRA noted in its comments in last year's comments, OEIS has taken a cursory view of the utility plans and has not delved particularly deeply into some areas, leaving fairly extensive swathes of the utility safety landscape only partially examined or entirely ignored. It is in these areas that external stakeholders who might have specialized knowledge or expertise may be particularly helpful. Integrating this input in a correct manner improves regulation. However, this year's update review seems to have further restricted its scope from last year's.

The timing for this reduction of supervision could not be worse. It is precisely now that all three major utilities are deploying their hardening programs, and advanced wildfire mitigation technologies, and to a great extent the ratios chosen depend on the calculated efficiencies of these mitigations. These estimates are still in flux, as shown in MGRA's WMP comments. However, to a large extent utilities are not being asked to keep these as open questions as they move into their 2026-2028 WMPs. The Commission and public trust the OEIS to set the standards by which utility wildfire mitigation is measured, and this information is needed immediately and not at utility discretion late in the 2026-2028 cycle.

For these reasons MGRA believes that additional analysis and scrutiny must go into the final Decision in order for it to be appropriate for Commission ratification.

⁴ M-bar Technologies and Consulting, LLC; <http://www.mbartek.com>; Email: jwmitchell@mbartek.com. Dr. Mitchell is also a board member of the Mussey Grade Road Alliance.

2. GENERAL IMPROVEMENTS FOR THE DRAFT DECISION TO CONSIDER

2.1. Reduced Scope and Depth of the Review of the Draft Decisions

In its 2023 WMP review of the 2023-2025 Wildfire Mitigation plan updates, MGRA noted that the overall scope and depth of the review had significantly decreased from what were previously in-depth and comprehensive analyses. MGRA noted that the ratio of the number of pages in the Draft Decision to the ratio of pages submitted had dropped more than 50%. Among MGRA's recommendations was to ensure that the Wildfire Mitigation Plan reviews were adequately staffed and resourced.

For the 2024 decisions on the 2025 Wildfire Mitigation Plan Update, Energy Safety review is even briefer and less in-depth. Of course, the 2025 Update is only supposed to note critical modifications to the previous full WMPs, so it is understandable that it should not require the full resources allocated to a full Wildfire Mitigation Plan. However, determinations in the Draft Decision help to set the scope for the upcoming 2026-2028 WMPs and so it is important that key issues remain live during this period.

2.1.1. Reporting versus Evaluation

For most of the technical sections, the recitation of what the utility reported is described in adequate detail with relevant citations to the utility's wildfire mitigation plan update. This is followed by a "Energy Safety Evaluation" section. A significant fraction of these "Energy Safety Evaluation" sections are substantially shorter than the descriptive section, often just consisting of a short paragraph or as little as a single sentence.

Evidence for lack of sufficient critical analysis can be seen in the citations. For example, the PG&E Draft Decision contains 241 citations. Only 3 of these citations are to data requests rather than utility source material or previous WMPs and decisions. This leaves the impression that the Draft Decision was largely based on a cursory review of utility materials rather than a critical analysis of the utility WMP update.

Of particular concern are the issues for which Energy Safety is requiring no or limited further improvement on for the 2026-2028 WMPs, which will be a major update. Many of these issues, at least according to stakeholders, still are under significant flux and may be controversial. For PG&E, these include:

- Risk models and cross-utility collaboration
- PSPS risk prioritization
- Grid hardening and the choice of undergrounding versus covered conductor
- Advanced technology deployment plan
- AFN customer needs

2.2. Integrating Stakeholder Input

Additionally, OEIS incorporation of external stakeholder input was minimal, with no stakeholder data requests cited in SCE 2025 Update Appendix E. While it would be presumptuous for stakeholders to state their value to the WMP process, OEIS management has always allowed stakeholders to have a voice in OEIS processes and feedback has often been incorporated into OEIS's final products. Many stakeholders, such as MGRA, have a deep interest and stake in the prevention of catastrophic wildfires and control over mitigation costs and have appreciated the opportunity to participate in these efforts.

The California Public Utilities Commission (CPUC), also recognizes the value that stakeholders play in the review of wildfire mitigation plans, particularly as it is the duty of the CPUC to review and ratify these plans, and that specifically it was in the interest of adhering to Commission requirements that intervenors be able to participate in plan reviews. In D.22-09-023, the Commission states that:

“In short, the Pub. Util. Code has created a complex and interrelated regulatory scheme to address utility wildfire risks. The work of the Commission and Energy Safety is dependent upon and informs each other, and the participation of intervenors in the WMP reviews at Energy Safety is essential to assisting the Commission in performing its statutory duties. Given the required ratification of the WMP disposition by the Commission, the Commission’s determination of ratemaking impacts of approved WMPs, the Commission’s role in enforcing WMPs, and the importance of ensuring the WMPs adhere to Commission requirements, we find as a matter of

policy that it is consistent with the objectives of the statute to encourage the effective participation of intervenors in the WMP reviews at Energy Safety.”⁵

While it may be OEIS’s prerogative to determine what level of scrutiny Wildfire Mitigation Plans and their updates must undergo, these determinations feed into California Public Utility Commission determinations that affect utility spending and liability. They can also be utilized as an “unbiased” source of utility data and analysis. For this reason, the CPUC must ratify each WMP Decision produced by OEIS to ensure that it meets Commission needs. MGRA suggests that OEIS re-evaluate issues that are particularly sensitive or active, providing additional content to the current review, to ensure that utilities continue to provide the required materials in their 2026-2028 WMPs.

3. TECHNICAL ISSUES

3.1. 6.1 Risk Model Updates

3.1.1. Implications of Risk Model Changes in WDRM V4

Energy Safety’s evaluation correctly notes based on its evaluation of P&GE’s statistics that PG&E’s WDRM V4 is likely to be more accurate than its predecessor WDRM V3.⁶ While this is a positive direction, as MGRA points out in its Comments, in order to reach the same level of risk reduction that PG&E proposed in its 10,000 mile undergrounding proposal (59%), PG&E would need to instead underground 17,000 miles of conductor.⁷

Recommendations:

- Energy Safety should require that in its 2026-2028 WMP PG&E state its long term goal and/or plans for risk reduction given that its risk is distributed over a much wider area than first determined by its earlier risk models.

⁵ p. 4.

⁶ DD; p. 11.

⁷ MGRA Comments; pp. 25-26.

3.2. PG&E-23B-02. PSPS and Wildfire Risk Trade-Off Transparency

3.2.1. Effect of using ICE model for PSPS

MGRA would like to warn OEIS that PG&E's current RAMP process (A.24-05-008) includes mandated inclusion of the Berkely ICE model to estimate costs from power shutoff. Initial analysis of this model indicates that it increases predicted potential harm from outages by orders of magnitude, especially when industrial customers are on the circuit. MGRA has included some of the data presented by PG&E in its second pre-filing workshop as Appendix A.

Energy Safety should require that in its 2026-2028 WMP PG&E describe how it projects that using the ICE model with his larger potential contributions from PSPS harm will affects its planning and operations.

3.3. 8.1.1 Grid Design and System Hardening

3.3.1. PG&E-23B-05. Updating Grid Hardening Decision Making

Energy Safety accepts the PG&E estimate that its covered conductor effectiveness is 66.4%. MGRA has presented unrefuted data and analysis from SCE field data from its much more extensive covered conductor deployment that implies that actual covered conductor effectiveness may be more than a factor of two higher than this.⁸ Requiring, as the Draft Decision does, that PG&E begin to include field data in its efficiency estimates⁹ will not be effective. By the time PG&E deploys sufficient covered conductor and collects sufficient field data, it will be too late to rebalance its undergrounding / covered conductor ratio since PG&E has adopted an "undergrounding first" approach and much of its service area will have already been undergrounded.

Some of the conclusions reached by Energy Safety's evaluation of PG&E's response to PG&E-23B-05 are based upon PG&E's covered conductor efficiency assumption and are therefore

⁸ MGRA Comments; pp. 22-24.

⁹ DD; p. 24.

erroneous. Energy Safety should therefore modify the conclusion that no further reporting is required in this area and require PG&E to provide further updates based on estimates based on actual field data (including SCE field data and PG&E-specific adjustments) as part of its 2026-2028 WMP.

3.4. 11.3 Grid Design, Operations, and Maintenance

3.4.1. PG&E-25U-03. Continuation of Grid Hardening Joint Studies

In light of the field data already available from SCE’s extensive covered conductor program, and the implication that covered conductor is more effective in reducing ignitions than currently estimated by utilities, the requirement:

“The IOUs’ joint evaluation of the effectiveness of mitigations in combination with one another, including, but not limited to overhead system hardening, maintenance and replacement, and situational awareness mitigations. This must also include analysis of in-field observed effectiveness, as well as effectiveness for both wildfire and PSPS risk.”

should be modified to:

“The IOUs’ joint evaluation of the effectiveness of mitigations in combination with one another, including, but not limited to overhead system hardening, maintenance and replacement, and situational awareness mitigations. This must also include analysis of in-field observed effectiveness incorporating data from all utilities, as well as effectiveness for both wildfire and PSPS risk.”

3.4.2. PG&E-25U-05. Evaluation and Reporting of Safety Impacts Relating to EPSS

In its comments on the 2023-2025 WMPs, MGRA noted that PG&E’s EPSS outages often occurred in areas without notable weather risk (high temperatures, low humidity, or high winds).¹⁰

While MGRA supports the enhanced EPSS data collection required by PG&E-25U-05, it suggests that in addition to the listed data collection requirements that Energy Safety require PG&E to also provide weather data (temperature, humidity, wind gust speed) at the most proximate weather station or weather stations to the outage in the hour leading up to the outage.

¹⁰ MGRA 2023-2025 WMP Comments; pp. 111-115.

4. CONCLUSION

MGRA has always held Energy Safety and its work in high regard, but does not consider the current review up to OEIS's previously high standards. MGRA urges Energy Safety to undertake additional analysis and review in active and sensitive areas to ensure that critical areas are addressed in the upcoming 2026-2028 Wildfire Mitigation Plans. MGRA also respectfully requests that OEIS make the additional changes that MGRA has suggested in the technical sections.

Respectfully submitted this 18th day of September, 2024,

By: /S/ **Joseph W. Mitchell, Ph.D.**

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Attachment A:

CPUC Docket R.20-07-013; TAIL RISK AND EVENT STATISTICS FOR UTILITY PLANNING; August 1, 2023. Joseph W. Mitchell, Ph.D.

PG&E 2024 Risk Assessment and Mitigation Phase Workshop #2: Cost-Benefit Approach Demonstration

April 11, 2024





Principle 5 – Monetized Levels of Attributes

Element Description and Requirements

RDF Element No. 6: “Apply a monetized value to the Levels of each of the Attributes using a standard set of parameters or formulas, from other government agencies or industry sources, as determined by the Phase II Decision Adopting Modifications to the Risk-Based Decision-Making Framework Adopted in D.18-12-014 and Directing Environmental and Social Justice Pilots in Rulemaking (R.) 20-07-013.

A utility may deviate from the agreed upon standard set of parameters or formulas by submitting a detailed explanation as to why the use of a different value would be more appropriate. The use of a different set of parameters or formulas to determine the Monetized Levels of Attributes requires an analysis comparing the results of its “equivalent or better” set of parameters or formulas against the results of the agreed upon standard set of parameters or formulas.”

PG&E adopted the following Monetized Attribute values based on the requirements outlined in D.22-12-027.

Safety

Calculated using the Department of Transportation (DOT) guidance for the Value of a Statistical Life (VSL), adjusted for: 1) California price and real wage data, and 2) the base year of the RAMP filing.

2023 CA-Adjusted VSL:
\$15.23 million ^(1,2)

Electric Reliability

Calculated using the Lawrence Berkeley National Laboratory (LBNL) Interruption Cost Estimate (ICE) Calculator, updated with PG&E-specific information.

Expressed in dollars per customer-minute interrupted.

2023 \$/CMI
\$3.17 ⁽³⁾

Gas Reliability

For gas reliability, the Risk OIR Phase II Decision directs IOUs to use the implied dollar value from their most recent RAMP MAVF risk score calculations.

The implied gas reliability value expressed in dollars per customer impacted:

2023 \$/Customer:
\$1,569.75 ⁽⁴⁾

Notes to Results:

1. \$2023 VSL calculated by adjusting the \$2012 DOT VSL using inflation (CPI) and real wage growth data from the Bureau of Labor Statistics (BLS), per DOT guidance.
2. \$2023 California-adjusted VSL calculated by applying price and income modifiers derived from CPI and weekly earning data from the BLS and California Department of Industrial Relations
3. PG&E used PG&E-specific data in the ICE Calculator such as customer class composition and annual energy usage, C&I industry percentages, temporal outage distribution and average interruption frequency. ICE Calculator year 2016 results were adjusted to \$2023 using BLS CPI data.
4. \$2023 Gas Reliability value calculated by adjusting the 2020 MAVF-implied values, which is in 2020 dollars, using BLS CPI data.



Overview of ICE Calculation Used for Reliability Attribute

Note: This shows an initial screen shot of the ICE calculator *prior to* applying PG&E's User Inputs.

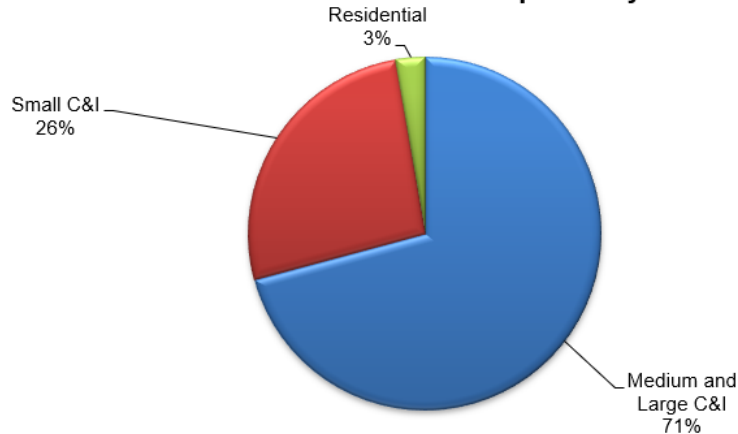
ICE Calculator User Inputs (highlighted in yellow)

Reliability Inputs:		Number of Customers:		Choose state/states:	
SAIFI	2,000	Non-Residential	1,000	State 1	California
SAIDI	120.0	Residential	10,000		
CAIDI	60.0				

Main Output:

Sector	No. of Customers	Cost Per Event (2016\$)	Cost Per Average kW (2016\$)	Cost Per Unserved kWh (2016\$)	Total Cost of Sustained Interruptions (2016\$)
Medium and Large C&I	169	\$8,444.8	\$161.2	\$161.2	\$2,854,333.0
Small C&I	831	\$643.6	\$311.5	\$311.5	\$1,069,733.4
Residential	10,000	\$5.3	\$6.5	\$6.5	\$106,819.7
All Customers	11,000	\$183.2	\$107.3	\$107.3	\$4,030,886.1

Total Cost of Sustained Interruptions by Sector



RDF Requirement regarding ICE Calculator

The RDF Proceeding Phase II Decision requires each IOU to use the most current version of the ICE Calculator to determine a standard dollar valuation of Electric Reliability risk for the Reliability Attribute.

ICE Calculator Overview

The Interruption Cost Estimate (ICE) Calculator is a tool designed for electric reliability planners at utilities, government organizations or other entities that are interested in estimating interruption costs and/or the benefits associated with reliability improvements.

What Interruption Cost Means

Interruption Costs refer to value of electric service reliability estimates developed through either surveys of the economic losses customers experience because of electric service interruptions or customers' willingness-to-pay to avoid/willingness-to-accept compensation for such problems.

PG&E's Electric Reliability Risk Valuation

The natural unit of PG&E's electric reliability attribute is customer minutes interrupted (CMI) per event, however Cost per CMI is not a standard output. Thus, PG&E computes it by dividing ① [Cost per Event] by ② [SAIDI] after setting [SAIFI] as 1 and [Number of Customers] as total number of customers.



PG&E Inputs Used in ICE Calculator

PG&E used PG&E-specific data in the ICE Calculator to arrive at \$3.17/CMI.

	ICE Calculator Input Variable	User Input Default	PG&E Data	PG&E Data Source
Number of Customers	Non-Residential Residential	1,000 10,000	633,547 4,961,426	2023 recorded accounts data from PG&E's Rate Design and Analytics Department
Number of Accounts by Rate Class	Residential Small C&I Medium and Large C&I	12,971,924 1,567,550 319,434	4,961,426 469,588 163,960	2023 recorded accounts data from PG&E's Rate Design and Analytics Department
Annual Usage per Customer (MWh)	Residential Small C&I Medium and Large C&I	7.2 18.1 459.0	5.1 15.3 240.6	2023 recorded usage data from PG&E's Rate Design and Analytics Department
Medium and Large Commercial and Industrial (C&I) Customer Mix	Construction Manufacturing All-Other Industries	2.0% 17.1% 80.9%	2.0% 9.5% 88.5%	2023 recorded accounts data from PG&E's Rate Design and Analytics Department
Small C&I Customer Mix	Small-C&I Construction Manufacturing All-Other Industries	9.5% 5.0% 85.5%	9.5% 7.1% 83.4%	2023 recorded accounts data from PG&E's Rate Design and Analytics Department
Reliability Inputs	SAIFI SAIDI CAIDI	2.00 120.00 60.00	1.00 120.00 120.00	Recorded annual average data from 2013-2022
Outages by Time of Day	Morning (6 am to 12 pm) Afternoon (12 pm to 5 pm) Evening (5 pm to 10 pm) Night (10 pm to 6 am)	25% 21% 21% 33%	13% 23% 28% 36%	Electric Operations unplanned outage data from 2016-2023
Outages by Time of Year	Summer (June through September) Non-Summer (October through May)	50% 50%	29% 71%	Electric Operations unplanned outage data from 2016-2023



PG&E's Electric Reliability Attribute Risk Valuation

PG&E Plans to Use the Weighted Average Value of Electric Reliability from ICE for its 2024 RAMP.

- Large disparities in Values between C&I and Residential Customers could lead to significant, unintended consequences.
- PG&E will review the policy of using the Average pending the ICE 2.0 update.
- PG&E expresses the Monetized Electric Reliability Attribute as Cost per Customer Minutes Interrupted (\$/CMI), shown below in \$2023.

$$\frac{\text{Cost}}{\text{CMI}} = \frac{\text{Cost Per Event}}{\text{SAIDI}} = \frac{\text{Cost Per Event} \times \text{Total No. of Customers}}{\text{Sum of All Customer Interruption Durations}}$$

ICE Model Outputs				
	ICE User Input Default		PG&E Data	
Sector	Cost per CMI (2016\$)	Cost per CMI (2023\$)	Cost per CMI (2016\$)	Cost per CMI (2023\$)
Medium and Large C&I	\$70.37	\$89.34	\$61.35	\$77.89
Small C&I	\$5.36	\$6.81	\$7.87	\$9.99
Residential	\$0.04	\$0.06	\$0.04	\$0.06
All Customers	\$1.53	\$1.94	\$2.50	\$3.17

- To compute Electric Reliability Attribute Risk Values in its risk models, PG&E is using the \$3.17/CMI for all customer classes.
- The resulting Electric Reliability Risk Values are approximately 63% higher with PG&E's User Inputs, compared to \$1.94/CMI from the default User Input.

Note: PG&E adjusted ICE Calculator year 2016 results to \$2023 using BLS CPI data, available at <https://data.bls.gov/timeseries/CUUR0000SA0>.