

Caroline Thomas Jacobs, Director

August 22, 2024

To: Stakeholders for the Southern California Edison Company 2025 Wildfire Mitigation Plan Update

Enclosed is the Draft Decision of the Office of Energy Infrastructure Safety (Energy Safety), presenting its evaluation of the Southern California Edison Company 2025 Wildfire Mitigation Plan Update.

This Draft Decision is published for public review and comment. Opening comments must be submitted no later than September 11, 2024. Reply comments must be submitted no later than September 23, 2024.1

Comments must be submitted to Energy Safety's e-filing system in the 2023-2025 Wildfire Mitigation Plans docket (2023-2025-WMPs).²

Sincerely,

Tony Marino

Tony Marino

Acting Deputy Director | Electrical Infrastructure Directorate Office of Energy Infrastructure Safety

¹ Dates falling on a Saturday or holiday have been adjusted to the next business day in accordance with Government Code section 6707

⁽https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=6707.&lawCode=GOV, accessed Aug. 8, 2024).

² Submit comments via the <u>2023-2025-WMPs docket</u> on Energy Safety's e-filing system (https://efiling.energysafety.ca.gov/EFiling/DocketInformation.aspx?docketnumber=2023-2025-WMPs, accessed August 21, 2024).



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1. Executive Summary

The Office of Energy Infrastructure Safety (Energy Safety) works to ensure electrical corporations take effective actions to reduce utility-related wildfire risk.

This Decision approves Southern California Edison Company's (SCE's) 2025 Wildfire Mitigation Plan (WMP) Update, submitted on April 2, 2024.

In rendering this Decision Energy Safety considered comments from stakeholders and members of the public.

SCE provided a total of 52 reportable updates in its 2025 WMP Update. These include 9 updates to risk models, 7 changes to targets and projected expenditures, 14 changes to quarterly inspection targets, 1 discontinued program, and 21 reports on progress required for areas for continued improvement.

The above-listed updates encompass 7 initiative categories. These include risk methodology and assessment; wildfire mitigation strategy development; grid design, operations, and maintenance; vegetation management and inspections; situational awareness and forecasting; community outreach and engagement; and Public Safety Power Shutoff.

Energy Safety evaluated SCE's 2025 WMP Update and finds several strengths. For example, SCE is making progress on the Effectiveness of Enhanced Clearances Joint Study. Further, SCE began collaboration efforts with San Diego Gas & Electric Company and Pacific Gas and Electric Company outside of Energy Safety-sponsored events on topics including climate change forecast modeling and vegetation management for wildfire safety. SCE also updated its risk models in ways that are expected to more accurately calculate wildfire risk in its service territory. Finally, SCE collaborated with the other investor-owned utilities on grid hardening in ways that increased transparency and consistency. Energy Safety will require continued reporting and data collection on these efforts in SCE's 2026-2028 WMP.

SCE also has areas of its WMP that can be further developed and improved. Overall, SCE has 11 areas for continued improvement for which it is required to demonstrate progress in its 2026-2028 Base WMP submittal. These include improvements to its risk models through exploring probability distributions, requirements to collaborate with other relevant parties, and new reporting requirements for two types of transmission inspections.

2. Introduction and Background

Southern California Edison Company (SCE) submitted its 2023-2025 Wildfire Mitigation Plan (2023-2025 Base WMP) in 2023.¹ Energy Safety approved SCE's 2023-2025 Base WMP on October 24, 2023. On April 2, 2024, SCE submitted its 2025 Wildfire Mitigation Plan Update (2025 WMP Update) to its 2023-2025 Base WMP in accordance with Energy Safety's 2025 Wildfire Mitigation Plan Update Guidelines (2025 WMP Update Guidelines)² and Energy Safety's 2023-2025 Wildfire Mitigation Plan Process and Evaluation Guidelines (WMP Process Guidelines).³ On May 14, 2024, SCE submitted an errata table for its 2025 WMP Update.⁴

Pursuant to Public Utilities Code section 8386.3(a), this Decision approves SCE's 2025 WMP Update to its 2023-2025 Base WMP.

2.1 Consultation with California Department of Forestry and Fire Protection

The Office of the State Fire Marshal is part of the California Department of Forestry and Fire Protection (CAL FIRE). Public Utilities Code section 8386.3(a) requires Energy Safety to consult with the Office of the State Fire Marshal in reviewing electrical corporations' WMPs and WMP Updates. The Office of the State Fire Marshal provided consultation and input into Energy Safety's evaluation, but this Decision is an action of Energy Safety and not the Office of the State Fire Marshal or CAL FIRE.

2.2 Stakeholder Comments

Energy Safety invited stakeholders and members of the public to provide comments on the electrical corporations' 2025 WMP Updates and Revision Notices. Opening comments on SCE's 2025 WMP Update were due on May 7, 2024, and reply comments were due on May 17, 2024. See Appendix D for lists of stakeholders and members of the public who submitted

¹ In accordance with <u>Energy Safety 2023-2025 Wildfire Mitigation Plan Technical Guidelines (December 6, 2022)</u> (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53286&shareable=true, accessed April 9, 2024).

² Energy Safety 2025 Wildfire Mitigation Plan Update Guidelines (adopted Jan. 2024, published Feb. 2024) (hereafter 2025 WMP Update Guidelines)

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56254&shareable=true, accessed May 6, 2024).

³ Energy Safety 2023-2025 Wildfire Mitigation Plan Process and Evaluation Guidelines (Revised) (adopted Jan. 2024, published Feb. 2024) (hereafter Revised WMP Process Guidelines) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56255&shareable=true, accessed May 6, 2024).

⁴ As discussed in Section 3.4, SCE submitted an <u>errata</u> to its 2025 WMP Update (May 14, 2024) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56681&shareable=true, accessed June 20, 2024).

comments, including a summary of comments Energy Safety concurred with and incorporated into its evaluation.



3. Energy Safety 2025 WMP Update Evaluation Process

Energy Safety issued the following guidelines for electrical corporations' 2025 WMP Updates:

- 2025 Wildfire Mitigation Plan Update Guidelines (January 2024) (hereafter 2025 WMP Update Guidelines), which sets forth reportable updates and general instructions for each electrical corporation's 2025 WMP Update.
- 2023-2025 Wildfire Mitigation Plan Process and Evaluation Guidelines (Revised January 2024) (hereafter WMP Process Guidelines), which outlines the process for Energy Safety's evaluation of WMPs, details the public participation process, and establishes submission requirements for the electrical corporations.
- 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model (Revised January 2024) and 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Survey (Revised February 2024) (hereafter Maturity Model and Maturity Survey), which together provide a quantitative method for assessing electrical corporation wildfire risk mitigation capabilities and examining how electrical corporations continue to improve in key areas of their WMPs.^{5, 6}

3.1 Reportable Updates

Energy Safety's 2025 WMP Update Guidelines delineate the following five categories of updates that the electrical corporations are required to report:⁷

- 1. Updates to risk models
- 2. Updates to approved targets, objectives, and projected expenditures⁸
- 3. Quarterly inspection targets for 2025 for vegetation management and asset inspections

⁵ Energy Safety 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model (revised and adopted Jan. 2024, published Feb. 2024) (hereafter Maturity Model)

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56256&shareable=true, accessed May 6, 2024).

⁶ Energy Safety 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Survey (adopted Jan. 2024, revised and published Feb. 2024) (hereafter Maturity Survey)

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56306&shareable=true, accessed May 6, 2024).

⁷ 2025 WMP Update Guidelines, "Reportable Updates," p. 3

⁸ Energy Safety's WMP evaluation and decision on a WMP is not an approval of, or agreement with, costs listed in the WMP.

- 4. New or discontinued programs
- 5. Progress on areas for continued improvement

The 2025 WMP Update Guidelines direct electrical corporations that they may not include any updates in their 2025 WMP Update that do not fall under one of these categories.⁹

The 2025 WMP Update Guidelines further direct that if an electrical corporation does not have any updates that fall within any of the above categories, it must affirm that it has no reportable updates for 2025 and that the information provided in its 2023-2025 Base WMP is current and accurate.¹⁰

3.2 Maturity Model and Survey

Energy Safety used the Maturity Model¹¹ and the electrical corporations' 2023 and 2024 responses to the Maturity Survey¹² to assess the maturity of each electrical corporation's wildfire risk mitigation program.¹³

The Maturity Model consists of 37 individual capabilities describing the ability of electrical corporations to mitigate wildfire risk and Public Safety Power Shutoff (PSPS) risk within their service territory. The 37 capabilities are aggregated into 7 categories. Maturity levels range from 0 (below minimum requirements) to 4 (beyond best practice). For each electrical corporation, Energy Safety calculated maturity levels for each capability, each category, five

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56254&shareable=true, accessed March 29, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56254&shareable=true, accessed March 29, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53708&shareable=true, accessed May 6, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56256&shareable=true, accessed April 9, 2024).

⁹ 2025 WMP Update Guidelines, p. 3

¹⁰ 2025 WMP Update Guidelines, p. 3

¹¹ Maturity Model (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56256&shareable=true, accessed May 6, 2024).

¹² Maturity Survey (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56306&shareable=true, accessed May 6, 2024).

¹³ Energy Safety revised the 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model and Maturity Survey in January 2024. The revisions did not result in any updates to Maturity Survey questions, therefore the responses from 2024 are directly comparable to the responses from 2023. See the Maturity Survey issued by Energy Safety to the electrical corporations in 2023: Revised Final 2023 Electrical Corporation Wildfire Mitigation Maturity Survey (April 24, 2023)

¹⁴ Maturity Model, Section 1, "Introduction"

¹⁵ Maturity Model, Section 3.1, "Capabilities and Categories"

cross-category themes, and the overall WMP, based on the electrical corporation's answers to Maturity Survey questions and the scoring system described in the Maturity Model.¹⁶

Appendix F summarizes SCE's 2024 Maturity Survey results and changes in SCE's maturity compared to its 2023 Maturity Survey results.

3.3 Areas for Continued Improvement

Energy Safety's Decisions on the 2023-2025 Base WMPs focused on each electrical corporation's strategies for reducing the risk of utility-related ignitions. In those Decisions, Energy Safety identified areas where the electrical corporation must continue to improve its wildfire mitigation capabilities in future plans. For some areas, the electrical corporation was required to report its progress in its 2025 WMP Update. Energy Safety discusses the results of its evaluation of the electrical corporation's progress in each of those areas in Sections 5 through 9 of this Decision.

3.4 Errata

SCE submitted errata detailing non-substantive errata identified by SCE on May 14, 2024. SCE did not submit corrected versions of its 2025 WMP Update or revised 2023-2025 Base WMP.¹⁷

3.5 Revision Notice

Public Utilities Code section 8386.3(a) states, "Before approval, [Energy Safety] may require modifications of the [WMP]." If Energy Safety requires modifications to a WMP, it does so by issuing a Revision Notice to an electrical corporation. 18

Energy Safety did not issue SCE a Revision Notice for its 2025 WMP Update.

3.6 Decision

In its evaluation of an electrical corporation's 2025 WMP Update, Energy Safety considers the information provided by the electrical corporation regarding its reportable updates and the associated justifications. Energy Safety's approval of a 2025 WMP Update constitutes collective approval of the reported items in the electrical corporation's 2025 WMP Update. The approval therefore authorizes the updates to the electrical corporation's 2023-2025 Base

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56256&shareable=true, accessed April 9, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56681&shareable=true, accessed July 14, 2024).

¹⁶ Maturity Model, Section 4, "Maturity Level Determination"

¹⁷ <u>SCE 2025 WMP Update Errata</u>, May 14, 2024

¹⁸ Revised WMP Process Guidelines, Section 4.4, "Revision Notice," pp. 6-8

WMP, as shown in the "Redlined 2023-2025 Base WMP" and "Clean Updated 2023-2025 Base WMP" provided as part of the electrical corporation's 2025 WMP Update submission.¹⁹

Energy Safety recognizes that planning for wildfire risk is a maturing capability and expects that electrical corporations will continue to improve year over year. Therefore, Energy Safety's Decision includes areas for continued improvement, identifying areas where the electrical corporation must continue to mature in its capabilities.

SCE's reported updates reduce risk, increase efficiencies, and demonstrate decision-making based on lessons learned. Therefore, Energy Safety approves SCE's 2025 WMP Update.

¹⁹ 2025 WMP Update Guidelines, pp. 3-4

4. SCE 2025 WMP Update

In accordance with the 2025 WMP Update Guidelines, ²⁰ SCE provided the following for its 2025 WMP Update submission:

- 6. **2025 WMP Update**: A standalone 2025 WMP Update document that describes SCE's reportable updates, or confirmation of no updates to the approved 2023-2025 Base WMP.
- 7. **Redlined 2023-2025 Base WMP**: A redlined version of SCE's 2023-2025 Base WMP showing reportable updates to the approved 2023-2025 Base WMP.
- 1. **Clean Updated 2023-2025 Base WMP**: A clean, updated copy of SCE's 2023-2025 Base WMP (i.e., without any updates marked in redline) incorporating the reportable updates from SCE's 2025 WMP Update as demonstrated in the redlined version.

Specifically, in response to the five categories of reportable updates of the 2025 WMP Update Guidelines, SCE provided the required information for each category. Energy Safety discusses each reportable update under the relevant mitigation initiative in Sections 5 through 9 of this Decision.

²⁰ 2025 WMP Update Guidelines

5. Overview of the Service Territory

In its 2025 WMP Update, SCE did not report any updates to the overview of the service territory section of its 2023-2025 Base WMP.



6. Risk Methodology and Assessment

In its 2025 WMP Update, SCE reported significant risk model updates, as discussed below.²¹

6.1 Risk Model Updates

SCE reported the following significant risk model updates to its wildfire consequence model:

- Modifying surface fuels for the following areas to better reflect fuel types: the California/Nevada border, the high desert around the Antelope Valley area, and the High Sierras based on California Fire Guard data.²²
- Increasing granularity of ignition points spacing from a 200-meter grid to a 100-meter grid along overhead distribution assets and removing ignition points more than 100meters away from ignitable fuel.²³
- Modifying asset geometry by refining geospatial locations for overhead assets through additional data collection methods.²⁴

SCE also reported the following significant risk model updates to its probability of ignition (POI) model:

- Updating asset sub-models for overhead conductor, transformer, switch, and capacitor based on updated asset inventories, historical failures, inspection and remediation data, mitigations, and additional data.²⁵
- Updating data with new and replacement components, outage information, and new circuit configurations.²⁶

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 10, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 10, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 10, 2024).

²¹ 2025 WMP Update Guidelines, Section 1, "Updates to Risk Models," p. 6 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid= 56254&shareable=true, accessed May 6, 2024).

²² <u>SCE 2025 Wildfire Mitigation Plan Update</u> (April 2, 2024), p. 7 (hereafter SCE 2025 WMP Update) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 10, 2024).

²³ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 11

²⁴ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 13

²⁵ SCE 2025 WMP Update (April 2, 2024), p. 15

²⁶ SCE 2025 WMP Update (April 2, 2024), p. 15

- Incorporating meter loading data into the transformer sub-model.²⁷
- Refreshing corrosion and flood zone data due to Federal Emergency Management Agency (FEMA) updating their flood zone and corrosion data.²⁸
- Refreshing tree and avian data for the conductor contact-from-object (CFO) submodel based on vegetation management and outage data.²⁹

Energy Safety finds that these updates meet the reportable update criteria set forth in the 2025 WMP Update Guidelines.³⁰

6.1.1 Energy Safety Evaluation

As a result of these significant risk model updates, SCE's wildfire mitigation prioritization has changed. Of SCE's top five percent riskiest circuits, 29 out of 48 of the circuits dropped to below the top five percent.³¹ Most updates were driven by changes in consequence ranking, with 13 new circuits moving into the top five percent of riskiest circuits due to an increase in consequence ranking.³² The second greatest driver was from changes in POI ranking, with 12 circuits moving into the top five percent as a result.³³ POI ranking includes updates to the POI equipment failure drivers and circuit structure changes.

SCE's improvements allow for greater accuracy in risk model outputs given the updates relate to input improvements. This allows for greater alignment between the conditions in field and the data used for the model, such as updating fuels and asset data to better reflect actuals.

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 10, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 10, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 10, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56254&shareable=true, accessed May 6, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed, June 10, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed, June 10, 2024).

²⁷ SCE 2025 WMP Update (April 2, 2024), p. 15

²⁸ SCE 2025 WMP Update (April 2, 2024), p. 15

²⁹ SCE 2025 WMP Update (April 2, 2024), p. 16

³⁰ 2025 WMP Update Guidelines, "Reportable Updates," p. 3

³¹ <u>SCE 2025 WMP Update</u> (April 2, 2024), Table SCE 1-01: Summary of Changes in Circuits due to POI and/or Consequence Risk Model Updates, p. 16.

³² <u>SCE 2025 WMP Update</u> (April 2, 2024), Table SCE 1-01: Summary of Changes in Circuits due to POI and/or Consequence Risk Model Updates, p. 16.

³³ <u>SCE 2025 WMP Update</u> (April 2, 2024), Table SCE 1-01: Summary of Changes in Circuits due to POI and/or Consequence Risk Model Updates, p. 16

Energy Safety finds that SCE's updates to its risk models are improvements that assist SCE in better calculating and understanding the wildfire risk throughout its system.

6.1.2 Areas for Continued Improvement

Energy Safety has no new areas for continued improvement for SCE in the risk methodology and assessment section. In its 2026-2028 Base WMP, SCE must report its progress on any existing areas for continued improvement specified in Energy Safety's Decision on SCE's 2023-2025 Base WMP.³⁴

6.2 2023 Areas for Continued Improvement

As required by Energy Safety's Decision on SCE's 2023-2025 Base WMP,³⁵ SCE reported its progress on four areas for continued improvement in the risk methodology and assessment section in its 2025 WMP Update.

6.2.1 SCE-23B-01.³⁶ Cross-Utility Collaboration on Risk Model Development

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety required SCE and the other investor-owned utilities (IOUs)³⁷ to continue participating in the Energy Safety-led risk modeling working group, as established by the 2021 WMP Action Statements.³⁸

In response, SCE discussed its continued participation in the risk modeling working group meetings, and how the meetings have provided valuable insight and input from other IOUs and stakeholders.

³⁴ Energy Safety Decision on SCE 2023-2025 Wildfire Mitigation Plan (October 24, 2023) (hereafter Decision on SCE 2023-2025 Base WMP)

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 10, 2024).

³⁵ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), pp. 82-84 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

³⁶ Energy Safety is instituting a new naming convention for its areas for continued improvement. Moving forward, areas for continued improvement identified in Energy Safety's evaluation of Base WMPs will be designated with a "B" and areas for continued improvement identified in Energy Safety's evaluation of WMP Updates will be designated with a "U." Accordingly, areas for continued improvement that were identified in Energy Safety's evaluation of 2023-2025 Base WMPs are retitled "23B" and new areas for continued improvement identified in Energy Safety's evaluation of 2025 Update WMPs herein are titled "25U."

³⁷ The IOUs include Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), San Diego Gas and Electric Company (SDG&E), Bear Valley Electric Service (BVES), Liberty Utilities (Liberty), and PacifiCorp.

³⁸ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p.88 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

6.2.1.1 Energy Safety Evaluation

SCE sufficiently responded to this area for continued improvement; no further reporting is required on this area for continued improvement in SCE's 2026-2028 Base WMP.

6.2.2 SCE-23B-02. Calculating Risk Scores Using Maximum Consequence Values

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety found that SCE's use of maximum consequence values to aggregate risk scores needed to be improved upon to better meet fundamental mathematical standards and make proper mitigation prioritization decisions. ³⁹ As a result, in its 2025 WMP Update, SCE was required to either provide a plan for adopting probability distributions, offer an alternative strategy, or prove that its current methodologies were accurate outputs of calculating known risk.

In response, SCE indicated that it does not plan to make a transition from maximum consequence to probability distribution in its 2026-2028 Base WMP.⁴⁰ SCE asserted that maximum consequence values are crucial for identifying catastrophic wildfires, which are infrequent but severe and not adequately predicted by normal probability distributions. SCE stated that its current methodologies, which include deterministic, physics-based models validated by satellite data and academic research, provide accurate outputs for known risk and better location-specific risk assessments. SCE stated that it believes emphasizing maximum consequence values better captures the potential for extreme events, and that recent catastrophic fires like the 2023 Afternoon Fire in Lahaina, Hawaii, were evidence of the effectiveness of its approach. SCE stated that it was able to simulate the Lahaina Fire using weather data, and such simulations support the use of maximum consequences. SCE stated that it intends to provide additional information on historical weather scenario return intervals and consider future conditions like climate change in its upcoming 2026-2028 Base WMP.⁴¹

6.2.2.1 Energy Safety Evaluation

Currently, SCE is using maximum consequence values with no plans to transition towards using probability distributions. SCE's response provides sufficient information demonstrating that its current methodology for using maximum values is more accurate for determining catastrophic fires when compared to the use of averages, which was one of the requirements

³⁹ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), pp. 82-83

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

⁴⁰ SCE 2025 WMP Update (April 2, 2024), p. 35

⁴¹ SCE 2025 WMP Update (April 2, 2024), p. 43

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 10, 2024).

form the area for continued improvement. SCE also provided sufficient information on why it uses a deterministic model as opposed to a probabilistic model. However, SCE must continue to report on its progress for exploring probability distributions in the future given higher accuracy across risk scores compared to aggregation of maximum values.

For this reason, Energy Safety has modified the area for continued improvement to provide additional guidance for SCE. SCE must respond to this revised area for continued improvement in its 2026-2028 Base WMP.

Section 11 provides all areas for continued improvement for SCE, including the specific required progress that SCE must address in its 2026-2028 Base WMP.

6.2.3 SCE-23B-03. PSPS and Wildfire Risk Trade-Off Transparency

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety required SCE to describe how it prioritizes PSPS risk in its risk-based decisions, including trade-offs between wildfire risk and PSPS risk. Additionally, SCE was required to explain how the rank order of the mitigation initiatives it plans on implementing compares to the rank order of mitigation initiatives ranked by risk buy-down estimate, along with an explanation for any instances where the order differs.⁴²

In its response, SCE clarified the issue of "PSPS and wildfire risk trade-offs" in two contexts: the PSPS decision process and the longer-term wildfire mitigation planning and mitigation selection. 43 Energy Safety expected for SCE to clarify its PSPS risk as a long term planning consideration in comparison to wildfire risk.

In the PSPS decision-making process, SCE stated that it considers PSPS as a measure of last resort when catastrophic wildfire conditions are present.⁴⁴ SCE reported that during PSPS events, it reduces customer impacts by de-energizing lines based on real-time weather reporting, isolating circuits that present significant risk, sectionalizing customers between circuits, and segmenting to turn off specific segments while keeping others energized. SCE states that before making a de-energization decision, it uses a PSPS risk comparison tool to

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

⁴² <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 83 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

⁴³ SCE 2025 WMP Update (April 2, 2024), p. 44

⁴⁴ SCE 2025 WMP Update (April 2, 2024), p. 44

weigh the potential benefits of PSPS (reducing wildfire risk) against the potential public safety risks.⁴⁵

In the context of wildfire mitigation planning and selection, SCE stated that it does not consider trade-offs between PSPS and wildfire mitigation selection since the decisions are not mutually exclusive. 46 SCE argues that local mitigation planning decisions are driven by appropriate wildfire mitigations, which sometimes also reduce PSPS risk as an ancillary benefit. SCE stated that because of its very low nominal cost relative to the high wildfire risk reduction benefits, PSPS appears highly favorable as a wildfire risk mitigation in metrics such as Risk Spend Efficiency (RSE) and Cost/Benefit. However, SCE stated that it is inappropriate to justify the use of PSPS based on RSE. 47

Lastly, regarding the rank order of planned mitigation initiatives compared to the rank order of mitigation initiatives ranked by risk buy-down, SCE stated that it does not use either rank order. Instead, SCE stated that it takes a portfolio approach to reducing wildfire and PSPS risk, deploying a combination of mitigations based on the specific risk drivers present at each location. SCE argues that each mitigation addresses specific risk drivers rather than overall risk. SCE provided data on mitigation effectiveness values and RSE values in filings such as the 2022 RAMP⁴⁹ and in the 2023-2025 Base WMP, which are the closest data points to a rank order of mitigation initiatives ranked by risk buy-down.

6.2.3.1 Energy Safety Evaluation

In its response, SCE demonstrated that PSPS risk has minimal impact on its overall wildfire risk and that SCE focuses on specific risks at a given location, with PSPS risk as small portion of that consideration, but not one that precludes mitigating for wildfire risk. Given SCE's justification of comparing wildfire risk to PSPS risk when undergoing mitigation planning, SCE sufficiently responded to this area for continued improvement; no further reporting is required on this area for continued improvement in SCE's 2026-2028 Base WMP.

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

(https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M476/K640/476640383.PDF, accessed June 11, 2024).

⁴⁵ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 44

⁴⁶ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 44

⁴⁷ SCEs 2025 WMP <u>Update</u> (April 2, 2024), p. 45

⁴⁸ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 45

⁴⁹ SCE 2022 Risk Assessment Mitigation Phase (RAMP), pp. 39 & 48

⁵⁰ Decision on SCEs 2023-2025 Base WMP (October 24, 2023), pp. 20-26

6.2.4 SCE-23B-04. Incorporation of Extreme Weather Scenarios into Planning Models

SCE reported that it will provide an update in its 2026-2028 Base WMP on its progress on developing statistical estimates of potential wind events over at least the maximum asset life for its system and evaluate results from incorporating these into Multi Attribute Risk Scores (MARS) and Integrated Wildfire Mitigation Strategy (IWMS) when developing its mitigation initiative portfolio. ⁵¹ Additionally, it will provide an update on why this approach would not serve as an improvement to its mitigation strategy if it determines that it is not beneficial. ⁵²



⁵¹ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 83 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

⁵² <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 84 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

7. Wildfire Mitigation Strategy Development

In its 2025 WMP Update, SCE provided one total update related to the wildfire mitigation strategy development section of its 2023-2025 Base WMP. The updates SCE provided related to this section included reporting on one area for continued improvement.

7.1 2023 Areas for Continued Improvement

As required by Energy Safety's Decision on SCE's 2023-2025 Base WMP,⁵³ SCE reported its progress on one area for continued improvement in the wildfire mitigation strategy development section in its 2025 WMP Update.

7.1.1 SCE-23B-05. Cross-Utility Collaboration on Best Practices for Inclusion of Climate Change Forecasts in Consequence Modeling, Inclusion of Community Vulnerability in Consequence Modeling, and Utility Vegetation Management for Wildfire Safety

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety found that SCE did not make substantive efforts to collaborate with other IOUs⁵⁴ in the areas of climate change forecasts in consequence modeling, community vulnerability in consequence modeling, and utility vegetation management for wildfire safety.⁵⁵

Accordingly, Energy Safety required SCE to participate in all Energy Safety-organized activities related to best practices for:⁵⁶

- Inclusion of climate change forecasts in consequence modeling.
- Inclusion of community vulnerability in consequence modeling.

⁵³ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 84 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

⁵⁴ The IOUs include Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), San Diego Gas and Electric Company (SDG&E), Bear Valley Electric Service (BVES), Liberty Utilities (Liberty), and PacifiCorp.

⁵⁵ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), pp. 29-30 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

⁵⁶ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 84 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

• Utility vegetation management for wildfire safety.

Energy Safety also required SCE to collaborate with the other IOUs on the above-mentioned best practices.⁵⁷ Energy Safety required SCE to provide a status update on any cross-utility collaboration on the topics listed above, including a list of any resulting changes to its WMP since its 2023-2025 Base WMP.⁵⁸

SCE stated that it participated in Energy-Safety sponsored scoping meetings in 2023. SCE also stated that it scheduled recurring meetings with PG&E and SDG&E, including a monthly joint IOU call for discussions in-depth discussion regarding various aspects of the WMP including the interpretation and approach for addressing risk model updates, eligibility criteria for 2025 program target updates, information sharing on new programs discussed in Section 4, and consistency of approach for addressing cross utility areas for continued improvement. Additionally, SCE stated that it began meeting with PG&E and SDG&E in 2023 to discuss fuels management. Finally, SCE stated that it participated in two working sessions on woody debris and vegetation with PG&E and SDG&E in 2023.

7.1.1.1 Energy Safety Evaluation

The original area for continued improvement directed all the IOUs to collaborate. The IOUs include not only the large IOUs (SDG&E, PG&E, and SCE), but also the small and multijurisdictional utilities (SMJUs) (Bear Valley Electric Service, Liberty Utilities, and PacifiCorp). Energy Safety notes that this same area for continued improvement is present in the 2023 Base WMP Decisions for SMJUs. ^{62, 63, 64} While SCE demonstrated the first step by collaborating with PG&E and SDG&E, it must also make efforts to include the SMJUs. Accordingly, in its 2026-2028 Base WMP, SCE must continue its collaboration efforts and

⁵⁷ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 30 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

⁵⁸ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 84 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

⁵⁹ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 49 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

⁽https://enting.energysarety.ca.gov/erning/Gethie.aspx?hieid=56417&shareable=true, accessed June 28, 2024)

⁶⁰ Data Request <u>OEIS-P-WMP 2024-SCE-03, Question 3</u> (May 2, 2024) p. 1. (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56588&shareable=true, accessed June 11, 2024).

⁶¹ Data Request <u>OEIS-P-WMP_2024-SCE-03, Question 2</u> (May 2, 2024) p. 1. (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56588&shareable=true, accessed June 11, 2024).

⁶² Energy Safety Decision on Bear Valley Electric Service, Inc. 2023-2025 WMP (November 6, 2023), p. 74. (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55945&shareable=true, accessed June 4, 2024).

⁶³ Energy Safety Decision on 2023 Liberty Utilities WMP (February 5, 2024), p. 75. (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56276&shareable=true, accessed June 4, 2024).

⁶⁴ Energy Safety Decision on PacifiCorp 2023-2025 WMP (February 12, 2024), p. 83. (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56309&shareable=true, accessed June 4, 2024).

demonstrate that it has made efforts to include Bear Valley, Liberty Utilities, and PacifiCorp in these efforts where appropriate and relevant to each utility's interests.

Energy Safety has modified the area for continued improvement to provide additional guidance for SCE. SCE must respond to this revised area for continued improvement in its 2026-2028 Base WMP.

Section 11 provides all areas for continued improvement for SCE, including the specific required progress that SCE must address in its 2026-2028 Base WMP.

7.2 New or Discontinued Programs

In its 2025 WMP Update, SCE did not report any new or discontinued programs related to the wildfire mitigation strategy development section of its 2023-2025 Base WMP.

7.3 Targets, Objectives, and Projected Expenditures

In its 2025 WMP Update, SCE did not report any updates to approved targets, objectives, or projected expenditures related to the wildfire mitigation strategy development section of its 2023-2025 Base WMP.

8. Wildfire Mitigation Initiatives

This section provides Energy Safety's evaluation of SCE's reportable updates related to the following wildfire mitigation initiatives:

- Grid design, operations, and maintenance, including grid design and system hardening, asset inspections, equipment maintenance and repair, and grid operations and procedures
- · Vegetation management and inspections
- Situational awareness and forecasting
- Emergency preparedness
- Community outreach and engagement

Energy Safety discusses its evaluation of SCE's reportable updates related to PSPS in Section 9. Energy Safety includes discussion of any reportable updates affecting SCE's process for continuous improvement in Section 10.

8.1 Grid Design, Operations, and Maintenance

In its 2025 WMP Update, SCE provided 15 total updates related to the grid design, operations, and maintenance section of its 2023-2025 Base WMP. The updates SCE provided related to this section included reporting progress on nine areas for continued improvement, reporting one new or discontinued program, and reporting updates to four approved targets and one projected expenditure.

8.1.1 Grid Design and System Hardening

8.1.1.1 2023 Areas for Continued Improvement

As required by Energy Safety's Decision on SCE's 2023-2025 Base WMP, ⁶⁵ SCE reported its progress on three areas for continued improvement in the grid design and system hardening section in its 2025 WMP Update.

SCE-23B-07. Continuation of Grid Hardening Joint Studies

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety required SCE and other IOUs to report on the progress and outcomes of studies and meetings, including next steps, lessons learned, applicable updates with timelines, and summaries of completed and planned

⁶⁵ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), pp. 84-91 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

workshops related to grid hardening. ⁶⁶ This included submitting updates related to the Joint IOU⁶⁷ Covered Conductor Working Group Report, as initiated by Energy Safety's 2021 WMP Update Final Action Statements and provided initially in 2022, ⁶⁸ as well as a new report that includes evaluation for: the effectiveness of undergrounding, lessons learned from applying undergrounding, various approaches to protective equipment and device settings, progress on new technologies, and effectiveness of mitigations in combination with one another.

In response, the joint IOUs expanded the existing Joint IOU Covered Conductor Working Group, established when responding to the initial required report in 2021, to include additional workstreams covering the required topics. To cover the workstreams, the IOUs conducted bi-weekly meetings to review testing results and held workshops with Energy Safety to discuss corrosion testing, aging susceptibility testing, and the status of remaining testing results. The IOUs concluded that the corrosion testing showed minor aluminum degradation below the covering, with copper covered conductor performing similarly to exposed bare conductors. As a result, SCE stated that it continues to inspect in-service covered conductor installations. Based on the discussions and supplemental testing results, the Joint IOUs concluded that no additional testing is warranted at this time. The Joint IOUs also discussed covered conductor effectiveness, shared lessons learned and practices for new technologies, and concluded that no additional technology considerations were needed. ⁶⁹

Lastly, each IOU reviewed unit costs of covered conductor and undergrounding and gained a better understanding of cost drivers. To SCE stated that it does not currently have any workshops scheduled with Energy Safety in 2024 but expects to continue relevant workstreams, including joint IOU workshops as necessary.

Energy Safety Evaluation

Energy Safety finds that cross-collaboration among IOUs has provided improvements for transparency and increased consistency in approaches when it comes to grid design and

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

⁶⁶ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 85 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

⁶⁷ "Joint IOU" includes SDG&E, PG&E, SCE, PacifiCorp, Bear Valley Electric Service, Inc., and Liberty Utilities. SCE 2025 WMP Update, p. 52.

⁶⁸ Energy Safety Action Statement on SCE 2021 WMP Update (Aug. 18, 2021), p. 10 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=51701&shareable=true, accessed August 19, 2024).

⁶⁹ SCE 2025 WMP Update (April 2, 2024), p. 53-54

⁷⁰ SCE 2025 WMP Update (April 2, 2024), p. 55

⁷¹ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 52

system hardening. However, many of these workstreams must continue, given ongoing developments and importance of sharing knowledge as various IOUs continue implementing mitigations, observing actual in-field effectiveness, and observing potential alternatives and new technologies to deploy. For instance, through the 2023 working group meetings, IOUs learned more about various potential covered conductor failure modes and associated needs to modify maintenance as a result,⁷² needing alignment on determining the estimated effectiveness for covered conductor,⁷³ and developing an undergrounding working group.⁷⁴

The IOUs must continue these efforts and reporting on lessons learned to further explore various mitigation approaches. While the IOUs collaborated on each of the various required areas from 2023, Energy Safety has modified the area for continued improvement to provide additional guidance for SCE. SCE must respond to this revised area for continued improvement in its 2026-2028 Base WMP given the dynamic nature of the topics and continued research.

Section 11 provides all areas for continued improvement for SCE, including the specific required progress that SCE must address in its 2026-2028 Base WMP.

SCE-23B-08. Vibration Dampers Retrofit

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety required that SCE provide an update on any vibration dampers not yet installed within the retrofit scope, including any planned for installation after 2025. This included an analysis of resource availability constraints due to supply chain issues. Additionally, SCE was required to provide further analysis demonstrating the prioritization of vibration damper retrofits and installations in areas of highest susceptibility to Aeolian vibrations.⁷⁵

In its response, SCE stated that it began its vibration damper retrofit program in 2022, targeting covered conductor installed prior to 2021. SCE stated that it has approximately 1,750 structures remaining in the retrofit scope, with plans to install 500 dampers in 2024 and 600 in 2025. SCE estimated that the remaining 650 installations would be completed after

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed July 12, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed July 12, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed July 12, 2024).

⁷² <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 53

⁷³ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 54

⁷⁴ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 54

⁷⁵ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 86

2025. ⁷⁶ However, SCE noted that operational plans might change based on the results of installations in 2024 and 2025.

SCE stated that it analyzed vibration susceptibility by evaluating terrain, wind conditions, and elevation. To SCE stated that it installed vibration dampers at locations where dampers could not be installed in 2021 due to supply chain issues and plans to complete installation at those locations by May 2024. Additionally, SCE provided a map designating areas as high, medium, or low Aeolian vibration susceptibility categories for approximately 3,850 structures, part of its initial analysis for the vibration damper retrofit program, as required by the area for continued improvement. This categorization was specific to covered conductor locations and was not performed for the entire service territory.

Energy Safety Evaluation

As required, SCE provided the additional analysis provided behind its vibration damper retrofit, including various susceptibility thresholds and associated map, allowing for greater transparency behind its prioritization and decision-making.

SCE sufficiently responded to this area for continued improvement; no further reporting is required on this area for continued improvement in SCE's 2026-2028 Base WMP.

SCE-23B-09. Hardening Severe Risk Areas

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety required SCE to demonstrate adequate risk reduction for any areas planned for undergrounding via interim mitigation strategies, accounting for all ignition risk drivers. Additionally, Energy Safety required SCE to provide an analysis demonstrating its process for selecting undergrounding projects.⁸¹

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

⁷⁶ SCE 2025 WMP Update (April 2, 2024), p. 56

⁷⁷ SCE 2025 WMP Update (April 2, 2024), p. 56-58

⁷⁸ SCE 2025 WMP Update (April 2, 2024), p. 56

⁷⁹ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 58

⁸⁰ Decision on SCE 2023-2025 Base WMP (October 24, 2023), p. 86.

⁸¹ Decision on SCE 2023-2025 Base WMP (October 24, 2023), p. 86

In its response, SCE stated that targeted undergrounding has significant and lasting impacts on mitigating wildfire risks, providing at least 45 years of near-total wildfire risk elimination.⁸² SCE states that it targets Severe Risk Areas for undergrounding as these areas have high risk levels and potential for extreme and catastrophic wildfires.

For areas where SCE plans to implement targeted undergrounding, SCE stated that it employs a suite of interim wildfire mitigation activities to identify and remediate risks while the undergrounding is being planned, designed, and constructed. SCE stated that the suite of interim wildfire mitigation activities includes more frequent inspections, more frequent vegetation management treatments, and use of fast curve settings, often paired with fast-acting current limiting fuses.⁸³

SCE compared risk reduction over 45 years for two mitigation portfolios: covered conductor, rapid earth fault current limiter (REFCL), asset inspections, and vegetation management (CC/REFCL++) versus targeted undergrounding (TUG)⁸⁴ In its analysis, SCE assumed covered conductor can be deployed two years earlier than REFCL or TUG, with interim mitigations applied during this period. SCE stated that the analysis showed TUG has a higher risk reduction than CC/REFCL++ for over 90 percent of the Severe Risk Areas, validating SCE's selection of TUG for these sites.⁸⁵

Based on this evaluation, SCE concluded that targeted undergrounding reduces more risk than a comprehensive portfolio of alternatives for Severe Risk Areas. 86

Energy Safety Evaluation

SCE provided adequate details on how it selects its undergrounding projects, with sufficient analysis demonstrating various portfolios of mitigations in comparison to undergrounding.

Given that, SCE sufficiently responded to this area for continued improvement; no further reporting is required on this area for continued improvement in SCE's 2026-2028 Base WMP.

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

^{82 &}lt;u>SCE 2025 WMP Update</u> (April 2, 2024), p. 60

^{83 &}lt;u>SCE 2025 WMP Update</u> (April 2, 2024), pp. 60-61

⁸⁴ SCE defines Targeted Undergrounding (TUG) as a program that involves relocating existing overhead power lines underground.

⁸⁵ SCE 2025 WMP <u>Update</u> (April 2, 2024), p. 63

⁸⁶ SCE 2025 WMP Update (April 2, 2024), p. 64

8.1.1.2 New or Discontinued Programs

In its 2025 WMP Update, SCE did not report any new or discontinued programs related to the grid design and system hardening section of its 2023-2025 Base WMP.

8.1.1.3 Targets, Objectives, and Projected Expenditures

In its 2025 WMP Update, SCE reported updates to approved targets and projected expenditures related to the grid design and system hardening section of its 2023-2025 Base WMP. Energy Safety finds that these reportable updates meet the requirements set forth in the 2025 WMP Update Guidelines.

Specifically, SCE provided updates to its targets for Covered Conductor (SH-1), Undergrounding Overhead Conductor (SH-2), and REFCL Ground Fault Neutralizer (GFN) (SH-17) initiatives.⁸⁷

SCE provided a decrease to its target for covered conductor from 700 circuit miles to 500 miles. 88 SCE stated this target decrease is because, as it enters the final years of programmatic wildfire covered conductor deployment, less scope remains for execution. Therefore, SCE argued that target achievement is now more sensitive to constraints such as environmental reviews and permitting. Additionally, SCE stated that it outperformed its covered conductor targets for 2022 and 2023, reducing the need to complete the miles initially targeted for 2025. 89

SCE provided a decrease to its target for undergrounding overhead conductor from 48 circuit miles to 30 miles. 90 SCE stated that lessons learned from 2023 showed that its extensive review process for undergrounding will result in limited ability to complete undergrounding miles in 2025 if delays occur. Delays in land rights, permitting, easements, and agency approvals can reduce throughput and increase completion timelines. SCE stated that it expects this constraint to ease after it completes its review process in 2024, SCE expects its constraints to ease starting in 2026.91

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

⁸⁷ <u>SCE 2025 WMP Update</u> (April 2, 2024), Table 2-11 "2025 Target Changes," p. 26 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

^{88 &}lt;u>SCE 2025 WMP Update</u> (April 2, 2024), Table 2-11 "2025 Target Changes," p. 26 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

^{89 &}lt;u>SCE 2025 WMP Update</u> (April 2, 2024), p. 27

⁹⁰ <u>SCE 2025 WMP Update</u> (April 2, 2024), Table 2-11 "2025 Target Changes," p. 26 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

⁹¹ SCE 2025 WMP Update (April 2, 2024), p. 27

SCE provided a decrease to its target for REFCL Ground Fault Neutralizer (GFN) from four substations with completed construction to two substations. ⁹² SCE stated this target decrease is based on lessons learned from 2023 and other challenges anticipated in 2025. SCE anticipates material and supply challenges in 2025 for REFCL GFN work, in addition to engineering complications at the substations planned for 2025. SCE stated that it will strive to achieve the original target to complete construction of GFN at four substations; however, it seeks to adjust the target based on lessons learned since initially setting the target in early 2023. ⁹³

SCE also provided a decrease to its projected expenditures for Covered Conductor (SH-1) from \$627,980,000 to \$489,980,000.94 SCE stated that its 2025 target reduction for this initiative led to a reduction in projected expenditures.

Energy Safety Evaluation

For the covered conductor targets, SCE provided a reduction to its 2025 target by 200 miles stating that it "outperformed its covered conductor targets for 2022 and 2023, reducing the necessity to complete the miles initially targeted for 2025." SCE reported that it exceeded its 2022 covered conductor target by 302 miles and its 2023 covered conductor target by 120 miles. Therefore, the sum of SCE's reported completed miles for 2022 and 2023, its 2024 targeted miles, and a 2025 target reduced by 200 miles would exceed the existing approved targets for 2022 to 2025 by 222 miles. However, SCE initially set its 2025 covered conductor target in its 2023-2025 Base WMP, submitted on February 13, 2023, one and a half months after the end of 2022 and 10 days after SCE filed its fourth quarter (Q4) 2022 Quarterly Data Report (QDR). SCE's Q4 2022 QDR filed on February 3, 2023, reported an approximate 302 mile

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

⁹² <u>SCE 2025 WMP Update</u> (April 2, 2024), Table 2-11 "2025 Target Changes," p. 26 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

⁹³ SCE 2025 WMP Update (April 2, 2024), p. 27-28

⁹⁴ <u>SCE 2025 WMP Update</u> (April 2, 2024), Table 2-32 "2025 Expenditure Changes," p. 30 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

⁹⁵ SCE 2025 WMP Update (April 2, 2024), p. 27

⁹⁶ SCE reported installing 1,412 miles of covered conductor in 2022 compared to a target of 1,100 miles, SCE's 2022 Q4 Quarterly Data Report, Table 1, Line 21 (March 6, 2023)

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53416&shareable=true, accessed July 23, 2024). SCE reported installing 1,217 of covered conductor in 2023 compared to a target of 1,100 miles, SCE Response to Data Request OEIS-P-WMP_2024-SCE-02, Question 3 (April 29, 2024)

⁹⁷ 302 miles (reported 2022 exceedance) + 120 miles (reported 2023 exceedance) – 200 miles (provided 2025 target reduction) = 222 miles.

exceedance of its covered conductor target. Given the timing of these submittals, SCE should have accounted for the covered conductor miles it installed in 2022 when setting its 2025 target for covered conductor in its 2023-2025 Base WMP. Therefore, Energy Safety has an area of continued improvement associated with this target reduction, discussed in the following section.

For the undergrounding targets, Energy Safety finds that the explanation SCE provided justifies the update SCE reported given the unexpected delays SCE is facing for execution, and that the miles planned for undergrounding in 2025 are now planned for 2026.

For REFCL and GFN, Energy Safety finds that the explanation SCE provided for these reductions justifies the update SCE reported given the supply chain constraints and additional complications, and that SCE stated it will strive to achieve its initial target.⁹⁹

Areas for Continued Improvement

SCE must continue to improve in the following areas and report its progress in its 2026-2028 Base WMP. Additionally, in its 2026-2028 Base WMP, SCE must report its progress on any existing areas for continued improvement specified in Energy Safety's Decision on SCE's 2023-2025 Base WMP.¹⁰⁰

Consideration of Prior Actuals in Grid Hardening Targets

As discussed in the evaluation above, SCE provided a decrease to its covered conductor target, stating this decrease was in part a result of exceeding its 2022 covered conductor target. However, SCE should have accounted for the covered conductor miles it installed in 2022 when setting its 2025 target for covered conductor in its 2023-2025 Base WMP. Therefore, in its 2026-2028 Base WMP, SCE must demonstrate that it has appropriately accounted for its prior years' actuals when setting its grid hardening targets in its 2026-2028 Base WMP.

Section 11 provides all areas for continued improvement for SCE, including the specific required progress that SCE must address in its 2026-2028 Base WMP.

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53360&shareable=true).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

⁹⁸ <u>SCE Q4 2022 QDR Tables 1-15,</u> Table 1, Line 21 (February 1, 2023)

^{99 &}lt;u>SCE 2025 WMP Update</u> (April 2, 2024), p. 27

¹⁰⁰ Decision on SCE 2023-2025 Base WMP (October 24, 2023), pp. 82-95

8.1.2 Asset Inspections

8.1.2.1 2023 Areas for Continued Improvement

As required by Energy Safety's Decision on SCE's 2023-2025 Base WMP,¹⁰¹ SCE reported its progress on two areas for continued improvement in the Asset Inspection section in its 2025 WMP Update.

SCE-23B-10. Transmission Conductor Splice Assessment

Energy Safety required that in its 2025 WMP Update, SCE commit to extending its transmission conductor splice assessment program beyond 2023 due to a high find rate in 2022. SCE was further required to provide analysis on the findings of this program, including the ID number and age of splice, date of X-ray, date of most recent detailed inspection prior to X-ray, date of most recent infrared inspection prior to X-ray, circuit, issue category, failure mode, root cause and potential systemic causes.¹⁰²

In its 2025 WMP Update, SCE committed to extending the transmission conductor splice assessment through 2025. SCE also provided supporting documentation in its 2025 WMP Update regarding its splice findings, stated that it is evaluating a proactive approach to splice replacement given the high find rate, and expects to make a determination regarding an approach for the 2026-2028 Base WMP.¹⁰³

Energy Safety Evaluation

Though the sample size is limited, the data provided by SCE indicates the splice issues identified by X-ray inspections are not readily identified by other inspection methods such as transmission detailed inspections. In 67 percent of cases where X-ray revealed a priority 1 condition, a detailed ground inspection had been performed less than 60 days prior and failed to identify the issue. ¹⁰⁴ In 62 percent of cases where X-ray identified a priority 2 condition, the splice passed a detailed ground inspection less than 60 days prior. ¹⁰⁵ In approximately 30 percent of cases where X-ray identified a P1 or P2 issue, an aerial detailed

¹⁰¹ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), pp. 84-91

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹⁰² <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 87

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹⁰³ SCE 2025 WMP Update (April 2, 2024), pp. 65-67

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹⁰⁴ SCE 2025 WMP Update (April 2, 2024), SCE-23-10 Splice Findings, pp. 65-67

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56424&shareable=true, accessed June 13, 2024).

¹⁰⁵ SCE 2025 WMP Update (April 2, 2024), SCE-23-10 Splice Findings, pp. 65-67

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56424&shareable=true, accessed June 13, 2024).

inspection was performed less than 60 days prior.¹⁰⁶ The data also suggest prevalent splice issues on SCE's transmission system, as the x-ray inspection find rate was 88 percent.¹⁰⁷ Given the high find rate, claimed ineffectiveness of other inspection methods, and limited sample size, SCE must report on its 2023 and 2024 X-ray inspection findings and discuss how it will address the risk associated with its transmission splices in its 2026-2028 Base WMP.

Energy Safety has modified the area for continued improvement to provide additional guidance for SCE. SCE must respond to this revised area for continued improvement in its 2026-2028 Base WMP.

Section 11 provides all areas for continued improvement for SCE, including the specific required progress that SCE must address in its 2026-2028 Base WMP.

SCE-23B-11. Covered Conductor Inspection and Maintenance

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety required SCE to discuss how its inspection programs will address failure modes unique to covered conductor such as water intrusion, splice covers, and surface damage. If SCE determined no updates were necessary, it was required to discuss how its existing practices adequately address covered conductor failure modes. 108

SCE stated that its current inspection form includes questions prompting the inspector to check for surface damage such as abrasion from vegetation contact and punctures from lightning strikes. ¹⁰⁹ SCE stated that its inspections address water intrusion by checking for corrosion, and SCE is evaluating moisture blocking covered conductor designs for future implementation. ¹¹⁰ SCE stated that it evaluates splice covers using the same criteria as the rest of the covered conductor insulating material, and SCE is evaluating options to simplify splice cover maintenance. ¹¹¹

In addition to its current inspection and maintenance practices, SCE stated that it is executing a covered conductor inspection pilot in 2024 that will evaluate the benefit of

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹⁰⁶ SCE 2025 WMP Update (April 2, 2024), SCE-23-10 Splice Findings, pp. 65-67 https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56424&shareable=true, accessed June 13, 2024).

¹⁰⁷ <u>SCE 2025 WMP Update</u> (April 2, 2024), SCE-23-10 Splice Findings, pp. 65-67 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56424&shareable=true, accessed June 13, 2024).

¹⁰⁸ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 88

¹⁰⁹ SCE 2025 WMP Update (April 2, 2024), p. 68

¹¹⁰ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 69

¹¹¹ SCE 2025 WMP Update (April 2, 2024), pp. 68-69

additional inspections, maintenance, or design improvements based on various environmental conditions present in SCE's service territory. 112

Energy Safety Evaluation

Given SCE's incorporation of checks specific to surface damage, splice covers, and water intrusion into its inspection form, Energy Safety finds that SCE sufficiently responded to this area for continued improvement; no further reporting is required on this area for continued improvement in SCE's 2026-2028 Base WMP.

8.1.2.2 New or Discontinued Programs

In its 2025 WMP Update, SCE reported discontinuing one existing program related to the asset inspection section of its 2023-2025 Base WMP. Energy Safety finds that this update meets the reportable update criteria set forth in the 2025 WMP Update Guidelines.

SCE stated that it is discontinuing its Transmission Conductor Span Assessment initiative (IN-9a) due to its zero percent find rate in 2023 and 2024 as well as the cost and complexity of performing the inspections. SCE stated that over the life of the transmission conductor assessment program, SCE performed 165 inspections, none of which resulted in findings.

Energy Safety Evaluation

Discontinuing this program will have minimal impact on wildfire risk and the resources can be used more efficiently on other inspection programs. Transmission conductor span assessments have yielded a find rate of zero, while transmission splice assessments have yielded a Level 1 and 2 condition find rate of 46 percent with a comparable number of inspections performed.¹¹⁵

Areas for Continued Improvement

Energy Safety has no new areas for continued improvement for SCE's new or discontinued programs in the asset inspections section of its 2023-2025 Base WMP.

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56529&shareable=true, accessed June 12, 2024).

^{112 &}lt;u>SCE 2025 WMP Update</u> (April 2, 2024), p. 69

¹¹³ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 33

¹¹⁴ Data Request OEIS-P-WMP 2024-SCE-02, Q01 (April 24, 2024),

¹¹⁵ SCE 2025 WMP Update (April 2, 2024), SCE-23-10 Splice Findings, pp. 65-67

8.1.2.3 Targets, Objectives, and Projected Expenditures

In its 2025 WMP Update, SCE provided quarterly targets (end of Q2 and end of Q3) for seven of its 2025 asset inspection programs, as required by the 2025 WMP Update Guidelines. Additionally, SCE reported an update to one approved target related to the asset inspection section of its 2023-2025 Base WMP. Energy Safety finds that these reportable updates meet the requirements set forth in the 2025 WMP Update Guidelines.

Specifically, SCE provided an update to the approved target for its Transmission High Fire Risk-Informed (HFRI) Inspections and Remediations, reducing the target from 28,000 to 24,500 structures. SCE stated this reduction is due to access and environmental constraints.¹¹⁷

Energy Safety Evaluation

With respect to the Q2 and Q3 quarterly targets that SCE provided for seven of its 2025 asset inspections programs, Energy Safety finds that at least 90 percent of all inspections are targeted for completion by the end of Q3. ¹¹⁸ This indicates that SCE targets completion of the majority of its asset inspections prior to the end of peak fire season.

With regard to the update SCE provided to its approved target for its Transmission HFRI Inspections and Remediations, SCE stated that access restrictions in 2022 and 2023 impacted its ability to complete transmission HFRI inspections, yet SCE was able to complete 28,824 aerial and 28,908 ground inspections in 2023, exceeding its target of 28,000 for each year. Access constraints may impact an electrical corporation's ability to meet its target, but access constraints do not reduce the risk associated with leaving impacted assets uninspected. Though SCE provided a 13 percent reduction to its compliance target, SCE stated its "strive to" target will remain at 29,500 structures.

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56536&shareable=true, accessed May 23, 2024).

¹¹⁶ Energy Safety 2025 Wildfire Mitigation Plan Update Guidelines (January 2024), See Section 3 for Quarterly Inspection Targets for 2025

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56254&shareable=true, accessed April 9, 2024).

¹¹⁷ SCE 2025 WMP Update (April 2, 2024), p. 28

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹¹⁸ <u>SCE 2025 WMP Update</u> (April 2, 2024), pp. 31-32

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹¹⁹ SCE Q4 2023 QDR Tables 1-15, Table 1

¹²⁰ SCE 2025 WMP Update (April 2, 2024), p. 26

¹²¹ <u>SCE 2023-2025 Base WMP R2 Redline</u>, pp. 242-245, Table 8-4: Asset Inspections Targets by Year (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56418&shareable=true, accessed, July 13, 2024).

Energy Safety finds that the explanation SCE provided justifies the update SCE provided, but requires SCE to address the constraints impacting its HFRI inspections through an area for continuous improvement, as further discussed below.

Areas for Continued Improvement

SCE must continue to improve in the following areas and report its progress in its 2026-2028 Base WMP. Additionally, in its 2026-2028 Base WMP, SCE must report its progress on any existing areas for continued improvement specified in Energy Safety's Decision on SCE's 2023-2025 Base WMP.¹²²

Transmission High Fire Risk-Informed Inspections

SCE provided a reduction to its 2025 target for transmission high fire risk-informed (HFRI) inspections from 28,000 to 24,500 due to environmental and access constraints. ¹²³ In its 2026-2028 Base WMP, SCE must: identify the specific access issues impacting its ability to perform transmission HFRI inspections; provide a plan to overcome each access constraint; provide the number of assets from 2022 through 2024 that it was unable to inspect as scheduled due to access constraints; and provide the number of assets from 2022 through 2024 that were unable to be inspected within 1 year of the originally scheduled inspection date.

Section 11 provides all areas for continued improvement for SCE, including the specific required progress that SCE must address in its 2026-2028 Base WMP.

8.1.3 Equipment Maintenance and Repair

8.1.3.1 2023 Areas for Continued Improvement

As required by Energy Safety's Decision on SCE's 2023-2025 Base WMP,¹²⁴ SCE reported its progress on three areas for continued improvement in the equipment maintenance and repair section in its 2025 WMP Update.

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹²² Decision on SCE 2023-2025 Base WMP (October 24, 2023), pp 84-91

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹²³ SCE 2025 WMP Update (April 2, 2024), pp. 26, 28

¹²⁴ Decision on SCE 2023-2025 Base WMP (October 24, 2023), pp 84-91

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

SCE-23B-12. Asset Maintenance and Repair Maturity Level Growth

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety required SCE to discuss in its 2025 WMP Update how its maintenance programs will account for PSPS risk and asset usage when establishing maintenance frequency. 125

In its response, SCE stated that its maintenance and inspection program scope is driven by Integrated Wildfire Mitigation Strategy (IWMS) risk tranche and POI. Severe Risk Area IWMS tranches are inspected more frequently and consider PSPS de-energization. SCE stated that PSPS risk is also considered when determining remediation timeframes. 126

SCE stated that it considers asset utilization in its probability of ignition calculation, and probability of ignition is subsequently used to determine inspection frequency and remediation prioritization.¹²⁷

Energy Safety Evaluation

Given that PSPS risk and asset utilization impact SCE's asset inspection frequencies and remediation timeframes, Energy Safety finds that SCE sufficiently responded to this area for continued improvement; no further reporting is required on this area for continued improvement in SCE's 2026-2028 Base WMP.

SCE-23B-13. Addressing Backlogged Work Orders

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety required SCE to provide a detailed plan to address overdue work orders including a discussion about how it will prioritize work orders, how it will allocate workforce resources, its procedures and documentation for ignition-risk determination, and its plan to timely address the potential increase in tags stemming from changes to its inspection programs.¹²⁸

In its response, SCE stated it has developed two plans for addressing overdue work orders and aims to achieve the following commitments by December 31, 2024. For past-due

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹²⁵ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 88

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹²⁶ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 70

¹²⁷ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 71

¹²⁸ Decision on SCE 2023-2025 Base WMP (October 24, 2023), p. 89

¹²⁹ SCE 2025 WMP Update (April 2, 2024), pp. 75, 76

notifications ¹³⁰ aged more than five years, SCE stated that it will strive to close 70 percent of the notifications classified as "Pending/Other" and "Inactive equipment/Functional Location (FLOC)." SCE also committed to reviewing notifications classified as 'General Order 95 Exceptions' and 'Notify Third Party/Third-Party Issues' to confirm whether external constraints have been cleared, and committed to remediate the findings or update the notification status. For past-due notifications aged less than 5 years, SCE stated it will strive to close 70 percent of all 'Other' notifications unless they are constrained, and 70 percent of all 'Inactive Equipment/FLOC' notifications. SCE committed to reviewing the notifications classified as 'Third-Party Issues' in the top 50 percent of risk and in severe risk or high consequence areas to determine if the constraint still exists. SCE also committed to evaluating the top 50 percent riskiest 'General Order 95 Exception' notifications to evaluate if the constraint still exists. ¹³¹

SCE stated that it regularly assesses wildfire work priorities and resource allocation. SCE also stated that most of its overdue work orders are the result of external constraints, and as a result SCE is shifting internal resources to focus on reducing these constraints.¹³²

SCE did not provide documentation used in the determination of ignition-risk tags but did provide the criteria used to evaluate the ignition risk of a notification. SCE stated it considers the location, wildfire consequence score, area of concern identifier, PSPS identifier, compliance due date, problem statement, probability of ignition, and age of the notification to determine ignition risk. SCE stated its process for prioritizing tag closures uses a formula that includes wildfire consequence score, probability of ignition, areas of concern, and PSPS history.

¹³⁰ In its response to SCE-23B-13, SCE used "notifications" and "work orders" interchangeably. <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 72

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹³¹ <u>SCE 2025 WMP Update</u> (April 2, 2024), pp. 75-76

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹³² SCE 2025 WMP Update (April 2, 2024), p.76

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹³³ SCE 2025 WMP Update (April 2, 2024), p.77

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹³⁴ SCE 2025 WMP Update (April 2, 2024), p.77

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

SCE incorporated an aerial component to its HFRA inspections in 2022,¹³⁵ which resulted in an increased find rate.¹³⁶ In response to how SCE plans to timely address the increase in work order tags due to routine inspection improvement, SCE stated that the find rate of HFRA distribution inspections was 27 percent in 2022 and 2023, and it will strive to perform 217,000 inspections.¹³⁷ SCE stated the find rate of HFRA transmission inspections in 2022 and 2023 was 9 percent, and it will strive to perform 29,500 inspections.¹³⁸ Given the elevated find rates, SCE estimated that 58,600 distribution notifications and 2,600 transmission notifications will be added in 2024 and stated that its current workforce is sufficient to meet its backlog reduction plan.¹³⁹ SCE stated that it will prioritize a combination of risk and compliance driven remediations before performing lower risk mediations.¹⁴⁰

Energy Safety Evaluation

SCE committed to striving to close a significant percentage of its overdue work orders by the end of 2024, discussed how it is allocating resources to reduce its backlog, provided its procedures for prioritizing work orders based on risk, and provided an analysis supporting its ability to address increased work orders resulting from the incorporation of an aerial component to its detailed inspections. Energy Safety finds that SCE sufficiently responded to this area for continued improvement; no further reporting is required on this area for continued improvement in SCE's 2026-2028 Base WMP. Energy Safety will monitor the number of overdue work orders closed by SCE in 2024 and these observations will inform Energy Safety's evaluation of SCE's 2026-2028 Base WMP.

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56479&shareable=true, accessed July 13, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56891&shareable=true, accessed July 11, 2024); (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56893&shareable=true, accessed July 11,2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024)

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024)

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹³⁵ SCE 2023-20<u>25 Base WMP R2 Redline</u> (April 11, 2024), p. 282

¹³⁶ OEIS-P-WMP_2024-SCE-05, <u>001</u> and <u>002</u> Attachments.

¹³⁷ SCE 2025 WMP <u>Update</u> (April 2, 2024), pp. 77

¹³⁸ <u>SCE 2025 WMP Update</u> (April 2, 2024), pp. 77

¹³⁹ SCE 2025 WMP Update (April 2, 2024), pp. 76-78

¹⁴⁰ SCE 2025 WMP Update (April 2, 2024), p. 78

SCE-23B-14. Modification of Work Order Due Dates Based on Risk Assessment

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety required SCE to analyze the risk assessment disparity between "Gatekeepers" and inspectors. SCE was required to evaluate the consistency of risk assessment training between Gatekeepers and inspectors, audit inspector risk assessments on notifications with modified due dates, audit Gatekeeper due date modifications, and provide conclusions regarding the root cause of the disparity. SCE was also required to discuss if the due date assigned by the inspector is evaluated during the inspection QA/QC process for distribution detailed inspections, and, if it is, why the QA/QC pass rates for distribution detailed inspections do not appear to align with the percentage of due dates modified by Gatekeepers. 142

SCE stated that both Gatekeepers and inspectors receive the same risk assessment training. Additionally, SCE stated that a change in the due date of a notification does not necessarily indicate the original inspector made a mistake. SCE stated that notification due dates are populated based on a questionnaire filled out by the inspector, and Gatekeepers can modify due dates based on General Order 95, Rule 18 guidelines, SCE procedures, knowledge of SCE's system, or relevant experience in the field.¹⁴³

SCE also stated that inspector performance is audited by a quality control program that assesses compliance with General Order 95. However, the inspection QA/QC process does not evaluate the due date assigned by the inspector. A different QA/QC program audits Gatekeeper performance, which reviewed 7,755 notifications from 2020 to 2022 and found Gatekeepers to have a conformance rate to GO 95 and internal SCE standards, including due date modifications, of over 99 percent. SCE clarified that all priority 2 (P2) 145 notifications are reviewed by Gatekeepers as the final step in the notification process. SCE stated that the

¹⁴¹ Gatekeeper: SCE position that reviews inspection findings and has the authority to modify remediation work due dates. <u>SCE 2025 WMP Update</u>, (April 2, 2024) pp. 79-80

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹⁴² <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 90 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹⁴³ SCE 2025 WMP Update (April 2, 2024), pp. 79-80

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹⁴⁴ <u>SCE 2025 WMP Update</u> (April 2, 2024), pp. 80-81

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹⁴⁵ P2 notifications require remediation within 6 months in the HFTD Tier 3, 12 months in the HFTD Tier 2. P1 notifications must be remediated within 72 hours and P3 notifications do not pose fire risk. <u>SCE 2023-2025 Base WMP R2 Redline</u> (April 11, 2024), p. 287

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56479&shareable=true, accessed July 13, 2024).

¹⁴⁶ SCE 2025 WMP Update (April 2, 2024), p. 80

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

root cause of the risk assessment discrepancy is the result of the pre-population of due dates based on inspectors' responses to a questionnaire and inspectors tending to err on the side of caution when filling out the questionnaire.¹⁴⁷

Energy Safety Evaluation

Given the high conformance rate found in the audit of Gatekeeper performance and the clarification that all P2 notifications are reviewed by gatekeepers, Energy Safety finds that SCE sufficiently responded to this area for continued improvement; no further reporting is required on this area for continued improvement in SCE's 2026-2028 Base WMP.

8.1.3.2 New or Discontinued Programs

In its 2025 WMP Update, SCE did not report any new or discontinued programs related to the equipment maintenance and repair section of its 2023-2025 Base WMP.

8.1.3.3 Targets, Objectives, and Projected Expenditures

In its 2025 WMP Update, SCE did not report any updates to its approved targets, objectives, or projected expenditures related to the equipment maintenance and repair section of its 2023-2025 Base WMP.

8.1.4 Grid Operations and Procedures

8.1.4.1 2023 Areas for Continued Improvement

As required by Energy Safety's Decision on SCE's 2023-2025 Base WMP, ¹⁴⁸ SCE reported its progress on one area for continued improvement in the grid operations and procedures section in its 2025 WMP Update.

SCE-23B-15. Continued Monitoring of Fast Curve Settings Impact

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety required SCE to continue monitoring the reliability impacts of its fast curve settings. Energy Safety required SCE to provide the circuits and circuit segments impacted by outage, the cause of outage, number of customers impacted, number of vulnerable customers impacted, duration of outage, response time to outage, and the customer minutes of interruption. 149

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹⁴⁷ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 81

¹⁴⁸ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), pp. 90-91

¹⁴⁹ Decision on SCE 2023-2025 Base WMP (October 24, 2023), pp. 90-91

In response, SCE provided a table listing the outage date, ID, impacted circuit, cause, subcause, number of customers impacted, number of vulnerable customers impacted, duration, and customer minutes of interruption. ¹⁵⁰ SCE stated that it did not provide circuit segment data because it does not have a universally tracked circuit segment definition. ¹⁵¹ SCE also clarified that vulnerable customers are tracked at the circuit level and as a result it was unable to determine exactly how many vulnerable customers were impacted by each outage. ¹⁵² SCE did not provide the response time to outage because SCE stated that it does not collect this data for all outages. ¹⁵³

Energy Safety Evaluation

SCE provided a table listing its circuits and circuit segments impacted by outage, the cause of outage, number of customers impacted, duration of outage, and the customer minutes of interruption.

Energy Safety finds that SCE sufficiently responded to this area for continued improvement; no further reporting is required on this area for continued improvement in SCE's 2026-2028 Base WMP.

8.1.4.2 New or Discontinued Programs

In its 2025 WMP Update, SCE did not report any new or discontinued programs related to the grid operations and procedures section of its 2023-2025 Base WMP.

8.1.4.3 Targets, Objectives, and Projected Expenditures

In its 2025 WMP Update, SCE did not report any updates to its approved targets, objectives, or projected expenditures related to the grid operations and procedures section of its 2023-2025 Base WMP.

8.2 Vegetation Management and Inspections

In its 2025 WMP Update, SCE provided ten updates related to the vegetation management and inspections section of its 2023-2025 Base WMP. The updates SCE provided related to this section included reporting required progress on one area for continued improvement,

¹⁵⁰ SCE 2025 WMP Update (April 2, 2024), see SCE-23-15 Fast Curve Settings

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56425&shareable=true, accessed June 13, 2024).

¹⁵¹ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 82

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹⁵² SCE 2025 WMP Update (April 2, 2024), p. 82

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹⁵³ SCE 2025 WMP Update (April 2, 2024), p. 82

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

quarterly targets for seven 2025 vegetation management inspection programs, an update to one approved target, and an update to one projected expenditure.

8.2.1 2023 Areas for Continued Improvement

As required by Energy Safety's Decision on SCE 's 2023-2025 Base WMP,¹⁵⁴ SCE reported its progress on one area for continued improvement in the vegetation management and inspections section in its 2025 WMP Update.

8.2.1.1 SCE-23B-16. Implementation of SCE's Consolidated Inspection Strategy, Use of Its Tree Risk Index, and its Satellite-Based Inspection Pilot

In Energy Safety's Decision on SCE's 2023-2025 Base WMP, Energy Safety required SCE to provide an update on its progress, outcomes, and lessons learned related to the development, implementation, and use of its, Consolidated Inspection Strategy, Tree Risk Index, and satellite-based inspection pilot in its 2026-2028 Base WMP. ¹⁵⁵ In its 2025 WMP Update, SCE reported that it will provide an update on this area for continued improvement in its 2026-2028 Base WMP. ¹⁵⁶

8.2.1.2 SCE-23B-17. Continuation of Effectiveness of Enhanced Clearances Joint Study

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety required that SCE and the other large IOUs continue efforts on the Effectiveness of Enhanced Clearances Joint Study, as established by the 2021 WMP Action Statements. ¹⁵⁷ SCE, along with PG&E and SDG&E, were required to report in their respective 2025 WMP Updates progress and outcomes of the third-party contractor's analysis and evaluation of the effectiveness of enhanced clearances. ¹⁵⁸

SCE reported on the progress of the Effectiveness of Enhanced Clearances Joint Study by providing a list of the aligned variables related to vegetation risk events, a description of the

¹⁵⁴ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), pp 91-93

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹⁵⁵ Decision on SCE 2023-2025 Base WMP (October 24, 2023), p. 91

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹⁵⁶ SCE 2025 WMP Update (April 2, 2024), p. 83

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹⁵⁷ <u>Final Action Statement on the 2021 Wildfire Mitigation Plan (WMP) Update of Southern California Edison Company</u>, p. App 68 (https://energysafety.ca.gov/wp-content/uploads/sce_2021wmp_finalactionstmt.pdf, accessed May 22, 2024).

^{158 &}lt;u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 92

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

chosen database type and architecture to warehouse the data, and a description of how the third-party contractor incorporated biotic and abiotic factors into its analysis, as required. The large IOUs were also required to provide the third-party contractor's assessment of the effectiveness of enhanced clearances but were not able to provide this assessment as part of the 2025 WMP Updates. SCE stated that the third-party contractor's data analysis would begin in March 2024 and that an assessment of the effectiveness of enhanced clearances had not been finalized. ¹⁵⁹

Energy Safety Evaluation

SCE sufficiently responded to the progress required for its 2025 WMP Update for this area for continued improvement. Given that the third party's assessment is not finalized, Energy Safety will require SDG&E, on behalf of the large IOUs, to provide Energy Safety with the third party's assessment as soon as it is finalized. ¹⁶⁰

In accordance with Energy Safety's Decision on SCE's 2023-2025 Base WMP, SCE must also report its progress on SCE-23B-17 in its 2026-2028 Base WMP.

Section 11 provides all areas for continued improvement for SCE, including the specific required progress that SCE must address in its 2026-2028 Base WMP.

8.2.2 New or Discontinued Programs

In its 2025 WMP Update, SCE did not report any new or discontinued programs related to the vegetation management and inspections section of its 2023-2025 Base WMP.

8.2.3 Targets, Objectives, and Projected Expenditures

In its 2025 WMP Update, SCE provided quarterly targets (end of Q2 and end of Q3) for seven of its 2025 vegetation management inspection programs, as required by the 2025 WMP Update Guidelines.¹⁶¹

Additionally, SCE provided updates to one approved target and one projected expenditure related to the vegetation management and inspections section of its 2023-2025 Base WMP.

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹⁵⁹ SCE 2025 WMP Update (April 2, 2024), p. 89

¹⁶⁰ If the third-party contractor's assessment of the effectiveness of enhanced clearances is finalized before the submission of SDG&E's 2026-2028 Base WMP, SDG&E will submit the assessment to the appropriate Energy Safety docket (https://efiling.energysafety.ca.gov/Dockets.aspx?caseId=1242, accessed July 11, 2024).

¹⁶¹ Energy Safety 2025 Wildfire Mitigation Plan Update Guidelines (January 2024), See Section 3 for Quarterly Inspection Targets for 2025.

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56254&shareable=true, accessed April 9, 2024).

Energy Safety finds that these reportable updates meet the requirements set forth in the 2025 WMP Update Guidelines.

Regarding the update SCE provided for one target, in SCE's approved 2023-2025 Base WMP, it set a 2023 target of 50 sites for Expanded Clearances for Generation Legacy Facilities (VM-3). ¹⁶² In its 2025 WMP Update, SCE stated that it executed VM-3 at 63 sites in 2023, exceeding its approved 2023 target of 50 sites by 13 sites. ¹⁶³ Consequently, SCE anticipates a lower volume of work in 2025 and provided a decrease to its 2025 target from 60 sites to 48 sites. ¹⁶⁴

In connection with the target decrease provided, SCE reported a 47 percent decrease in projected expenditure for VM-3. 165

8.2.3.1 Energy Safety Evaluation

SCE's quarterly targets for its 2025 vegetation management inspections are consistent with quarterly targets for 2023 and 2024 and meet the requirements of the 2025 WMP Update Guidelines.

Regarding the decrease SCE provided to its 2025 target for VM-3, SCE provided a list of the 63 sites at which it performed work in 2023. ¹⁶⁶ This list shows SCE inspected and remediated 60 sites and inspected but determined work was not required at 3 sites. ¹⁶⁷ In SCE's approved 2023-2025 Base WMP, the cumulative 3-year target for this program is 160 sites. ¹⁶⁸ Accounting for SCE's reported exceeded target in 2023 and the decrease to the 2025 target that SCE provided, the cumulative number of sites inspected under this program for 2023-2025 will be 161 sites. The updated cumulative number of sites inspected will exceed the previously approved cumulative target.

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55866&shareable=true, accessed July 19, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹⁶² SCE 2023-2025 WMP (Rev. #1, Oct. 26, 2023), p. 378

¹⁶³ SCE 2025 WMP Update (April 2, 2024), p. 28

¹⁶⁴ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 26, SCE Table 2-12

¹⁶⁵ SCE 2025 WMP Update (April 2, 2024), p. 30

¹⁶⁶ Data Request OEIS-P-WMP 2024-SCE-04 (May 9, 2024), Question 1, Attachment (May 10, 2024) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56654&shareable=true and https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56660&shareable=true, accessed May 22, 2024).

¹⁶⁷ Data Request <u>OEIS-P-WMP_2024-SCE-04</u> (May 9, 2024) Question 1, <u>Attachment</u> (May 10, 2024) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56654&shareable=true and https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56660&shareable=true, accessed May 22, 2024).

¹⁶⁸ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 26. SCE Table 2-11

SCE appropriately reported a 47 percent decrease in projected 2025 expenditure for Expanded Clearances for Generation Legacy Facilities (VM-3) in accordance with the 2025 WMP Update Guidelines. ¹⁶⁹ This update is appropriate considering the decrease SCE provided to the VM-3 target.

8.2.3.2 Areas for Continued Improvement

Energy Safety has no new areas for continued improvement for SCE in vegetation management and inspection. In its 2026-2028 Base WMP, SCE must report its progress on any existing areas for continued improvement specified in Energy Safety's Decision on SCE's 2023-2025 Base WMP.¹⁷⁰

8.3 Situational Awareness and Forecasting

In its 2025 WMP Update, SCE provided two total updates related to the situational awareness and forecasting section of its 2023-2025 Base WMP. The updates SCE provided related to this section included reporting progress on two areas for continued improvement.

8.3.1 2023 Areas for Continued Improvement

As required by Energy Safety's Decision on SCE's 2023-2025 Base WMP,¹⁷¹ SCE reported its progress on two areas for continued improvement in the situational awareness and forecasting section in its 2025 WMP Update.

8.3.1.1 SCE-23B-18. Weather Station Maintenance and Calibration

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety required that SCE continue to maintain and keep a log of all the annual maintenance and calibration for each weather station, including the station name, location, conducted maintenance, in compliance with SCE's Weather Station Calibration Checklist. ¹⁷² Energy Safety required that the document also

¹⁶⁹ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 30, SCE Table 2-32 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹⁷⁰ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), pp. 91-93 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹⁷¹ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023) pp. 93-94 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹⁷² <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), pp. 454-457 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024) and SCE Data Request response <u>OEIS-P-WMP-2023-SCE 002-Q003 Att BR Weather Station Calibration Updated 2023</u>, June 12, 2023 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=54053&shareable=true, accessed July 14, 2024).

include the length of time from initiation of a repair ticket to completion and the corrective maintenance performed to bring the station back into functioning condition. ¹⁷³

Specifically, Energy Safety required SCE to submit with its 2025 WMP Update documentation indicating the number of weather stations that received their annual calibration, and the number of stations that were unable to undergo annual maintenance and/or calibration due to factors such as remote location, weather conditions, customer refusals, environmental concerns, and safety issues. Energy Safety required the documentation to include: station name and location, the reason for the inability to conduct maintenance and/or calibration, the length of time since the maintenance and calibration, and the number of attempts made to complete the maintenance and calibration.

SCE provided information detailing the annual calibrations of its 1,618 weather stations that were installed prior to 2013. SCE also provided details to multiple stations that were unable to receive calibrations due to compromised roadways. Included in its submission was a highly detailed link to a spreadsheet¹⁷⁴ that was accessible and provided all of the requested information from the above ACI.¹⁷⁵

Energy Safety Evaluation

SCE sufficiently responded to this area for continued improvement; no further reporting is required on this area for continued improvement in SCE's 2026-2028 Base WMP.

8.3.1.2 SCE-23B-19. Early Fault Detection Implementation

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety required SCE to report on the performance and effectiveness of SCE's early fault detection (EFD) program, which is maturing as SCE expands the EFD program and employs the technology at 300 locations during the 3-year WMP cycle.¹⁷⁶

Energy Safety required SCE to include in its 2025 WMP Update, an overview of the installation process, an analysis of EFD in combination with other hardening efforts, performance of

¹⁷³ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), pp. 93-94 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹⁷⁴ SCE 2025 WMP Update (April 2, 2024), p. 92 and SCE-23-18 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true and https://www.sce.com/sites/default/files/AEM/Wildfire%20Mitigation%20Plan/2023-2025/2025%20WMP%20Update%20ACI%20SCE-23-18%20calibration%20tracker.xlsx, accessed July 9, 2024).

¹⁷⁵ <u>SCE 2025 WMP Update</u> (April 2, 2024), pp. 91-92 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹⁷⁶ Decision on SCE 2023-2025 Base WMP (October 24, 2023), p. 94 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

deployed EFD including faults detected, instances where EFD prevented or mitigated an ignition, and additional details of lessons learned related to EFD.¹⁷⁷

SCE reported that, as of January 1, 2024, it has 42 distribution circuits equipped with 260 EFD sensors, and three sub-transmission or transmission circuits equipped with 16 EFD sensors. SCE reported that it has deployed EFD sensors on both covered and bare conductor systems ranging from 12 kilovolts to 115 kilovolts and that EFD has proven to be capable of identifying undesirable conditions and degraded assets with a high degree of sensitivity and precision. 178

SCE stated that it expects the EFD device maintenance to be similar to other related electronic devices, and anticipates replacing the integrated batteries on a periodic maintenance cycle. SCE reported that the cellular communications needed for EFDs posed connectivity problems in remote areas. To solve this problem, SCE stated that it: (1) incorporated a directional antenna as an option for installation rather than the omnidirectional antenna previously used, allowing the wireless signal reach greater distance in one direction rather than shorter reach in all direction; and (2) selected sites at the highest altitude area whenever practical to improve signal quality. The EFD monitors the system for signs of degradation by detecting high frequency discharges. SCE stated it has found a 55 percent find rate of inspections that resulted in an incipient failure for a total of 41 finds accredited to the EFD system.

Energy Safety Evaluation

Due to the program's continuation, increase in detection failure detection rates, and the deployment of additional EFD devices, Energy Safety finds that SCE has sufficiently responded to this area for continued improvement; no further reporting is required on this area for continued improvement in SCE's 2026-2028 Base WMP.

8.3.2 New or Discontinued Programs

In its 2025 WMP Update, SCE did not report any new or discontinued programs related to the situational awareness and forecasting section of its 2023-2025 Base WMP.

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹⁷⁷ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 94

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹⁷⁸ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 93

¹⁷⁹ SCE 2025 WMP Update (April 2, 2024), pp. 93-95

¹⁸⁰ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 94. See "6 P1 findings, 28 P2 findings, and 7 P3 findings." (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

8.3.3 Targets, Objectives, and Projected Expenditures

In its 2025 WMP Update, SCE did not report any updates to its approved targets, objectives, or projected expenditures related to the situational awareness and forecasting section of its 2023-2025 Base WMP.

8.4 Emergency Preparedness

In its 2025 WMP Update, SCE did not report any updates to the emergency preparedness section of its 2023-2025 Base WMP.

8.5 Community Outreach and Engagement

In its 2025 WMP Update, SCE provided two total updates related to the community outreach and engagement section of its 2023-2025 Base WMP. The updates SCE provided related to this section included reporting required progress on one area for continued improvement.

8.5.1 2023 Areas for Continued Improvement

As required by Energy Safety's Decision on SCE's 2023-2025 Base WMP,¹⁸¹ SCE reported its progress on one area for continued improvement in the community outreach and engagement section in its 2025 WMP Update. SCE also reported progress on one area for continued improvement for which Energy Safety did not require reporting until 2026 (see Section 8.5.1.2 below).

8.5.1.1 SCE-23B-20. Evaluation of and Plan to Address AFN Needs

In its Decision on SCE's 2023-2025 Base WMP, Energy Safety found SCE did not provide sufficient detail about its evaluation of the needs of its access and functional needs (AFN) customer base, including the specific challenges the customer base faces or its plans to address those challenges. ¹⁸² Energy Safety required SCE, in its 2025 WMP Update, to provide details on its evaluation of the specific needs of its AFN customer base identified through its annual PSPS Tracker Survey. In addition to describing any challenges identified, Energy Safety also required SCE to provide detailed plans and a narrative on how the plans will be implemented to address these specific needs. ¹⁸³

¹⁸¹ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023)

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹⁸² <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 75

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹⁸³ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 95

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

In its 2025 WMP Update, SCE provided details on how it collects information and feedback from its AFN customers and other stakeholders. SCE also referenced specific sections of its 2024 AFN Plan that provide further details on the research SCE conducts to better understand the needs of its AFN customers as well as specific findings from its PSPS surveys. SCE also discussed and provided some examples of measures it has taken as a result of its research and the feedback processes it performs (e.g., surveys, quarterly meetings, etc.). ¹⁸⁴ For example, SCE stated that it has increased outreach efforts through its partnerships with community-based organizations; launched an AFN Self-Identification Survey; and enhanced support for AFN customers through resiliency planning, food, lodging, and transportation.

Energy Safety Evaluation

SCE provided the required details on its evaluation of the needs of its AFN customer base, as well as its plans to address these needs. As such, SCE sufficiently responded to this area for continued improvement; no further reporting is required on this area for continued improvement in SCE's 2026-2028 Base WMP.

8.5.1.2 SCE-23B-21. Community Outreach 3- and 10-Year Objectives – Verification Methods

SCE reported that it will provide an update on its methods used to verify progress on objectives within its 3-year and 10-year community outreach objectives tables in its 2026-2028 Base WMP.¹⁸⁵

8.5.2 New or Discontinued Programs

In its 2025 WMP Update, SCE did not report any new or discontinued programs related to the community outreach and engagement section of its 2023-2025 Base WMP.

8.5.3 Targets, Objectives, and Projected Expenditures

In its 2025 WMP Update, SCE did not report any updates to its approved targets, objectives, or projected expenditures related to the community outreach and engagement section of its 2023-2025 Base WMP.

(https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

¹⁸⁴ <u>SCE 2025 WMP Update</u> (April 2, 2024), p. 96-97

¹⁸⁵ SCE 2025 WMP Update (April 2, 2024), p. 98

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed June 28, 2024).

9. Public Safety Power Shutoff

In its 2025 WMP Update, SCE provided one total update related to the Public Safety Power Shutoff section of its 2023-2025 Base WMP. The update SCE provided related to this section included reporting on one area for continued improvement.

9.1 2023 Areas for Continued Improvement

Energy Safety's Decision on SCE's 2023-2025 Base WMP did not require SCE to report progress on any areas for continued improvement in its 2025 WMP Update. SCE elected to report its progress on one area for continued improvement in the Public Safety Power Shutoff section in its 2025 WMP Update.

9.1.1 SCE-23B-22. Consideration of PSPS Damage in Consequence Modeling

In its Decision on the SCE 2023-2025 Base WMP, Energy Safety found that SCE had not evaluated whether and how PSPS after-event damage information is considered in PSPS decision-making. Energy Safety required SCE to report on progress it has made on incorporating observed PSPS event damage information into its PSPS consequence modeling in its 2026-2028 Base WMP.

SCE elected to report in its 2025 WMP Update that it will provide an update on its progress incorporating PSPS post-event damage into its PSPS consequence modeling in its 2026-2028 Base WMP. SCE must respond to this area for continued improvement in the 2026-2028 Base WMP.

9.2 New or Discontinued Programs

In its 2025 WMP Update, SCE did not report any new or discontinued programs related to the Public Safety Power Shutoff section of its 2023-2025 Base WMP.

¹⁸⁶ Decision on SCE 2023-2025 Base WMP (October 24, 2023), p. 95

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹⁸⁷ Decision on SCE 2023-2025 Base WMP (October 24, 2023), p.95

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

9.3 Targets, Objectives, and Projected Expenditures

In its 2025 WMP Update, SCE did not report any updates to its approved targets, objectives, or projected expenditures related to the Public Safety Power Shutoff section of its 2023-2025 Base WMP.



10. SCE Process for Continuous Improvement

SCE did not indicate any changes to the lessons learned or corrective action program sections of its 2023-2025 Base WMP.

10.1 Lessons Learned

SCE reported that some of its updates described in Sections 5 through 9 were informed by the following lessons learned:¹⁸⁸

- In its Covered Conductor (SH-1) initiative, SCE provided reductions to both of its compliance and strive targets due to program maturity, sensitivity to constraints such as environmental reviews and permitting, and program overperformance in 2022 and 2023.
- In its Undergrounding Overhead Conductor (SH-2) initiative, SCE provided reductions to its compliance target based on lessons learned from executing undergrounding projects in 2023. SCE encountered delays from factors "... such as land rights, permitting, easements, agency approvals." SCE anticipates these delays will reduce in 2026.
- In its REFCL GFN (Rapid Earth Fault Current Limiters Ground Fault Neutralizer) (SH17) initiative, SCE provided reductions to the GFN construction compliance target
 from four substations to two substations, and to add a strive target of four
 substations. This reduction is based on lessons learned from RECFL-GFN deployment,
 as well as materials and supply challenges.
- In its Transmission High Fire Risk-Informed (HFRI) Inspections and Remediations (Ground and Aerial) (IN-1.2) initiative, SCE provided reductions to the compliance target due to "environmental and access issues" and lessons learned from the program in 2022 and 2023.

¹⁸⁸ <u>SCE 2025 WMP Update</u> (April 2, 2024), pp. 27-28

11. Required Areas for Continued Improvement

Energy Safety's WMP evaluations focus on each electrical corporations' strategies for reducing the risk of utility-related ignitions. The list below comprises all SCE's areas for continued improvement and the required progress that SCE must address in its 2026-2028 Base WMP. This includes areas for continued improvement from Energy Safety's Decision on SCE's 2023-2025 Base WMP as well as new areas for continued improvement from Energy Safety's evaluation of SCE's 2025 WMP Update, as discussed in Sections 5 through 9 of this Decision.

11.1 Risk Methodology and Assessment

- SCE-25U-01. Calculating Risk Scores Using Maximum Consequence Values
 - Description: SCE continues to use maximum consequence values, as opposed to probability distributions, to aggregate risk scores. While this is acceptable for the time being, as modeling advances, SCE needs to continue exploring use of probability distributions.
 - Required Progress: In its 2026-2028 Base WMP, SCE must provide an update on how SCE is continuing to evaluate use of probability distributions and probabilistic models opposed to maximum consequence. This must include:
 - Continued exploration of probabilistic distributions, including piloting in place of maximum consequence and comparing results for its risk assessment strategy.
 - Analysis performed on evaluating additional wildfire simulations and weather scenarios, as described in its 2025 WMP Update.
 - An update on any changes made to SCE's models and associated impacts relating to use of probability distributions as a result of CPUC's Phase 3 Decision for risk-based decision-making frameworks.
 - Analysis performed by SCE on where and how to implement probability distributions into its risk models.

¹⁸⁹ SCE 2025 WMP Update (April 2, 2024), p. 43

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56417&shareable=true, accessed July 12, 2024).

¹⁹⁰ Rulemaking 20-07-013: Order Instituting Rulemaking to Further Develop a Risk-Based Decision-Making Framework for Electric and Gas Utilities, Proposed Decision for Phase 3 Decision, filed April 26, 2024 (https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M530/K252/530252715.PDF, accessed June 4, 2024).

- A description for any steps SCE is taking to explore the use of probability distributions in the future.
- Discussed in Section 6, "Risk Methodology and Assessment."

• SCE-23B-04. Incorporation of Extreme Weather Scenarios into Planning Models

- Description: SCE currently relies on wind conditions data representing the past 20 years that does not consider rare but foreseeable and significant risks. It does not evaluate the risk of extreme wind events in its service territory to prioritize its wildfire mitigations using MARS and IWMS.
- Required Progress: In its 2026-2028 Base WMP, SCE must report on its progress developing statistical estimates of potential wind events over at least the maximum asset life for its system and evaluate results from incorporating these into MARS and IWMS when developing its mitigation initiative portfolio or explain why the approach would not serve as an improvement to its mitigation strategy.
- Discussed in Section 6, "Risk Methodology and Assessment" of Energy Safety's Decision on SCE's 2023-2025 Base WMP.¹⁹¹

11.2 Wildfire Mitigation Strategy Development

- SCE-25U-02. Cross-Utility Collaboration on Best Practices for Inclusion of Climate Change Forecasts in Consequence Modeling, Inclusion of Community Vulnerability in Consequence Modeling, and Utility Vegetation Management for Wildfire Safety
 - Description: SDG&E, PG&E, and SCE participated in past Energy Safetysponsored scoping meetings on these topics and began collaborating on other WMP-related topics. However, they have not made substantive efforts to include the other IOUs (Bear Valley, Liberty Utilities, and PacifiCorp).
 - Required Progress: In its 2026-2028 Base WMP, SCE must continue its collaboration efforts and demonstrate that it has made efforts to include Bear Valley, Liberty Utilities, and PacifiCorp in these efforts where appropriate and relevant to each IOU's interests.
 - SCE must also continue to participate in all Energy Safety Safety-organized activities related to best practices for:

¹⁹¹ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), pp. 25-26 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

- Inclusion of climate change forecasts in consequence modeling.
- Inclusion of community vulnerability in consequence modeling.
- Utility vegetation management for wildfire safety.
- o Discussed in Section 7, "Wildfire Mitigation Strategy Development."

11.3 Grid Design, Operations, and Maintenance

SCE-25U-03. Continuation of Grid Hardening Joint Studies

- Description: The IOUs have made progress on the areas for continued improvement (SCE-22-09, SCE-22-11, and SCE-23-07) relating to the continued joint IOU grid hardening working group efforts. Energy Safety expects the IOUs to continue these efforts and meet the requirements of this ongoing area for continued improvement.
- Required Progress: In its 2026-2028 Base WMP, SCE must continue to collaborate with the other IOUs to evaluate various aspects of grid hardening and provide an updated Joint IOU Grid Hardening Working Group Report. This report must include continued analysis for the following:
 - The IOUs' joint evaluation of the effectiveness of undergrounding. This evaluation must account for any remaining risk from secondary or service lines, analysis of in-field observations from potential failure points of underground equipment, and ignition risk as well as PSPS risk.
 - The IOUs' joint evaluation of lessons learned on undergrounding applications. These lessons learned must include use of resources (including labor and materials) to accommodate undergrounding programs, any new technologies being applied to undergrounding, and cost and associated cost effectiveness efforts for deployment.
 - The IOUs' joint evaluation of various approaches to implementation of protective equipment and device settings. This evaluation must include an analysis of the effectiveness of various settings, lessons learned on how to minimize reliability impacts and safety impacts (including use of downed conductor detection and partial voltage detection devices), variations on settings used by IOUs including thresholds of enablement, and equipment types in which such settings are being adjusted.
 - The IOUs' continued efforts to evaluate new technologies being researched, piloted, and deployed by IOUs. These efforts must include, but not be limited to: REFCL, EFD, DFA, falling conductor protection, use of smart meter data, open phase detection, remote grids, and microgrids.

- 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.
- Additionally, SCE must report on all lessons learned SCE has applied or expects to apply to its WMP, including a list of applicable changes and a timeline for expected implementation as applicable.
- o Discussed in Section 8.1, "Grid Design, Operations and Maintenance."

SCE-25U-04. Consideration of Prior Actuals in Grid Hardening Targets

- Description: SCE reported a decrease to its 2025 covered conductor target due in part to its claimed exceedance of its 2022 covered conductor target. However, SCE should have accounted for the covered conductor miles it installed in 2022 when setting its 2025 target for covered conductor in its 2023-2025 Base WMP.
- Required Progress: In its 2026-2028 Base WMP, SCE must:
 - Explain its process for accounting for its prior years' actuals when setting grid hardening targets, and
 - Demonstrate that it has appropriately accounted for its prior years' actuals, including actuals from 2024, in the grid hardening targets provided in its 2026-2028 Base WMP.
- Discussed in Section 8.1.2 "Grid Design and System Hardening."

• SCE-25U-05. Transmission Conductor Splice Assessment

- Description: SCE provided data in its 2025 WMP Update that suggests a high percentage of Priority 1 and 2 splice conditions found by its transmission conductor splice assessment X-rays are not reliably identifiable through other inspection methods. Additionally, SCE did not detail its plan to mitigate the risks associated with its transmission splices.
- Required Progress:
 - In its 2026-2028 Base WMP, SCE must provide the following information for each transmission conductor inspection performed in 2023 and 2024:
 - Functional Location (FLOC)
 - Detail (phase and sub conductor)

- X-ray inspection date
- Date of most recent aerial inspection prior to X-ray
- Date of most recent ground inspection prior to X-ray
- Date of most recent infrared inspection prior to X-ray
- Circuit
- Finding issue category
- Failure mode
- SCE must also discuss its plan to mitigate the risks associated with its transmission splices.
- o Discussed in Section 8.1, "Grid Design, Operations and Maintenance."

• SCE-25U-06. Transmission High Fire Risk-Informed Inspections

- Description: SCE reduced its 2025 target for transmission high fire riskinformed (HFRI) inspections from 28,000 to 24,500 due to environmental and access constraints. SCE must improve its response to environmental and access constraints given the impacted assets still present wildfire risk.
- Required Progress: In its 2026-2028 Base WMP, SCE must:
 - Identify the specific access issues impacting its ability to perform transmission HFRI inspections.
 - Discuss how SCE is addressing each access issue, including lessons learned, if applicable.
 - Provide the number of assets SCE inspected on schedule from 2022 to 2024.
 - Provide the number of assets SCE did not inspect on schedule from 2022 to 2024 due to access or environmental constraints.
 - Provide the number of assets scheduled for inspection in 2022 and 2023 that SCE did not inspect within one year of the originally scheduled inspection date due to access or environmental constraints.
- Discussed in Section 8.1, "Grid Design, Operations and Maintenance."

11.4 Vegetation Management and Inspections

- SCE-23B-16. Implementation of SCE's Consolidated Inspection Strategy, Use of Its Tree Risk Index, and its Satellite-Based Inspection Pilot
 - Description: SCE is developing these programs and pilot over the course of the 2023-2025 Base WMP cycle. As these programs and pilot mature, Energy Safety will evaluate their quality and execution.
 - Required Progress: In its 2026-2028 Base WMP, SCE must report on progress, outcomes, and lessons learned related to the development, implementation, and use of its:
 - Consolidated Inspection Strategy.
 - Tree Risk Index.
 - Satellite-based inspection pilot.
 - Discussed in Section 8.2, "Vegetation Management and Inspections," of Energy Safety's Decision on SCE's 2023-2025 Base WMP.¹⁹²

• SCE-23B-17. Continuation of Effectiveness of Enhanced Clearances Joint Study

- Description: The large IOUs have jointly made progress addressing the Progression of Effectiveness of Enhanced Clearances Joint Study 2022 area for continued improvement (SDGE-22-20, PG&E-22-28, and SCE-22-18). Energy Safety expects the large IOUs and their contracted third party to continue their efforts and meet the requirements of this ongoing area for continued improvement.¹⁹³
- Required Progress: ¹⁹⁴ With its 2026-2028 Base WMP, SCE, along with PG&E and SDG&E, must attach a white paper that discusses:
 - The large IOUs' joint evaluation of the effectiveness of enhanced clearances including, but not limited to, the effectiveness of enhanced clearances in reducing tree-caused outages and ignitions.

¹⁹² <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 59 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

¹⁹³ The objectives for the Enhanced Clearances Joint Study were defined in SCE-21-07, <u>Action Statement on 2021</u> <u>Wildfire Mitigation Plan Update – Southern California Edison</u>, p. App 68 (https://energysafety.ca.gov/wpcontent/uploads/sce_2021wmp_finalactionstmt.pdf, accessed June 12, 2024).

¹⁹⁴ In the <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), (p. 92), SCE-23-17 included requirements for progress reporting in SCE's 2025 WMP Update; this language has been removed from this Decision as it does not apply towards the required progress for the 2026-2028 Base WMP. (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

- The large IOUs' joint recommendations for updates and changes to utility vegetation management operations and best management practices for wildfire safety based on this study. This may include the IOUs' recommendations for updates to regulations related to clearance distances.
- Furthermore, SCE must, as a result of this study and white paper:
 - Assess the effectiveness of enhanced clearances combined with other mitigations including, but not limited to, covered conductor and protective equipment and device settings (e.g., EPSS, FastCurve)
 - Provide a plan for implementing the results and recommendations of the third-party contractor analysis and the white paper. This plan must include trackable milestones and timelines for implementation. SCE must also provide a list of recommendations it is not implementing and why it is not selecting them for implementation.
- Discussed in Section 8.2, "Vegetation Management and Inspections."

11.5 Community Outreach and Engagement

- SCE-23B-21. Community Outreach 3- and 10-Year Objectives Verification Methods
 - Description: SCE's verification methods for some of its community outreach objectives are vague and do not readily demonstrate what specifically will be used to verify progress on and achievement of the objective.
 - Required Progress: In its 2026-2028 Base WMP, SCE must include all methods used to verify progress on objectives within the tables describing its 3-year and 10-year community outreach objectives. SCE must articulate its verification methods to demonstrate the effectiveness in verifying progress on, and achievement of, each objective.
 - Discussed in Section 8.5, "Community Outreach and Engagement," of Energy Safety's Decision on SCE's 2023-2025 Base WMP.¹⁹⁵

¹⁹⁵ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), pp. 75-76 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

11.6 Public Safety Power Shutoffs

- SCE-23B-22. Consideration of PSPS Damage in Consequence Modeling
 - Description: SCE is in the early stages of improving its modeling methodology and has not fully evaluated whether and/or how PSPS event damage information is considered in PSPS decision-making.
 - Required Progress: In its 2026-2028 Base WMP, SCE must report on progress it
 has made in incorporating observed PSPS event damage information into its
 PSPS consequence modeling. If SCE has come to a conclusion on whether
 and/or how PSPS event damage information is considered in its PSPS decision
 making by its 2026-2028 Base WMP submission, SCE must include an
 explanation of findings that led to the conclusion.
 - Discussed in Section 8.6, "Public Safety Power Shutoffs," of Energy Safety's Decision on SCE's 2023-2025 Base WMP.¹⁹⁶

¹⁹⁶ <u>Decision on SCE 2023-2025 Base WMP</u> (October 24, 2023), p. 79 (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=55857&shareable=true, accessed June 28, 2024).

12. Conclusion

SCE's 2025 WMP Update is approved.

Catastrophic wildfires remain a serious threat to the health and safety of Californians. Electrical corporations, including SCE, must continue to make progress toward reducing utility-related ignition risk.

Energy Safety expects SCE to effectively implement its wildfire mitigation activities to reduce the risk of utility-related ignitions and the potential catastrophic consequences if an ignition occurs, as well as to reduce the scale, scope, and frequency of PSPS events.

SCE must meet the commitments in its WMP and fully address the areas for continued improvement identified within this Decision to ensure it meaningfully reduces utility-related ignition and PSPS risk within its service territory over the plan cycle.

DATA DRIVEN FORWARD-THINKING INNOVATIVE SAFETY FOCUSED



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APPENDICES



APPENDICES

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Appendix A. Glossary of Terms

Term	Definition
AFN	Access and functional needs
BVES	Bear Valley Electric Service
CAISO	California Independent System Operator
Cal Advocates	The Public Advocates Office at the California Public Utilities Commission
CAL FIRE	California Department of Forestry and Fire Protection
Cal OES	California Governor's Office of Emergency Services
САР	Corrective action program
СВО	Community-based organization
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEJA	California Environmental Justice Alliance
CNRA	California Natural Resources Agency
CPUC	California Public Utilities Commission
D.	Prefix to a proceeding number designating a CPUC decision
DR	Data request
DWR	California Department of Water Resources
EBMUD	East Bay Municipal Utility District
EFD	Early fault detection

Term	Definition
EPUC	Energy Producers and Users Coalition
EVM	Enhanced vegetation management
FERC	Federal Energy Regulatory Commission
FPI	Fire potential index
FWI	Fire weather index
GFN	Ground-fault neutralizers
GIS	Geographic information systems
GO	General order
GPI	Green Power Institute
GRC	General rate case
HD	High definition
HFRA	High Fire Risk Area
HFTD	High fire threat district
HWT or Horizon West	Horizon West Transmission
I.	Prefix to a proceeding number designating a CPUC Order Instituting Investigation (OII)
ICS	Incident command system or structure
IOU	Investor-owned utility
IR	Infrared
ISA	International Society of Arboriculture
ITO	Independent transmission operator
kV	Kilovolt

Term	Definition
Liberty	Liberty Utilities
Lidar	Light detection and ranging
Maturity Model	Electrical Corporation Wildfire Mitigation Maturity Model
Maturity Survey	Electrical Corporation Wildfire Mitigation Maturity Survey
MAVF	Multi-attribute value function
MBL	Medical Baseline
MGRA	Mussey Grade Road Alliance
ML	Machine learning
NDVI	Normalized difference vegetation index
NERC	North American Electric Reliability Corporation
NFDRS	National Fire Danger Rating System
NOD	Notice of defect
NOV	Notice of violation
ОСМ	Overhead circuit miles
OEIS or Energy Safety	Office of Energy Infrastructure Safety
PG&E	Pacific Gas and Electric Company
PoF	Probability of failure
Pol	Probability of ignition
PRC	Public Resources Code
PSPS	Public Safety Power Shutoff

Term	Definition
Pub. Util. Code or PU Code	Public Utilities Code
QA	Quality assurance
QC	Quality control
QDR	Quarterly Data Report
R.	Prefix to a proceeding number designating a CPUC rulemaking
RAMP	Risk Assessment and Mitigation Phase
RCRC	Rural County Representatives of California
REFCL	Rapid earth fault current limiter
RFW	Red Flag Warning
RSE	Risk-spend efficiency
SAWTI	Santa Ana Wildfire Threat Index
SCADA	Supervisory control and data acquisition
SCE	Southern California Edison Company
SDG&E	San Diego Gas & Electric Company
S-MAP	Safety Model Assessment Proceeding, now the Risk- Based Decision-Making Framework Proceeding
SMJU	Small and multijurisdictional utilities
TAT	Tree Assessment Tool
ТВС	Trans Bay Cable
TURN	The Utility Reform Network
USFS	United States Forest Service
VM	Vegetation management

Term	Definition
VRI	Vegetation risk index
WMP	Wildfire Mitigation Plan
WRRM	Wildfire Risk Reduction Model
WSAB	Wildfire Safety Advisory Board
WUI	Wildland-urban interface



Appendix B. Status of 2023 Areas for Continued Improvement

Energy Safety's 2023 Decision¹ for SCE identified areas for continued improvement and associated required progress. Areas for continued improvement are where SCE must continue to improve its wildfire mitigation capabilities. As part of the 2025 WMP Update evaluation process, Energy Safety reviewed the progress reported by SCE on areas for continued improvement that Energy Safety required progress on by the 2025 WMP Update. Energy Safety is not satisfied that SCE has made sufficient progress in all the identified areas for continued improvement.

SCE's 2023 areas for continued improvement that Energy Safety required progress on by the 2025 WMP Update are listed in Table A-1. The status column indicates whether each has been fully addressed. If not, the column notes where to find more information in this Decision.

¹ SCE 2023-2025 WMP Decision and Cover Letter

Table A-1. SCE 2023 Areas for Continued Improvement

ID	Title	Status
SCE-23-01 (SCE-23B-01)	Cross-Utility Collaboration on Risk Model Development	SCE sufficiently addressed the required progress.
SCE-23-02 (SCE-23B-02)	Calculating Risk Scores Using Maximum Consequence Values	SCE did not sufficiently address the required progress. For related areas for continued improvement, see Sections 6.2.2 and 11 of this Decision.
SCE-23-03 (SCE-23B-03)	PSPS and Wildfire Risk Trade-Off Transparency	SCE sufficiently addressed the required progress.
SCE-23-05 (SCE-23B-05)	Cross-Utility Collaboration on Best Practices for Inclusion of Climate Change Forecasts in Consequence Modeling, Inclusion of Community Vulnerability in Consequence Modeling, and Utility Vegetation Management for Wildfire Safety	SCE did not sufficiently address the required progress. For related areas for continued improvement, see Sections 7.1.1 and 11 of this Decision.
SCE-23-07 (SCE-23B-07)	Continuation of Grid Hardening Joint Studies	SCE did not sufficiently address the required progress. For related areas for continued improvement, see Sections 8.1.1.1 and 11 of this Decision.
SCE-23-08 (SCE-23B-08)	Vibration Dampers Retrofit	SCE sufficiently addressed the required progress.
SCE-23-09 (SCE-23B-09)	Hardening Severe Risk Areas	SCE sufficiently addressed the required progress.

ID	Title	Status
SCE-23-10 (SCE-23B-10)	Transmission Conductor Splice Assessment	SCE sufficiently addressed the required progress thus far; Energy Safety will continue to monitor progress. For related areas for continued improvement, see Sections 8.1.2.1 and 11 of this Decision.
SCE-23-11 (SCE-23B-11)	Covered Conductor Inspection and Maintenance	SCE sufficiently addressed the required progress.
SCE-23-12 (SCE-23B-12)	Asset Maintenance and Repair Maturity Level Growth	SCE sufficiently addressed the required progress.
SCE-23-13 (SCE-23B-13)	Addressing Backlogged Work Orders	SCE sufficiently addressed the required progress.
SCE-23-14 (SCE-23B-14)	Modification of Work Order Due Dates Based on Risk Assessment	SCE sufficiently addressed the required progress.
SCE-23-15 (SCE-23B-15)	Continued Monitoring of Fast Curve Settings Impact	SCE sufficiently addressed the required progress.
SCE-23-17 (SCE-23B-17)	Continuation of Effectiveness of Enhanced Clearances Joint Study	SCE sufficiently addressed the required progress thus far; Energy Safety will continue to monitor progress. For related areas for continued improvement, see Sections 8.2.1.2 and 11 of this Decision.
SCE-23-18 (SCE-23B-18)	Weather Station Maintenance and Calibration	SCE sufficiently addressed the required progress.

ID	Title	Status
SCE-23-19 (SCE-23B-19)	Early Fault Detection Implementation	SCE sufficiently addressed the required progress.
SCE-23-20 (SCE-23B-20)	Evaluation of and Plan to Address AFN Needs	SCE sufficiently addressed the required progress.

Appendix C. Stakeholder Data Request Responses Used in WMP Evaluation

No stakeholder data request responses were cited in this Decision.



Appendix D. Stakeholder Comments on the 2025 WMP Updates

Energy Safety invited stakeholders, including members of the public, to provide comments on the electrical corporations' 2025 WMP Updates. Opening comments on Group 1 WMPs were due on May 7, 2024, and reply comments were due on May 21, 2024.² The following individuals and organizations submitted comments that Energy Safety considered in this Decision:

- California Department of Fish and Wildlife (CDFW)
- Mussey Grade Road Alliance
- Rural County Representatives of California
- The Green Power Institute (GPI)
- The Public Advocates Office at the California Public Utilities Commission (Cal Advocates)

Comments received on the 2023-2025 WMPs can be viewed in the 2023-2025 Wildfire Mitigation Plan (2023-2025-WMPs) docket log.

Energy Safety concurred with and incorporated the following stakeholder comments into Energy Safety's findings on SCE's 2025 WMP Update:

- GPI and Cal Advocates both commented on SCE's probabilistic model encouraging SCE to pilot probabilistic model as a follow-up to the area for continue improvement requiring probabilistic modeling compared to maximum consequence modeling.
- MGRA commented about the joint grid studies on covered conductor effectiveness, requesting that in continuation of grid hardening studies, SCE ensures effectiveness includes evaluation of covered conductor field data.
- GPI commented on SCE's asset inspections, that SCE must identify access issues impacting transmission HFRI inspections; provide the number of assets from 2022-

² The reply comment period for Group 1 electrical corporations' 2025 WMP Updates was extended from May 17, 2024, to May 21, 2024. See Energy Safety's Deadline Extension for 2025 Wildfire Mitigation Plan Update Reply Comments (May 2024) (https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56689&shareable=true, accessed June 11, 2024).

2024 it was unable to inspect as scheduled and within one year of scheduled date due to access constrains.



Appendix E. Stakeholder Comments on the Draft Decision

This appendix will contain Energy Safety's summary of stakeholder comments on Energy Safety's draft Decision on SCE's 2025 WMP Update.



Appendix F. Maturity Survey Results

Energy Safety's 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model³ (Maturity Model) and Electrical Corporation Wildfire Mitigation Maturity Survey⁴ (Maturity Survey) together provided a quantitative method to assess the maturity of each electrical corporation's wildfire risk mitigation program.

The Maturity Model consists of 37 individual capabilities describing the ability of electrical corporations to mitigate wildfire risk within their service territory. The 37 capabilities are aggregated into seven categories. The seven mitigation categories are:

- A. Risk Assessment and Mitigation Selection
- B. Situational Awareness and Forecasting
- C. Grid Design, Inspections, and Maintenance
- D. Vegetation Management and Inspections
- E. Grid Operations and Protocols
- F. Emergency Preparedness
- G. Community Outreach and Engagement

Maturity levels range from 0 (below minimum requirements) to 4 (beyond best practice). Electrical corporations' responses to the Maturity Survey, listed by mitigation category, are depicted in the figures and tables below.

Figure A-2 displays SCE's 2024 response to the Maturity Survey across mitigation categories showing minimum and average values. Figure A-3 compares SCE's 2024 response to the Maturity Survey to its 2023 response to the Maturity Survey, depicting values that increased, decreased, or had no change (indicated by "NC").

³ Energy Safety's 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Model (revised and adopted Jan. 2024, published Feb. 2024)

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56256&shareable=true, accessed May 6, 2024).

⁴ Energy Safety's 2023-2025 Electrical Corporation Wildfire Mitigation Maturity Survey (adopted Jan. 2024, revised and published Feb. 2024)

⁽https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=56306&shareable=true, accessed May 6, 2024).

Figure A-2. SCE 2024 Response to the 2023-2025 Maturity Survey

		1. Capability					2. Capability				3. Capability				4. Cap	ability		oility		6. Capability				
		2023 2024 2025 2026			2023 2024 2025 2026				2023 2024 2025 2026				2023	2024	2025	2026	2023	2024	2025	2023 2024 2025 2026				
A. Risk Assessment and			2. Calculation of wildfire and PSPS risk exposure for societal values					lculation bility to v y Power :	ildfire an	d Public		culation comp	1	event to	_		6. Risk-informed wildfire mitigation strategy							
Mitigation Strategy	Minimum of Sub-Cap.	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	0.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	3.0	3.0	3.0	3.0	0.0		0.0 0.0
	Average of Sub-Cap.	2.7	2.8	3.2	3.2	3.6	3.6	3.6	3.6	2.4	3.3	3.3	3.3	2.1	3.2	3.2	3.2	3.9	3.9	3.9	3.9	1.3	2.8	2.8 2.8
B. Situational Awareness and		7. Ignit	ion likelih	ood est	imation	8. We	ather for	ecasting	ability	9. Wil	dfire spr	ead forec	asting	10. Dat	a collection time co		ar-real-		ildfire de alarm sys		and			l monitoring conditions
Forecasting	Minimum of Sub-Cap.	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	3.0	3.0	3.0	0.0	0.0	0.0	0.0	4.0	4.0	4.0 4.0
	Average of Sub-Cap.	1.7	2.2	3.3	3.3	2.2	2.8	3.3	3.3	3.0	3.0	3.1	3.1	2.4	3.6	3.6	3.6	1.0	1.0	1.0	1.0	4.0	4.0	4.0 4.0
C. Grid Design, Inspections,		13. Asset inventory and condit database				1	1. Asset i	nspectio	ns	15. Asse	et mainte	nance an	d repair	16. Gı	id design	and resi	liency	ı	et and gr ining and					
and Maintenance	Minimum of Sub-Cap.	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	3.0	3.0	3.0	3.0	1		
	Average of Sub-Cap.	3.5	3.5	3.5	3.5	3.7	3.7	3.7	3.7	1.5	1.5	2.5	2.5	2.5	2.5	2.5	2.5	3.8	3.8	3.8	3.8	1		
D. Vegetation Management		I	egetation condition		•	19.\	egetation	n inspec	tions	20.	Vegetatio	n treatm	nent	21. Vege	etation p and q						•			
and Inspections	Minimum of Sub-Cap.	1.0	3.0	3.0	4.0	2.0	2.0	2.0	4.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0							
	Average of Sub-Cap.	3.3	3.8	3.8	4.0	3.3	3.3	3.3	4.0	3.0	3.0	3.0	3.0	3.3	3.5	3.5	3.5							
E. Grid Operations and		22. Pr	otective o	ent and		rporatio ctors in g			24.	PSPS ope	rating mo	odel	25.	Protocols energi		26. Ignition prevention and suppression								
Protocols	Minimum of Sub-Cap.	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	4.0	4.0			
	Average of Sub-Cap.	3.3	3.3	3.3	3.3	1.6	2.8	2.8	2.8	3.5	3.5	3.5	3.5	3.7	3.7	3.7	3.7	4.0	4.0	4.0	4.0			
F. Emergency Preparedness		I	dfire and saster pre				3. Collabo nation wi			I	9. Public nmunicat	_	•	30. Prep	aredness service re		_	31. Co wildfire	ustomer and PSPS	• • •		l	_	ter wildfires ncidents
F. Emergency Prepareuness	Minimum of Sub-Cap.	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	4.0	4.0	4.0	4.0	2.0	2.0	2.0 2.0
	Average of Sub-Cap.	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4.0	4.0	4.0	4.0	2.5	2.5	2.5 2.5
G. Community Outreach and Engagement			lic outrea awar		electr r	Public en ical corpo nitigation	oration w	vildfire g	35. Engagement with AFN and socially vulnerable populations				r	aboration nitigation	n plannin	g	practic elec	on and by with o	ther ns					
J J	Minimum of Sub-Cap.	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
	Average of Sub-Cap.	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.7	3.7	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			

Figure A-3. SCE Maturity Survey Changes from 2023 to 2024

		1. Capability					2. Capability				3. Capability				4. Cap	ability		oility		6. Capability				
		2023 2024 2025 2026				2023 2024 2025 2026				2023 2024 2025 2026				2023	2024	2025	2023	2025	2026	2023 2024 2025 2026				
A. Risk Assessment and Mitigation Strategy				ther, clim modeling		2. Calcul risk exp	ation of o			vulneral	ility to v	of comm vildfire ar Shutoffs (4. Cal	culation compo	of risk and onents	d risk	5. Risl integrat	racking ssons le		6. Risk-informed wildfire mitigation strategy				
witigation strategy	Minimum of Sub-Cap.	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC NC
	Average of Sub-Cap.	NC	+0.1	+0.1	+0.1	NC	NC	NC	NC	NC	NC	NC	NC	NC	+0.11	-0.1	-0.1	NC	NC	NC	NC	NC		+0.25 +0.25
B. Situational Awareness and		7. Igniti	on likelih	ood esti	mation	8. We	ather for	ecasting	ability	9. Wil	dfire spr	ead forec	asting	10. Data	time co	on for ne	ar-real-	1	ildfire de alarm sys		and	l		d monitoring conditions
Forecasting	Minimum of Sub-Cap.	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	+1	+1	+1	NC	NC	NC	NC	NC	NC	NC NC
	Average of Sub-Cap.	NC	+0.1	+0.1	+0.1	NC	NC	NC	NC	NC	NC	NC	NC	NC	+0.14	+0.14	+0.14	NC	-0.2	-0.2	-0.2	NC	NC	NC NC
C. Grid Design, Inspections,		13. Asse	14	4. Asset i	nspection	ns	15. Asse	t mainte	nance an	d repair	16. Gr	id design	and resi	liency	I	et and gr aining and	•							
and Maintenance	Minimum of Sub-Cap.	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC			
	Average of Sub-Cap.	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC			
D. Vegetation Management			_	inventor database	•	19. Vegetation inspections				20.	/egetatio	on treatn	nent	21. Vege	tation p and q	ersonnel uality								
and Inspections	Minimum of Sub-Cap.	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC							
	Average of Sub-Cap.	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC							
E. Grid Operations and		22. Pro	otective o device s	equipme settings	nt and		orporatio ctors in g	_		24. PSPS operating model				25.	Protocols energi	for PSPS zation	26. lgn	vention sion	n and					
Protocols	Minimum of Sub-Cap.	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC			
	Average of Sub-Cap.	NC	NC	NC	NC	NC	NC s. Collabo	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC			
F. Emergency Preparedness				PSPS eme paredne			nation wi	th public		1	29. Public emergency communication strategy					and plan storation	_	 31. Customer support in wildfire and PSPS emergencie 				32. Learning after wildfires and PSPS incidents		
Tremergency Frepareuness	Minimum of Sub-Cap.	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC NC
	Average of Sub-Cap.	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC NC
G. Community Outreach and Engagement		33. Publi	aware			electr	Public en ical corpo nitigation	ration w plannin	ildfire g	35. Engagement with AFN and socially vulnerable populations				r		on local planning		practio	on and b with o poratio	ther ns				
Linguigetinetit	Minimum of Sub-Cap.	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC			
	Average of Sub-Cap.	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC			