State of California – A Natural Resources Agency
Gavin Newsom, Governor

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Caroline Thomas Jacobs, Director

October 27, 2025

To: Wildfire Safety Advisory Board
Subject: 2025 Energy Safety Analysis of Board Recommendations

Dear Wildfire Safety Advisory Board and Wildfire Mitigation Plan Stakeholders:

Attached are Energy Safety's responses to the Wildfire Safety Advisory Board (WSAB) 2025 Recommendations[1] to Energy Safety. As Energy Safety was reviewing the recommendations, 2025 California Legislative Service Chapter 119 (Senate Bill 254, Becker) ("SB 254") became law on September 19, 2025. SB 254 amended Government Code section 8389 and removed the annual process whereby WSAB provides recommendations to Energy Safety, and Energy Safety reviews them and prepares a report of its analysis and recommendations to the California Public Utilities Commission.[2]

Energy Safety appreciates the WSAB recommendations and the collaboration to improve utility wildfire safety practices. Though the annual process no longer exists, Energy Safety provides these responses to the WSAB as part of the ongoing collaboration. Energy Safety's responses and next steps may be subject to change as Energy Safety implements SB 254, especially as related to the WSAB recommendations on tracking wildfire mitigation activity effectiveness.

Sincerely,

/s/ Tony Marino

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

[1] WSAB 2025 Recommendations to Energy Safety URL:(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=58654&shareable=true) accessed October 27, 2025.

[2] SB 254 Energy URL:(https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202520260SB254), accessed October 27, 2025.

OFFICE OF ENERGY INFRASTRUCTURE SAFETY

# EVALUATION AND RESPONSE TO 2025 WILDFIRE SAFETY ADVISORY BOARD RECOMMENDATIONS

October 2025

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# 1. INTRODUCTION

This document sets forth the Office of Energy Infrastructure Safety's (Energy Safety) analysis and response to recommendations provided by the Wildfire Safety Advisory Board (WSAB or Board) (Section 2).

# 2. WSAB RECOMMENDATIONS

WSAB made recommendations to Energy Safety regarding:

- Appropriate performance metrics and processes for determining each electrical corporation's compliance with its approved WMP;
- Appropriate WMP requirements in addition to the requirements set forth in Public Utilities Code section 8386; and
- The appropriate scope and process for assessing the safety culture of an electrical corporation.

On June 4, 2025, the WSAB adopted its "Recommendations to the Office of Energy Infrastructure Safety" (WSAB Recommendations Report) at its Board meeting.[1]

## 2.1 Summary of WSAB Recommendation Report

The WSAB Recommendations Report included nine total recommendations to Energy Safety on WMP Guidelines, performance metrics, and the Safety Culture Assessment process.

### 2.1.1 WMP Guideline and Performance Metrics Recommendations

The WSAB Recommendations Report made eight recommendations focused on two main aspects of WMPs to be potentially addressed in future WMP Guidelines or performance metrics, as appropriate: 1) effectiveness of risk mitigation; and 2) risk modeling.

The WSAB Recommendations Report contained background analysis about what is meant by effectiveness, how to measure effectiveness (metrics), and challenges in evaluating effectiveness. Four of the WSAB recommendations were related to documenting, tracking, reporting, and standardizing measurement of the effectiveness of mitigation measures in WMPs or other submissions (quarterly data and/or compliance reporting).

The other four WSAB recommendations were related to risk modeling practices. The WSAB Recommendations Report contained a review of utility wildfire risk models, including examining prior WMPs and risk literature, as well as results from meetings with utility staff, Energy Safety staff, academics, and insurance and financial risk modelers/experts.

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[1] WSAB 2025 Recommendations to Energy Safety, URL:(https://efiling.energysafety.ca.gov/Search.aspx?docket=2025-WSAB-WSAB), accessed July 29, 2025.

### 2.1.2 Safety Culture Assessment Process Recommendation

The WSAB Recommendations Report also included one recommendation on the Safety Culture Assessment process. This recommendation referred to the recent creation of the "Utility Safety Culture Working Group" by the CPUC. This working group currently consists of staff from the CPUC Safety Policy Division, Energy Safety, the Joint Investor-Owned Utilities (IOU),[2] and other interested entities.

The recommendation suggests that Energy Safety work with CPUC staff to include Board staff in the meetings with the Utility Safety Culture Working Group as an "interested entity," so that the WSAB can understand the latest developments in safety culture to better inform potential future WSAB recommendations.

## 2.2 Energy Safety Evaluation of the WSAB Recommendations

Energy Safety evaluated each of the nine WSAB recommendations and proposes treatment of them as follows:

- Already incorporated: one recommendation
- Incorporate with adjustments: seven recommendations
- Research further for potential future incorporation: one recommendation
- Do not incorporate: zero recommendations

Except for the one "already incorporated" recommendation, Energy Safety proposes the remaining eight WSAB recommendations either be considered for incorporation with adjustments in the next Base WMP Guidelines process, starting in 2026, in the performance metrics process, or researched further for potential incorporation in the upcoming or future WMP cycles.

### 2.2.1 Evaluation of WSAB WMP Guideline and Performance Metrics Recommendations

Table 1 presents the WSAB recommendations for the WMP Guidelines and performance metrics and Energy Safety's analysis of and response to those recommendations.

[2] The Joint IOUs consist of Pacific Gas and Electric Company, Southern California Edison, and San Diego Gas and Electric.

*Table 1. Energy Safety Evaluation of the WSAB Recommendations for the WMP Guidelines and Performance Metrics*

| WSAB Recommendation | Energy Safety Response | Analysis |
|---|---|---|
| **E1.**<br>**Energy Safety should require IOUs to include in their WMPs, or other submission as appropriate, the details of any fire weather indices. Details should include specific calculation methods, data sources, and methods of development. These indices may be specific to ecological regions (or pyromes) or to a service territory as a whole.**<br>**The input data should be clearly defined, the methods should be published, and details should include a comparison to other indices and a rationale for unique and/or customized elements.** | Incorporate with adjustments<br>  | • Chapter III; Section 10.6 of the WMP Guidelines already requires reporting on how the electrical corporation calculates and uses a high-level fire potential index (FPI), based in part on any fire weather indices used. This includes providing the existing calculation approach (with assumptions in the calculations and justification for each assumption), how the FPI is used by the electrical corporation, known limitations of the approach, and a description of any planned improvements. In addition to this, the electrical corporation must provide the reasons for any changes to its FPI and the schedule of any changes. The details of any fire weather indices used may be included in these descriptions but are not explicitly required to be at present.<br>• When Energy Safety next updates its WMP Guidelines, in 2026, it plans to revise Chapter III; Section 10.6 to address this recommendation. Energy Safety will consider adding requirements on how fire weather indices are used to develop the FPI including the methods of development, sources for fire weather indices used, the input data used, a rationale for the fire weather indices used in comparison to other fire prediction indices (such as wind indices), and validation information as available. |

| WSAB Recommendation | Energy Safety Response | Analysis |
|---|---|---|
| | | • This information will assist Energy Safety in refining requirements for fire potential and weather indices to facilitate comparison across electrical corporations. Adding consistency across electrical corporations will provide insight into the relative effectiveness of mitigation activities during differential weather events. |
| **E2.**<br><br>**Energy Safety should require IOUs to report in their performance metrics clear annual tracking of effectiveness, measured by ignitions and fires in addition to any other metrics Energy Safety allows, and including both raw data and data normalized by weather.** | Incorporate with adjustments | • Energy Safety agrees that ignitions and fires related to an electrical corporation's infrastructure and operations are valuable performance metrics leading to overall long-term effectiveness of wildfire mitigation efforts.<br>• Energy Safety finds merit in examining performance metric tracking to consider adding more metrics directly involving fires and ignitions, including understanding the impact of weather on ignitions and the consequences of fires. Due to limited data sets and the difficulty of weather normalized analysis, continued reliance on proxy metrics such as performance on various mitigation activities is expected for the near future.<br>• In addition, Senate Bill 254, enacted on September 19, 2025, requires Energy Safety to evaluate the cost per avoided ignition of each risk mitigation in WMPs moving forward—a prerequisite of which is to understand mitigation effectiveness.<br>• Energy Safety's Electrical Safety Policy Division will work with Energy Safety's Data Analytics Division to incorporate this recommendation through its implementation of SB 254 and will continue to look for |

| WSAB Recommendation | Energy Safety Response | Analysis |
|---|---|---|
| | | better ways to understand overall effectiveness of wildfire mitigations on ignitions and fires. |
| **E3.**<br><br>**Building on required joint studies of the effectiveness of enhanced vegetation clearances and CCs [covered conductors], Energy Safety should require utilities to report in their WMPs on the effectiveness of additional mitigation efforts, such as specific equipment upgrade initiatives.**<br><br>**These evaluations may include laboratory or other controlled environment testing but should also include pre- and post-implementation data, clear descriptions of the methods for evaluating each mitigation effort, and the assumptions and variations in their models that may influence results.** | Incorporate with adjustments | • Energy Safety agrees with tracking effectiveness and believes that a better understanding of effectiveness merits continued pursuit of deeper analysis. Chapter III, sections 8.2 and 8.7 of the WMP Guidelines already require some reporting on effectiveness for grid design, system hardening, and grid operations activities but tracking effectiveness merits significant additional attention. This additional attention is also mandated going forward by Senate Bill 254.<br>• Energy Safety agrees that focused attention on utility mitigations, in addition to the covered conductor and enhanced vegetation clearances analysis, is merited and will look to explore further opportunities.<br>• Energy Safety agrees that more effectiveness tracking is merited for each WMP mitigation category, in addition to what the electrical corporation must currently report on projected risk reduction effectiveness and the initiatives it is deploying individually or in combination with other initiatives to increase overall effectiveness. More effectiveness reporting could be useful for a set of common deployment combinations, but work must be done to identify appropriate sets of common deployments. |

| WSAB Recommendation | Energy Safety Response | Analysis |
|---|---|---|
| **IOUs should be required in their WMPs to clearly demonstrate the impact of PEDS [protective equipment and device settings] in isolation and in combination with other activities.** | | |
| **E4.**<br><br>**Energy Safety should require utilities to report initiatives in standard units of measurement, identified by Energy Safety, for the same mitigation type (e.g., circuit miles vs trees).** | Incorporate with adjustments | • Energy Safety agrees that standardization of reporting, where appropriate, provides easier evaluation and cross-comparison between electrical corporations. Energy Safety already requires some standard natural units of measurement within the WMPs. For example, quantitative targets for overhead inspection activities must use "circuit miles" as the reported unit.[3]<br>• Any specific initiative must have a sufficient track record of implementation to provide Energy Safety with clarity about how to best standardize units for the initiative. Energy Safety plans to address additional consideration of standard natural units in the next WMP Guidelines for initiatives/activities that have such a track record. Given the variety of mitigation initiatives/activities, for example within the vegetation management category, not all will have that track record. As electrical corporations and Energy Safety gain experience, additional initiatives will |

[3] WMP Guidelines, Chapter III, Section 9.1.2.

| WSAB Recommendation | Energy Safety Response | Analysis |
|---|---|---|
| | | develop a track record that will point to a preferred standard unit of measurement. As that occurs, Energy Safety will consider incorporating more standardization in reporting in subsequent WMP Guidelines.<br>• Energy Safety will only require standardization for pilot projects and new mitigation measures once it acquires sufficient knowledge and understanding on which to base standardization determinations. |
| **RM1.**<br>**Energy Safety should require each IOU in its 2029-2031 WMP to test and compare multiple wildfire spread models when calculating wildfire consequence. Each IOU should test and compare at least three models, at least one of which should be open-source and peer-reviewed, across a representative sample of its territory.**<br>**Energy Safety should require comparison of model outputs, along with a justification of why the model or ensemble of** | Incorporate with adjustments | • Energy Safety expects to incorporate this recommendation with adjustments in the Risk Methodology and Assessment section (Chapter III; Section 5) of the WMP Guidelines.<br>• Energy Safety agrees that too much reliance on a single model is problematic and that an open-source model validation of fire modeling would be useful. Energy Safety notes that while there is widespread use of a single wildfire spread model, the electrical corporations have unique and separate supporting models and risk methodologies.<br>• Before incorporating this recommendation into the WMP Guidelines, a joint-utility validation project, perhaps through the Risk Modeling Working Group, may be an initial step for incorporating a review and comparison of at least three models. If so, Energy Safety believes that this effort should be initiated soon to avoid undue delays in implementation. |

| WSAB Recommendation | Energy Safety Response | Analysis |
|---|---|---|
| **models to be used in decision-making is the most appropriate.** | | • Energy Safety will research the practice of developing an appropriate "representative sample" of an electrical corporation's service territory to reduce the amount of work needed to run multiple models – both for the electrical corporations to perform the analysis and for Energy Safety staff to evaluate the results.<br>• Energy Safety will also research the process for establishing similar inputs and outputs to give the electrical corporations clear direction on how to implement this model comparison. |
| **RM2.**<br><br>**Energy Safety should establish clear standards for WMP reporting of wildfire spread model verification, validation, and sensitivity analysis.**<br><br>**Energy Safety should develop standards for input data and a method to identify and compare standardized outputs.** | Incorporate with adjustments | • Energy Safety agrees that more validation and verification standardization would make it easier to compare electrical corporations' wildfire spread models.<br>• Energy Safety will research additional standardization and will incorporate that into the Risk Methodology and Assessment section (Chapter III; Section 5) of the WMP Guidelines as the research confirms it is appropriate.<br>• Energy Safety has already started to develop a "toolkit" to facilitate implementation of this recommendation and looks forward to collaborating with the WSAB and other interested stakeholders on this effort. |
| **RM3.**<br><br>**Energy Safety should continue to press IOUs to report uncertainties, including** | Incorporate with adjustments | • Energy Safety already requires the electrical corporations to consider examining uncertainties using probability distributions rather than point estimates. In response, electrical corporations have considered but not fully adopted this risk evaluation practice. For example, in one |

| WSAB Recommendation | Energy Safety Response | Analysis |
|---|---|---|
| **probability distributions and their dependencies where appropriate for each "risk driver" (as defined in the WMPs) of ignition.**<br><br>**Energy Safety should also require IOUs to report distributions of risk values for a representative sample, in geography and risk values, of circuits or circuit segments, clearly explaining the variation due to changes in ignition likelihood, consequence, or correlation of both, in each WMP and WMP update.** | | instance, Southern California Edison (SCE) pointed out that it estimates its use of maximum consequence rather than a whole probability distribution, or a mean from such, provides better risk results. Energy Safety agreed that SCE had explained its use of maximum consequence adequately but continues to request further examination of probability estimates.<br>• Energy Safety will continue to require electrical corporations to consider probability distribution risk modeling in contrast to point estimates for risk drivers of ignition (as well as overall risk) and to report a more comprehensive and robust probability result. Continued efforts may address using a representative sample to help clearly explain risk variation due to altered ignition and consequence information in future WMP Guidelines.<br>• Energy Safety will continue to coordinate with the CPUC in the CPUC's Risk Assessment and Mitigation Process, where the issue of risk assessment with probability distributions is being specifically addressed.<br>• In addition, the information needed to consider additional probability distribution assessment of risk is currently being examined through areas of continued improvement and the Risk Modeling Working Group.<br>• Energy Safety may also consider including in the Risk Methodology and Assessment section (Chapter III; Section 5) of the WMP Guidelines a requirement for electrical corporations to further evaluate reporting of |

| WSAB Recommendation | Energy Safety Response | Analysis |
|---|---|---|
| | | distributions rather than point estimates, and to justify the practice when point estimates are being used rather than probability distributions. |
| **RM4.**<br><br>**Energy Safety should require that, as soon as practicable in base WMPs, WMP updates, and performance metrics, IOUs report data and model results with an appropriate number of significant figures to represent the degree of precision in their risk models.** | Research further for potential future incorporation<br><br>  | • Energy Safety finds merit in this recommendation and will conduct further research to understand how best to reflect risk model uncertainties. Other measures of uncertainty in models are important to better understand the precision of risk models.<br>• Wildfire risk modeling is currently undergoing significant development and changes and, as WSAB points out, has a variety of uncertain data inputs and model structures. While it makes sense to consider model outputs in WMPs and associated quarterly and annual data filings in consistent significant figures, Energy Safety still needs to better understand how to require reporting of uncertainty. |

### 2.2.2 Evaluation of the WSAB Safety Culture Assessment Process Recommendation

Table 2 presents the one WSAB recommendation for the SCA process, Energy Safety's response on this recommendation, and Energy Safety's analysis explaining its response.

*Table 2. Energy Safety Evaluation of the WSAB Recommendation for the Safety Culture Assessment Process*

| WSAB Recommendation | Energy Safety Response | Analysis |
|---|---|---|
| **SC1.**<br><br>**Energy Safety should work with CPUC staff to include Board staff in the meetings with the Utility Safety Culture Working Group as an "interested entity," to understand the latest developments in safety culture assessment and inform potential future Board recommendations.** | Already incorporated | • Energy Safety supports the inclusion of the WSAB staff in the CPUC Utility Safety Culture Working Group.<br>• Energy Safety formally requested that the CPUC include the WSAB staff in the Working Group; the CPUC agreed to this inclusion.<br>• Board staff attended a working group meeting on June 12. |

# DATA DRIVEN
# FORWARD-THINKING
# INNOVATIVE
# SAFETY FOCUSED

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