

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Wildfire Safety Division

**Resolution WSD-020
August 19, 2021**

R E S O L U T I O N

RESOLUTION WSD-020 Resolution Ratifying Action of the Office of Energy Infrastructure Safety on Southern California Edison Company's 2021 Wildfire Mitigation Plan Update Pursuant to Public Utilities Code Section 8386.

This Resolution ratifies the attached Action Statement (Appendix A) of the Office of Energy Infrastructure Safety (Energy Safety)¹ approving Southern California Edison Company's (SCE, or electrical corporation) 2021 Wildfire Mitigation Plan (WMP) Update (2021 WMP Update) pursuant to Public Utilities Code Section 8386.

Ensuring the safety of Californians is a central responsibility of the California Public Utilities Commission (Commission) and Energy Safety. Since several catastrophic wildfires in the San Diego area in 2007, the equipment of large electric utilities the Commission regulates has been implicated in the most devastating wildfires in our state's history. The California Legislature enacted several measures requiring electrical corporations to submit, and Energy Safety to review, approve, or otherwise act on, WMPs designed to reduce the risk of utility-related catastrophic wildfire. Key among the legislative measures are Senate Bill 901 (2018), Assembly Bill 1054 (2019), and Assembly Bill 111 (2019), discussed in detail below.

This Resolution acts on SCE's WMP Update and Update Revision submitted on February 5, 2021 and June 4, 2021, respectively. SCE's WMP, submitted in 2020, responds to a list of 22 requirements set forth in

¹ Because the Wildfire Safety Division (WSD) transitioned to the Office of Energy Infrastructure Safety (Energy Safety) on July 1, 2021, any references herein to WSD actions that post-date this transition should be interpreted as actions taken by Energy Safety. WSD is used to describe the work of the WSD prior to July 1, 2021. Energy Safety is used to describe the work of Energy Safety beginning on July 1, 2021. Any references to WSD action post July 1, 2021 or to Energy Safety action prior to July 1, 2021 are inadvertent and should be interpreted as the actions of WSD or Energy Safety as appropriate. Section 10 of this Resolution provides further detail on the transition of the WSD to Energy Safety.

Public Utilities Code 8386. The WMP covered the three-year period of 2020-2022 and focused on measures the electrical corporation will take to reduce the risk of, and impact from, a catastrophic wildfire related to its electrical infrastructure and equipment. SCE's 2021 WMP Update provides information on SCE's progress over the past year as well as updates to its 2021 and 2022 projections. In addition, the 2021 WMP Update responds to additional requirements and metrics approved by the Commission in Resolution WSD-011.

In ratifying SCE's 2021 WMP Update, the Commission acts on Energy Safety's Action Statement and its analysis in terms of the extent to which SCE's wildfire mitigation efforts objectively reduce wildfire risk and drive improvement and based on the comments from the Wildfire Safety Advisory Board, the public and other stakeholders.

THE PROPOSED OUTCOME:

- Ratifies the attached action of Energy Safety to approve the 2021 WMP Update of SCE.
- Evaluates the maturity of SCE's 2021 WMP Update using the Energy Safety's Utility Wildfire Mitigation Assessment, as represented in the Utility Wildfire Mitigation Maturity Model. Final Maturity Model outputs should be viewed as levels or thresholds—they are not absolute scores.
- Requires SCE to submit an update to its WMP in 2022 according to a forthcoming schedule to be released by Energy Safety.
- Does not approve costs attributable to WMPs, as statute requires electrical corporations to seek and prove the legitimacy of all expenditures at a future time in their General Rate Cases (GRC) or application for cost recovery. Nothing in this Resolution or Energy Safety's Action Statement should be construed as approval of any WMP-related costs.
- Does not establish a defense to any enforcement action for a violation of a Commission decision, order, or rule.

SAFETY CONSIDERATIONS:

Mitigation of catastrophic wildfires in California is among the most important safety challenges the Commission-regulated electrical corporations face. Comprehensive WMPs are essential to safety because:

- WMPs articulate an electrical corporation's understanding of its utility-related wildfire risk and the proposed actions to reduce that risk and prevent catastrophic wildfires caused by utility infrastructure and equipment. By implementing measures such as vegetation management, system hardening (such as insulating overhead lines and removing or upgrading equipment most likely to cause fire ignition), grid topology improvements (such as installation and operation of electrical equipment to sectionalize or island portions of the grid), improving asset inspection and maintenance, situational awareness (such as cameras, weather stations, and use of data to predict areas of highest fire threat), improving community engagement and awareness, and other measures, utility-related catastrophic wildfire risk should be reduced over time.
- The substantive and procedural changes enacted by Energy Safety and the Commission in the evaluation of the electrical corporations' 2021 WMP Updates will enhance California's ability to mitigate utility-related catastrophic wildfire risk. Below is a summary of the key new requirements in the 2021 process required of all utilities submitting a WMP Update. In 2021, WMP Updates were required to:
 - Include a checklist of the 22 Public Utilities Code Section 8386(c) requirements to assist Energy Safety staff in locating the sections that meet these requirements.
 - Be more granular overall to help Energy Safety staff better understand resource allocation, local community conditions and other detailed information previously requested at a more aggregated level.
 - Provide more details showing how utilities are mitigating the impact of wildfires and PSPS on vulnerable, marginalized, and at-risk communities.
 - Report the utility's methodology for calculating the increase costs to ratepayers.
 - Report the details of the utility's methods for modeling ignition probability.

- Report the utility's process for calculating specific metrics including Red Flag Warning and High Wind Warning overhead circuit mile days, the Access and Functional Needs population, the wildland urban interface (WUI) territory, and highly rural, rural, and urban territories.
- Include a narrative explaining the qualifications of certain utility workers in roles related to wildfire & PSPS mitigation.
- Include more granular geospatial data to provide metrics at a local level.
- Include more refinement in progress and outcome metrics (e.g., inspection effectiveness, risk events).
- Include an explanation wherever the utility could not disaggregate financial spend activities.
- Include citations to relevant state and federal statutes, orders, and proceedings.

ESTIMATED COST:

- Costs are not considered in this Resolution, as Public Utilities Code Section 8386.4(b) provides for Commission cost review in a utility General Rate Case or, in some cases, a separate application. Nothing in this Resolution should be construed as approval of the costs associated with the WMP mitigation efforts.
- For illustrative purposes, Table 1, below, contains SCE's actual costs for 2020 and its projected costs for the implementation of wildfire mitigation efforts in its 2021 WMP Update.
- SCE may not record the same costs more than once or in more than one place, seek duplicative recovery of costs, or record or seek to recover costs in the memorandum account already recovered separately. All electrical corporations should ensure they carefully document their expenditures in these memorandum accounts by category and be prepared for Commission review and audit of the accounts at any time.

Table 1: SCE's WMP Costs

Proposed 2020 costs (as reported in the 2020 WMP)	\$1,308,269,000
Actual 2020 costs (as reported in the 2021 WMP Update)	\$1,356,922,000
Difference between 2020 proposed/actual costs (+/-)	+\$48,653,000
Proposed 2021 costs	\$1,704,298,000
Proposed 2022 costs	\$1,783,476,000
Proposed total costs 2020-2022	\$4,844,696,000

1. Summary

This Resolution ratifies the attached Office of Energy Infrastructure Safety (Energy Safety) Action Statement approving the 2021 Wildfire Mitigation Plan (WMP) Update submitted by Southern California Edison Company (SCE) on February 5, 2021 (Attachment A), and augmented by the June 4, 2021 WMP Update Revision.² The Commission finds that SCE is in compliance with the requirements for WMPs set forth in Assembly Bill (AB) 1054,³ codified at Public Utilities Code (Pub. Util. Code) Section 8386(c), and the WMP Guidelines issued by the Commission to electrical corporations in Resolution WSD-011.⁴ Pub. Util. Code Section 8386(c) requires that electrical corporations' WMPs contain 22 elements; the full list of elements appears in Section 6.1 in this Resolution. Energy Safety's approval and the Commission's ratification do not relieve the electrical corporation from any and all otherwise applicable permitting, ratemaking, or other legal and regulatory obligations.

2. Background, Procedural Background and Legal Authority

Catastrophic wildfires in 2017-19 led the California Legislature to pass Senate Bill (SB) 901⁵ in 2018 and its successor AB 1054, as well as AB 111 in 2019.⁶ AB 111 established a new division, the Wildfire Safety Division (WSD), within the Commission. Pursuant to Pub. Util. Code Section 326(b), on July 1, 2021, the Wildfire Safety Division transitioned

² SCE's Revised 2021 WMP Update can be found at <https://energysafety.ca.gov/what-we-do/wildfire-mitigation-and-safety/wildfire-mitigation-plans/2021-wmp/>

³ Stats of 2019, Ch. 79.

⁴ The Commission adopted Resolution WSD-011 on November 19, 2020.

⁵ Stats of 2019, Ch 626.

⁶ Stats of 2019, Ch 81.

from the Commission into the Office of Energy Infrastructure Safety (Energy Safety) under the California Natural Resources Agency. SB 901 and AB 1054 contain detailed requirements for electrical corporations' WMPs and provide Energy Safety three months to review the WMPs. The duties of Energy Safety are contained in Pub. Util. Code Section 326(a) and include the requirement to evaluate, oversee, and enforce electrical corporations' compliance with wildfire safety requirements and develop and recommend to the Commission performance metrics to achieve maximum feasible wildfire risk reduction.

SB 901 requires electrical corporations to annually prepare and submit a WMP to the Commission for review; the Commission reviewed the 2019 WMPs in Rulemaking (R.) 18-10-007. After the Commission issued its WMP decisions on May 30, 2019,⁷ the Legislature enacted AB 1054. AB 1054 contains similar WMP requirements to SB 901 but allows WMPs a three-year rather than one-year duration. AB 1054 requires Energy Safety to review and approve or deny electrical corporations' WMPs, with Commission ratification of any approval to follow thereafter. AB 1054 establishes a Wildfire Safety Advisory Board (WSAB) with appointees from the California Governor and Legislature to provide comment on the WMPs and develop and make recommendations related to the metrics used to evaluate WMPs in 2021 and beyond.⁸

Building on lessons learned from the WMP review process in 2019, the WSD developed and required all electrical corporations to conform their WMPs to a set of new WMP Guidelines starting in 2020.⁹ In 2020 electrical corporations submitted comprehensive WMPs covering a three-year period from 2020-2022. The WSD evaluated each electrical corporation's WMP and issued dispositions, ratified by the Commission, in Resolutions WSD-002 through WSD-010.

For 2021, the WMP Guidelines as adopted in Resolution WSD-011 build on the detail, data, and other supporting information provided in the 2020 WMPs and enable the electrical corporation to provide updated information for the 2020-2022 cycle period. The 2021 WMP Guidelines are designed to (1) increase standardization of information collected on electrical corporations' wildfire risk exposure, (2) enable systematic and uniform review of information each electrical corporation submits, and (3) move electrical corporations toward an effective long-term wildfire mitigation strategy with systematic tracking of improvements over time. The WSD designed the 2021 WMP Guidelines to require that each electric corporation have a WMP that contains all elements required by AB 1054. For example, every WMP must contain plans for

⁷ Decisions 19-05-036, -037, -038, -039, -040, and -041 (May 30, 2019).

⁸ Pub. Util. Code Section 8386.3 (Wildfire Safety Division), § 326.1 (Wildfire Safety Advisory Board).

⁹ A ruling issued on December 19, 2019, in proceeding R.18-10-007 described and attached all of the materials electrical corporations were required to use in submitting their 2020 WMPs.

vegetation management, system hardening, inspections of assets and vegetation, situational awareness, reduction and management of Public Safety Power Shutoff (PSPS) events, customer and first responder outreach and coordination, risk analysis, and geographic information system (GIS) data, as well as a short- and long-term vision, an ignition cause analysis, and many other elements.

In addition to adopting guidelines for the review of 2021 WMPs, Resolution WSD-011 set forth the process for the WSD's and the Commission's review of the electrical corporations' 2021 WMP submissions. The resolution called for Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE) and San Diego Gas & Electric Company (SDG&E) (the large electrical corporations) to submit their 2021 WMP Updates on February 5, 2021. The resolution called for PacifiCorp, Bear Valley Electric Service, Inc. (BVES), and Liberty Utilities (the small and multijurisdictional electrical corporations, or SMJUs), and the Trans Bay Cable, LLC, Horizon West Transmission, LLC (the independent transmission operators or ITOs) to submit their WMP Updates on March 5, 2021. SCE timely submitted its 2021 WMP Update.

Shortly after electrical corporations submitted their WMP Updates, the WSD held technical workshops on February 22 and 23, 2021, for the large electrical corporations and March 23, 2021 for the SMJUs and ITOs. The workshops covered topics such as risk management, system design and grid hardening, and efforts to reduce the scale, scope, and frequency of PSPS events.¹⁰ Stakeholders submitted comments on the large electrical corporations' 2021 WMP Updates by March 29, 2021, with replies by April 13, 2021. The WSD accepted comments on the SMJU/ITO 2021 WMP updates until April 14, 2021, with replies by April 21, 2021.

Additionally, WSD required SCE to provide a Revision to its 2021 WMP Update, which it did on June 4, 2021. Comments were accepted on this Revision on June 10, 2021 and June 16, 2021.

Notice

In accordance with Pub. Util. Code Section 8386(d), notice of SCE's 2021 WMP Update was given by posting the WMP Update on Energy Safety's web page at <https://energysafety.ca.gov/what-we-do/wildfire-mitigation-and-safety/wildfire-mitigation-plans/>. Further, the electrical corporation served its 2021 WMP Update on the Commission's R.18-10-007 service list, as Resolution WSD-001 requires. Resolution WSD-001 also requires an electrical corporation to post all data request responses and any document referenced in its WMP on its own websites. It additionally requires an

¹⁰ Details of the workshops appear on the Office of Energy Infrastructure Safety's website, located at <https://energysafety.ca.gov/events-and-meetings/workshops/>.

electrical corporation to notify the R.18-10-007 service list about its website updates on a weekly basis.

3. Energy Safety Analysis of WMP Updates

To reach a conclusion about each WMP, Energy Safety reviews each electrical corporation's WMP (including tabular and GIS data), as well as input and comments from WSAB, California Department of Forestry and Fire Protection (CAL FIRE) and stakeholders, responses to data requests, responses to the Maturity Model survey questions, and responses to ongoing reporting required in the 2020 WMP decisions and follow-on submissions.

For 2021, Energy Safety amended its review process such that it will no longer issue conditional approvals. Instead, where Energy Safety found critical issues with 2021 submissions, Energy Safety issued a Revision Notice requiring the electrical corporation to remedy such issues prior to completion of the 2021 WMP Update evaluation. Upon receipt of the electrical corporation's response to the Revision Notice, Energy Safety determined whether the response was sufficient to warrant approval of the WMP Update, or the response was deemed insufficient such that denial of the WMP Update was warranted.

Energy Safety evaluated 2021 WMP Updates according to the following factors:

- Completeness: The WMP Update is complete and comprehensively responds to the WMP statutory requirements and WMP Guidelines.
- Technical feasibility and effectiveness: Initiatives proposed in the WMP Update are technically feasible and are effective in addressing the risks that exist in the electrical corporation's service territory.
- Resource use efficiency: Initiatives are an efficient use of resources and focus on achieving the greatest risk reduction at the lowest cost.
- Year-over-year progress: The electrical corporation has demonstrated sufficient progress on objectives and program targets reported in the prior annual WMP.
- Forward-looking growth: The electrical corporation demonstrates a clear action plan to continue reducing utility-related wildfires and the scale, scope, and frequency of PSPS events. In addition, the electrical corporation is sufficiently focused on long-term strategies to build the overall maturity of its wildfire mitigation capabilities while reducing reliance on shorter-term strategies such as PSPS and vegetation management.

4. Wildfire Safety Advisory Board Input

The WSAB provided recommendations on the WMP Updates of PG&E, SCE, and SDG&E on April 16, 2021. The WSAB provided recommendations on the WMP Updates of PacifiCorp, BVES, and Liberty Utilities on May 13, 2021. Energy Safety considered the WSAB's recommendations, and the attached Action Statement incorporates the WSAB's input throughout.

5. Public and Stakeholder Comment

The following individuals and organizations submitted comments by March 29, 2021, and reply comments by April 13, 2021, on SCE's 2021 WMP Update, as well as comments by June 10, 2021 on SCE's 2021 WMP Update Revision:

- Acton Town Council (ATC)
- Public Advocates Office at the California Public Utilities Commission (Cal Advocates)
- Green Power Institute (GPI)
- Kevin Collins
- Los Angeles County
- Mussey Grade Road Alliance (MGRA)
- Rural County Representatives of California (RCRC)
- Small Business Utility Advocates (SBUA)
- The Utility Reform Network (TURN)
- William B. Abrams

A summary of comments incorporated into Energy Safety's disposition of SCE's WMP Update can be found in the attached Action Statement.

6. Discussion

The Commission has reviewed Energy Safety's approval of SCE's 2021 WMP Update through the Action Statement issued by Energy Safety pursuant to Pub. Util. Code Section 8386.3, based on the recommendations of the WSAB, stakeholder comments served on the R.18-10-007 service list, and other public input. The Commission ratifies Energy Safety's action approving SCE's 2021 WMP Update.

The attached Action Statement discusses in detail SCE's 2021 WMP Update and provides Energy Safety's analysis. In particular, Energy Safety focuses its analysis on progress over the past year, key areas for improvement SCE must focus on in the coming

year (including ongoing reporting requirements), and additional issues where progress is needed to improve SCE's maturity over time.

6.1 Requirements of Pub. Util. Code Section 8386(c)

Below is a summary of where SCE has met each requirement pursuant to Pub. Util. Code Section 8386(c). The Commission ratifies Energy Safety's finding that SCE's 2021 WMP Update satisfies the requirements of Pub. Util. Code Section 8386(c). Discussion of how SCE has met the statutory guidelines is included in the Action Statement.

Requirement	Requirement status in WMP Update	Reference to where in WMP Update requirement is met
1. An accounting of the responsibilities of the responsible person(s) executing the plan	Met fully	Chapter 1
2. The objectives of the plan	Met fully	Section 5.2
3. A description of the preventive strategies and programs to be adopted by the electrical corporation to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks	Met fully	Sections 4.2, 5.2, 7.1, 7.3
4. A description of the metrics the electrical corporation plans to use to evaluate the WMP's performance and the assumptions that underlie the use of those metrics	Met fully	Chapter 6
5. A discussion of how the application of previously identified metrics to previous plan performances has informed the WMP	Met fully	Section 4.1
6. Protocols for disabling reclosers and deenergizing portions of the electrical distribution system that consider the associated impacts on public safety, as well as protocols	Met but areas for improvement identified	Section 8.1.3

Requirement	Requirement status in WMP Update	Reference to where in WMP Update requirement is met
related to mitigating the public safety impacts of those protocols, including impacts on: critical first responders, health and communication infrastructure, customers with access and functional needs, and those with financial concerns.		
7. Appropriate and feasible procedures for notifying a customer who may be impacted by the deenergizing of electrical lines. The procedures shall direct notification to all public safety offices, critical first responders, health care facilities, and operators of telecommunications infrastructure with premises within the footprint of potential PSPS for a given event.	Met fully	Sections 8.2, 8.4
8. Plans for vegetation management	Met fully	Sections 5.2, 5.4, 7.1, 7.2, 7.3.5
9. Plans for inspections of the electrical corporation's electrical infrastructure	Met fully	Sections 5.2, 5.4, 7.1, 7.2, 7.3.4
10. PSPS protocols associated with the electrical corporation's transmission infrastructure, for instances when the PSPS may impact customers who, or entities that, are dependent upon the infrastructure	Met but areas for improvement identified	Section 8.1.3, Chapter 7
11. A list that identifies, describes, and prioritizes all wildfire risks, and drivers for those risks, throughout the electrical corporation's service territory, including all relevant	Met but areas for improvement identified	Section 4.3

Requirement	Requirement status in WMP Update	Reference to where in WMP Update requirement is met
wildfire risk and risk mitigation information that is part of Safety Model Assessment Proceeding (SMAP) and Risk Assessment Mitigation Phase (RAMP) filings		
12. A description of how the WMP accounts for the wildfire risk identified in the electrical corporation's RAMP filing	Met fully	Section 4.3
13. A description of the actions the electrical corporation will take to ensure its system will achieve the highest level of safety, reliability, and resiliency, and to ensure that its system is prepared for a major event, including hardening and modernizing its infrastructure with improved engineering, system design, standards, equipment, and facilities, such as undergrounding, insulating of distribution wires, and replacing poles	Met fully	Sections 5.2, 5.4, 7.1, 7.2, 7.3.3
14. A description of where and how the electrical corporation considered undergrounding electrical distribution lines within those areas of its service territory identified to have the highest wildfire risk in a commission fire threat map	Met but areas for improvement identified	Section 7.3.3.16
15. A showing that the electrical corporation has an adequately sized and trained workforce to promptly restore service after a major event, taking into account employees of other utilities pursuant to mutual aid agreements and employees of	Met fully	Sections 7.3.9.1, 7.3.10.1

Requirement	Requirement status in WMP Update	Reference to where in WMP Update requirement is met
entities that have entered into contracts with the electrical corporation		
16. Identification of any geographic area in the electrical corporation's service territory that is a higher wildfire threat than is currently identified in a Commission fire threat map, and where the Commission should consider expanding the high fire threat district based on new information or changes in the environment	Met fully	Section 4.2.2
17. A methodology for identifying and presenting enterprise-wide safety risk and wildfire-related risk that is consistent with the methodology used by other electrical corporations unless the Commission determines otherwise	Met fully	Sections 4.3, 4.5
18. A description of how the plan is consistent with the electrical corporation's disaster and emergency preparedness plan prepared pursuant to Section 768.6, including both of the following: (A) Plans to prepare for, and to restore service after, a wildfire, including workforce mobilization and prepositioning equipment and employees (B) Plans for community outreach and public awareness before, during, and after a wildfire, including language notification in English, Spanish, and the top three primary	Met fully	Section 7.3.9.4

Requirement	Requirement status in WMP Update	Reference to where in WMP Update requirement is met
languages used in the state other than English or Spanish, as determined by the Commission based on the United States Census data.		
19. A statement of how the electrical corporation will restore service after a wildfire.	Met fully	Section 7.3.9.5
20. Protocols for compliance with requirements adopted by the Commission regarding activities to support customers during and after a wildfire, outage reporting, support for low-income customers, billing adjustments, deposit waivers, extended payment plans, suspension of disconnection and nonpayment fees, repair processing and timing, access to utility representatives, and emergency communications	Met fully	Section 8.4
21. A description of the processes and procedures the electrical corporation will use to do all of the following: (A) Monitor and audit the implementation of the plan (B) Identify any deficiencies in the plan or the plan's implementation and correct those deficiencies (C) Monitor and audit the effectiveness of electrical line and equipment inspections, including inspections performed by contractors, carried out under the	Met fully	Section 7.2

Requirement	Requirement status in WMP Update	Reference to where in WMP Update requirement is met
plan and other applicable statutes and commission rules		
22. Any other information that the Wildfire Safety Division may require	Met but areas for improvement identified	

6.2 Areas of Significant Progress

In the attached Action Statement, Energy Safety highlights areas of significant progress over the past year and areas where the electrical corporation has matured its mitigation strategies. Examples of SCE’s progress are set forth below. Energy Safety evaluated SCE’s progress over the past year and the Commission ratifies Energy Safety’s findings that SCE’s progress is sufficient to warrant approval.

- In 2020 SCE transitioned to its Wildfire Risk Reduction Model (WRRM) which provides consequence modeling and allows larger data sets and finer granularity to support mitigation initiatives. While the WRRM uses the same software technology as the risk models used by PG&E and SDG&E, SCE’s version includes a component to calculate the risk of PSPS based on probability and consequence of PSPS events at the circuit level.
- SCE exceeded its 2020 WMP program targets for covered conductor installation, for replacing existing poles with fire resistant poles, and indicates it is moving to a circuit segment basis for covered conductor deployment in order to raise thresholds for PSPS. SCE is transitioning to using PSPS risk as a criterion when installing covered conductor, thereby targeting select areas of the grid expected to be frequently impacted by PSPS.
- SCE is broadening the scope of its Hazard Tree Mitigation Program (HTMP) which includes increasing the number of contracted tree assessors and has instituted specific remediation protocols for palm species.
- In 2020 SCE updated its System Operating Bulletin (SOB) 322 to make reclosures non-automated and instead apply fast curve settings by fire

climate zone. This allows SCE to identify certain fire climate zones where wildfire risk is especially high and alter the recloser operations.¹¹

- SCE made improvements in its asset-specific machine learning models to quantify the probability of ignition (POI) caused by equipment and facility failure (EFF) and contact with foreign objects (CFO).
- In 2020, SCE staffed an Incident Management Team (IMT), with a portion of this team dedicated specifically for customer support. In 2021, SCE intends to fully dedicate this team to PSPS. SCE is launching a new public safety partner portal in June 2021 to improve situational awareness during PSPS events for first responders and operators of critical facilities and communications systems.
- In 2020 and continuing in 2021, SCE is developing programs¹² for areas impacted frequently by PSPS events. It is making changes in its notification cadence, content, and process to improve the timing and clarity of information to its customers.

6.3 Key Areas for Improvement and Additional Issues

Energy Safety reviewed SCE's 2021 WMP Update across ten categories of mitigation initiatives, including: (1) risk assessment and mapping, (2) situational awareness and forecasting, (3) grid design and system hardening, (4) asset management and inspections, (5) vegetation management and inspections, (6) grid operations and protocols, (7) data governance, (8) resource allocation methodology, (9) emergency planning and preparedness, and (10) stakeholder cooperation and community engagement. In addition, in a change from 2020, Energy Safety evaluated the utility's progress on reducing the scale, scope, and frequency of PSPS events in a separate section in recognition that PSPS is not a preferred mitigation measure because it introduces significant risk to customers and should be used as a measure of last resort.¹³

Energy Safety identified areas for improvement for SCE over the next year (set forth below): key areas and additional issues. Key areas for improvement are areas where

¹¹ SCE's 2021 WMP Update Revision - Redlined, p. 288.

¹² Southern California Edison 2021 Wildfire Mitigation Plan Update, p. 292, February 5, 2021 - The Resiliency Zones program allows customers to have temporary generation during PSPS events by providing in-front-of-the-meter temporary generation during PSPS events or financial incentive towards the installation cost of a microgrid control system at customer sites willing to provide temporary shelter to surrounding communities.

¹³ The Commission recognizes that prevailing weather conditions primarily impact the need for PSPS and has found that Pub. Util. Code sections 451 and 399.2(a) authorize the utilities to shut off power in order to protect public safety, as a measure of last resort. (Resolution ESRB-8; Phase 1 Overarching PSPS Guidelines contained in D.19-05-042.) The decision to shut off power may be reviewed by the Commission pursuant to its broad jurisdiction over public safety and utility operations. (ESRB-8.)

Energy Safety finds that an electrical corporation must focus attention to achieve the greatest reduction in utility-related wildfire risk. Additional issues are areas where Energy Safety would also like to see improvement over time.

Energy Safety expects SCE to take action to address these key areas and report on progress made over the year in a Progress Report due by 5:00 p.m. on November 1, 2021, and in its 2022 WMP Update. Energy Safety will closely monitor progress in each of these areas over the coming year.

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Utility-#	Issue title	Issue description	Remedies required and alternative timeline if applicable
SCE-21-01	RSE estimates not provided for all PSPS-related mitigation initiatives	SCE justifies its lack of RSE estimates for PSPS-related initiatives by quoting Resolution WSD-002, "... electrical corporations shall not use RSE as a means of justifying or evaluating the efficacy of PSPS as a mitigation measure." However, the WSD guidance is clear that the prohibition of RSE calculation is directed at PSPS as a mitigation activity only and does not extend to PSPS-related activities. RSE estimates enable the quantitative comparison of cost-effectiveness between various mitigation initiatives, and brings rigor to the decision-making process.	SCE must provide RSE estimates for PSPS-related activities ^{14,15} and include a clear description to explain how these were developed and what assumptions were used. If the RSE estimates are zero or unattainable, SCE must explain why and provide qualitative and quantitative information to demonstrate how the PSPS-related activities inform PSPS decision-making.
SCE-21-02	RSE values vary across utilities	Energy Safety is concerned by the stark variances in RSE estimates, sometimes on several orders of magnitude, for the same initiatives calculated by different utilities. For example, PGE's RSE for covered conductor installation was 4.08, ¹⁶ SDGE's RSE was 76.73, ¹⁷ and SCE's RSE was 4,192. ¹⁸ These	The utilities ¹⁹ must collaborate through a working group facilitated by Energy Safety ²⁰ to develop a more standardized approach to the inputs and assumptions used for RSE calculations. After Energy Safety completes its evaluation of the 2021 WMP Updates, it will provide additional detail

		drastic differences reveal that there are significant discrepancies between the utilities’ inputs and assumptions, which further support the need for exploration and alignment of these calculations.	on the specifics of this working group. This working group will focus on addressing the inconsistencies between the inputs and assumptions used by the utilities for their RSE calculations, which will allow for: 1. Collaboration among utilities; 2. Stakeholder and academic expert input; and 3. Increased transparency.
SCE-21-03	Lack of consistency in	The utilities do not have a consistent approach to	The utilities ²¹ must collaborate through a

¹⁴ Here, PSPS-related activities are defined as mitigation initiatives that “supports the analysis and decision-making process that informs whether or not to call a PPS event.” SCE’s 2021 WMP Update Revision – Redlined, p. 574.

¹⁵ A comprehensive list of PPS-related activities can be found in SCE’s 2021 Wildfire Mitigation Plan Update Revision - Redlined, June 3, 2021, Table 9.8-1, Category B, p. 570.

¹⁶ Value from PG&E’s Errata (dated March 17, 2021, accessed May 19, 2021): https://www.pge.com/pge_global/common/pdfs/safety/emergency-preparedness/natural-disaster/wildfires/wildfire-mitigation-plan/2021-Wildfire-Safety-Plan-Errata.pdf

¹⁷ Value from Table 12 of SDGE’s 2021 WMP Update submissions under the “Estimated RSE for HFTD Tier 3” column for “Covered Conductor Installation”.

¹⁸ Value from Table 12 of SCE’s 2021 WMP Update submissions under the “Estimated RSE for HFTD Tier 3” column for “Covered Conductor Installation”.

¹⁹ Here “utilities” refers to SDG&E, Pacific Gas and Electric Company (PG&E), and Southern California Edison Company (SCE); although this may not be the case every time “utilities” is used through the document.

²⁰ The WSD transitioned to the Office of Energy Infrastructure Safety (Energy Safety) on July 1, 2021.

²¹ Here “utilities” refers to SDG&E and PG&E, SCE, PacifiCorp, Bear Valley Electric Service, Inc. (BVES), and Liberty Utilities; although this may not be the case every time “utilities” is used through the document.

	<p>approach to wildfire risk modeling across utilities</p>	<p>wildfire risk modeling. For example, in their wildfire risk models, utilities use different types of data, use their individual data sets in different ways, and use different third-party vendors. Energy Safety recognizes that the utilities have differing service territory characteristics, differing data availability, and are at different stages in developing their wildfire risk models. However, the utilities face similar enough circumstances that there should be some level of consistency in statewide approaches to wildfire risk modeling.</p>	<p>working group facilitated by Energy Safety to develop a more consistent statewide approach to wildfire risk modeling. After Energy Safety completes its evaluation of all the utilities’ 2021 WMP Updates, it will provide additional detail on the specifics of this working group.</p> <p>A working group to address wildfire risk modeling will allow for:</p> <ol style="list-style-type: none"> 1. Collaboration among the utilities; 2. Stakeholder and academic expert input; and 3. Increased transparency.
<p>SCE-21-04</p>	<p>Limited evidence to support the effectiveness of covered conductor</p>	<p>The rationale to support the selection of covered conductor as a preferred initiative to mitigate wildfire risk lacks consistency among the utilities, leading some utilities to potentially expedite covered conductor deployment without first demonstrating a full understanding of its long-term risk reduction and cost-effectiveness. The utilities’ current covered</p>	<p>The utilities²³ must coordinate to develop a consistent approach to evaluating the long-term risk reduction and cost-effectiveness of covered conductor deployment, including:</p> <ol style="list-style-type: none"> 1. The effectiveness of covered conductor in the field in comparison to alternative initiatives. 2. How covered conductor installation compares to other

²³ Here “utilities” refers to SDG&E and PG&E, SCE, PacifiCorp, BVES, and Liberty Utilities; although this may not be the case every time “utilities” is used through the document.

		<p>conductor pilot efforts are limited in scope²² and therefore fail to provide a full basis for understanding how covered conductor will perform in the field. Additionally, utilities justify covered conductor installation by alluding to reduced PSPS risk but fail to provide adequate comparison to other initiatives' ability to reduce PSPS risk.</p>	<p>initiatives in its potential to reduce PSPS risk.</p>
SCE-21-05	<p>Out-dated risk assessment used to justify the selection and scope of covered conductor as a mitigation initiative</p>	<p>SCE provides a risk buydown curve based on its old modeling efforts to justify the need for covered conductor. SCE acknowledges that its current models provide different and more accurate results but does not provide an updated risk buydown curve. SCE should not use outdated information to justify its covered conductor program scope. Additionally, if an updated risk buydown curve shows historic catastrophic ignitions on the low end of the curve, it raises doubts regarding</p>	<p>SCE must:</p> <ol style="list-style-type: none"> 1. Provide an updated Figure 9.01-1 based on SCE's latest risk modeling assessment, including the ignitions shown. 2. Provide the cause of the nine ignitions shown in Figure 9.01-1. 3. For each of the nine ignitions shown, provide an assessment of the likelihood that covered conductor installation would have prevented the ignition. 4. Provide a similar risk buydown curve for all cumulative circuit miles, including historic

²² Limited in terms of mileage installed, time elapsed since initial installation, or both. For example, SDG&E's pilot consisted of installing 1.9 miles of covered conductor, which has only been in place for one year.

		<p>the accuracy of SCE’s wildfire risk models.</p>	<p>ignitions and ignition size.</p> <p>5. If the updated risk buydown curves provided in response to the above continue to show historic catastrophic ignitions on the low end of the risk buy down curve, then provide the calculated accuracy of SCE’s current risk model.</p>
<p>SCE-21-06</p>	<p>Inadequate justification for scope and pace of its covered conductor program</p>	<p>As described in Sections 1.1, 5.1, and 5.8, SCE does not provide adequate justification for the scope and pace of its covered conductor program. This is a recurring issue that was discussed in the WSD Action Statement for SCE’s 2020 WMP and in the WSD Revision Notice for SCE’s 2021 WMP Update. SCE’s justification is not based on up-to-date circuit segment prioritization and risk calculations. Additionally, in SCE’s justification for its covered conductor program, it does not discuss evaluating individual circuit segments to determine the most appropriate mitigation measure for that segment. Instead SCE proposes to deploy covered conductor</p>	<p>SCE must:</p> <ol style="list-style-type: none"> 1. Re-evaluate the scope, and pace of its future covered conductor program using the outputs of its updated Wildfire Risk Models with an emphasis on: <ol style="list-style-type: none"> i) The explicit consideration of all possible alternative mitigation initiatives along with a justification for why the preferred mitigation initiative was selected over and above the alternatives considered; ii) Reduction of catastrophic wildfire risk; iii) Reduction of PSPS events; iv) Selecting mitigation initiatives for individual circuit segments based on the specific location,

		regardless of the location, circumstances, and risk of catastrophic wildfire for that circuit segment.	circumstances, and risk of catastrophic wildfire. 2. Re-evaluate the scope of SCE’s covered conductor program based on the re-evaluation in part (1) as well as following remedies for other key issues identified within the Action Statement to specifically and effectively target risk of catastrophic wildfire and PSPS.
SCE-21-07	Inadequate joint plan to study the effectiveness of enhanced clearances	RCP Action-SCE-18 (Class A) ²⁴ required SCE, PG&E, and SDG&E to “submit a joint, unified plan” to begin a study of the effectiveness of extended vegetation clearances. ²⁵ SCE, PG&E, and SDG&E presented the “joint, unified” plan to the WSD on February 18, 2021. While it was apparent the three large utilities had	SCE, PG&E, and SDG&E will participate in a multi-year vegetation clearance study. Energy Safety will confirm the details of this study in due course. The objectives of this study are to: 1. Establish uniform data collection standards. 2. Create a cross-utility database of tree-caused risk events (i.e., outages

²⁴ A note about the numbered conditions referenced in this document: “RCP Action-SCE-[#]” here refers to one of the actions required by the WSD in its evaluation of SCE’s Remedial Compliance Plan of 2020, issued Dec. 30, 2020. The WSD issued 20 such orders (RCP Action-SCE-1 through RCP Action-SCE-20). There are two other related sets of references in this document: “SCE-[#]” refers to one of the actions required by the WSD in its evaluation of SCE’s 2020 WMP issued June 11, 2020 (SCE-1 through SCE-22). “QR Action-SCE-[#]” refers to one of the actions required by the WSD in its evaluation of SCE’s first quarterly report issued Jan. 8, 2021 (QR Action-SCE-1 through Action-SCE-28). Additionally, there are conditions that may be referenced by “Guidance-[#]”, which refer to the requirements made of PG&E, SCE, SDG&E, Bear Valley Electric Service, Liberty Utilities, and PacifiCorp, addressing key areas of weakness across all six WMPs in Resolution WSD-002 “Guidance Resolution on 2020 Wildfire Mitigation Plans” issued June 19, 2020 (Guidance-1 through Guidance-12).

²⁵ Wildfire Safety Division Evaluation of Southern California Edison’s Remedial Compliance Plan, December 30, 2020, p. 10.

		<p>discussed a unified approach, each utility presented differing analyses that would be performed to measure the effectiveness of enhanced clearances. This presentation’s content was not included in the February 26, 2021 Supplemental Filing. Instead, SCE submitted its own plan to study the effectiveness of extended vegetation clearance as part of its February 26, 2021 Supplemental Filing.</p> <p>Energy Safety acknowledges the complexity of this issue; any study performed assessing the effectiveness of enhanced clearances will take years of data collection and rigorous analysis.</p>	<p>and ignitions caused by vegetation contact).</p> <ol style="list-style-type: none"> 3. Incorporate biotic and abiotic factors²⁶ into the determination of outage and ignition risk caused by vegetation contact. 4. Assess the effectiveness of enhanced clearances. <p>In preparation for this study and the eventual analysis, SCE must collect the relevant data; the required data are currently defined by the WSD Geographic Information System (GIS Data Reporting Standard for California Electrical Corporations - V2). Table 2 outlines the feature classes which Energy Safety believes will be most relevant to the study. Energy Safety will also be updating the GIS Reporting Standards in 2021, which may include additional data attributes for vegetation-related risk events.</p>
SCE-21-08	Incomplete identification of vegetation	SCE needs to ensure proper identification of trees to the species level.	<p>SCE must:</p> <ol style="list-style-type: none"> 1. Use scientific names in its reporting (as opposed

²⁶ Biotic factors include all living things (e.g., an animal or plant) that influence or affect an ecosystem and the organisms in it; abiotic factors include all nonliving conditions or things (e.g., climate or habitat) that influence or affect an ecosystem and the organisms in it.

	<p>species and record keeping</p>	<p>In response to RCP Action-SCE-20, SCE submitted “Action SCE-20 SRVP.xlsx”: a list of all remediations required from the 2020 Canyon Patrols and Summer Readiness inspections.²⁷ Under the column labeled “tree_species,” values include oak, pine, maple, etc. However, these are not tree species, but tree genera.</p>	<p>to common names). This change will be reflected in the upcoming updates to the WSD GIS Reporting Standard.</p> <ol style="list-style-type: none"> 2. Add genus and species designation input capabilities into its systems which track vegetation (e.g., vegetation inventory system and vegetation-caused outage reports). 3. Identify the genus and species of a tree that has caused an outage²⁸ or ignition²⁹ in the Quarterly Data Reports (QDRs) (in these cases, an unknown “sp.” designation is not acceptable). 4. If the tree’s species designation is unknown (i.e., if the inspector knows the tree as “Quercus” but is unsure whether the tree is, for example, Quercus kelloggii, Quercus lobata, or Quercus agrifolia), it must be recorded as such. Instead of simply “Quercus,” use “Quercus sp.” If referencing multiple species within a
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²⁷ SCE’s 2021 WMP Update Revision – Clean, p. 517.

²⁸ WSD GIS Data Reporting Standard Version 2, Transmission Vegetation Caused Unplanned Outage (Feature Class), Section 3.4.5 & Distribution Vegetation Caused Unplanned Outage (Feature Class), Section 3.4.7.

²⁹ WSD GIS Data Reporting Standard Version 2, Ignition (Feature Class), Section 3.4.3.

			<p>genus use “spp.” (e.g., Quercus spp.).³⁰</p> <p>5. Teach tree species identification skills in its VM personnel training programs, both in initial and continuing education.</p> <p>6. Encourage all VM personnel identify trees to species in all VM activities and reporting, where possible.</p>
SCE-21-09	Need for quantified vegetation management (VM) compliance targets	In Table 12, SCE only defines quantitative targets for eight of 20 VM initiatives. Energy Safety is statutorily required to audit SCE when a “substantial portion” of SCE’s VM work is complete; ³¹ without quantifiable targets in the WMP and subsequent reporting on those targets in the Quarterly Data Report (QDR) and Quarterly Initiative Update (QIU), Energy Safety cannot fully realize its statutory obligations.	SCE must define quantitative targets for all VM initiatives in Table 12. If quantitative targets are not applicable to an initiative, SCE must fully justify this, define goals within that initiative, and include a timeline in which it expects to achieve those goals.
SCE-21-10	Inadequate transparency in accounting	SCE’s justification for high levels of covered conductor deployment is	SCE must fully explain:

³⁰ Jenks, Matthew A. (undated, from 2012 archived copy), “Plant Nomenclature,” Department of Horticulture and Landscape Architecture, Purdue University, accessed May 18, 2021: <https://archive.ph/20121211140110/http://www.hort.purdue.edu/hort/courses/hort217/Nomenclature/description.htm>.

³¹ Public Utilities Code Section 8386.3(c)(5)(A).

	<p>for ignition sources in risk modeling and mitigation selection</p>	<p>partially due to the high number of ignitions due to contact. However, many of such ignitions are from third-party contact, and do not necessarily occur in the High Fire-Threat District (HFTD) and/or during wildfire season. Additionally, SCE does not provide sufficient detail as to how it accounts for third-party ignition sources in its risk models.</p>	<ol style="list-style-type: none"> 1. How third-party ignition sources feed into SCE’s risk models; and 2. How ignition sources impact SCE’s mitigation selection process, including: <ol style="list-style-type: none"> a. How SCE prioritizes ignition sources; b. If SCE treats third-party ignition sources that are not under SCE’s direct control differently than other ignition sources, and if so, how; c. How SCE targets its mitigations efforts to reduce ignitions that are more likely to result in catastrophic wildfire conditions.
<p>SCE-21-11</p>	<p>Unclear how SCE’s ignition models account for correlations in wind speeds, ignitions, and consequence</p>	<p>Despite an observed correlation between some ignition causes and high wind speed, SCE states that it “does not have enough wind-driven outage data at the circuit level to make determinations about correlations between wind speeds and outage rates.”³² It is unclear how SCE accounts for this correlation between wind speed and ignitions in its</p>	<p>SCE must:</p> <ol style="list-style-type: none"> 1. Fully demonstrate that its probability of ignition models accurately account for the correlation between wind speed, ignition, and consequence; and 2. Explain: <ol style="list-style-type: none"> a. Why SCE finds that it does not have enough “wind driven outage data at the circuit level,” b. Specify the data required “to make

³² SCE Data Request Response MGRA-SCE-006-Q005.

		<p>probability of ignition models.</p>	<p>determinations about correlations between wind speeds and outage rates,” and</p> <p>c. Explain how and when SCE plans to obtain such data moving forward.</p>
<p>SCE-21-12</p>	<p>Insufficient evidence of effective covered conductor maintenance program.</p>	<p>SCE does not have a separate covered conductor maintenance program. On-going covered conductor inspection and maintenance is included in HFRI inspections and remediations and follow the same approach, schedule, and prioritization. Given SCE’s plan for rapid deployment of covered conductor, it is particularly important that SCE has a comprehensive and effective plan for maintaining its covered conductor once installed. Additionally, SCE did not initially include vibration dampeners in its covered conductor installations, and states that it is now retrofitting its existing covered conductor with vibration dampeners.</p>	<p>SCE shall provide all supporting material to demonstrate that its maintenance programs effectively maintain its covered conductor, including the following information:</p> <ul style="list-style-type: none"> • Pace and quantity of scheduled maintenance; • Pace and quantity of inspections; and • Pace and quantity of vibration dampener installations. <p>If SCE finds that its existing maintenance programs do not provide effective maintenance for covered conductor, SCE shall:</p> <ol style="list-style-type: none"> 1. Enhance its current operations to provide such maintenance; and 2. Detail the enhancements to its existing programs; 3. Provide all supporting material for the

			enhancements to its existing program, including the information listed above.
SCE-21-13	Lack of specificity regarding how increased grid hardening will change system operations and reduce the risk of PSPS events.	SCE states that it is “transitioning to using PSPS risk as a criterion when installing covered conductor” instead of focusing on ignition risk but does not commit to changes in its PSPS thresholds apart from increasing wind speed thresholds. ³³ Outside of covered conductor, SCE does not include any analysis on how initiatives will reduce PSPS events.	For each mitigation alternative, including pilot program initiatives, SCE must provide quantitative analysis on: <ol style="list-style-type: none"> 1. Changes in system operations; 2. Changes in PSPS thresholds; and 3. Estimated changes in the frequency, duration, and number of customers impacted by PSPS events.
SCE-21-14	Equivocating language used to describe RSE calculation improvements	SCE reports “[c]alculating RSE for all potential initiatives” ³⁴ as a potential future focus between 2023-2030, but does not provide any measurable, quantifiable, and verifiable commitments.	SCE must make measurable, quantifiable, and verifiable commitments to calculate RSE estimates for all potential initiatives in Non-HFTD, Zone 1, HFTD Tier 2, and HFTD Tier 3 territory.

³³ SCE states that it will be raising wind thresholds for fully hardened circuit segments from 31 mph sustained wind speed and 46 mph gust wind speed, stated in SCE’s 2021 WMP Update on p. 341, to 40 mph sustained winds and 58 mph gusts, provided in SCE’s response to CalAdvocates-SCE-2021WMP-08 Q005, provided on March 3, 2021. However, in SCE’s response to WSD-SCE-004 Q019, provided on March 17, 2021, SCE states that “[there] is no one point in time for completing this work because the process to determine whether circuits or circuit-segments that have been covered are fully hardened is a continuous effort.

³⁴ Table 7.1.2.3.3.3 of SCE’s 2021 WMP Update Revision, p. 172.

6.4 Wildfire Mitigation Costs

Pursuant to statute, an electrical corporation's costs associated with wildfire mitigation activities are not approved as part of its WMP; rather, costs are evaluated in each electrical corporation's General Rate Case or other application for rate recovery.

In SCE's 2021 WMP Update, actual 2020 mitigation costs were higher than projected costs for 2020 (the 2020 projected costs were approximately \$1.308 billion; 2020 actual costs were \$1.357 billion) in the HFTD, a 4% increase. In the 2021 WMP Update, projected 2021-2022 HFTD costs were higher than projected in the 2020 WMP (the 2020 projected costs for 2021-2022 were \$2.515 billion; the 2021 projected costs for 2021-2022 were \$3.490 billion). Over the entire three-year mitigation cycle, SCE's 2021 HFTD wildfire mitigation costs projected in its 2021 WMP Update increased to \$4.8 billion from \$3.8 billion projected in its 2020 WMP, a 27% increase.

Energy Safety analyzed these projected wildfire mitigation cost increases and made the following findings:

1. The territory covered by the costs did not change: no additional territory was included (e.g., no territory was reclassified as HFTD). Reporting in the 2020 WMP was HFTD only. Reporting in the 2021 WMP Update was Territory-wide and HFTD.
2. The difference as projected in its 2021 WMP Update compared to 2020 WMP projections relates to costs from more investment in vegetation management & inspections, an increase of \$646 million (from 11% to 22% of total spending), grid design & system hardening, an increase of \$184 million (minimal 2020-2021 change in percent of total), and asset management & inspections, with an increase of \$115 million (minimal 2020-2021 change in percent of total).
3. Ninety percent (90%) of SCE's grid hardening expenditure allocation in the HFTD is on covered conductor, compared to less than 20% of PGE's or SDGE's grid hardening spending in the HFTD. SCE indicates the lowest cost for covered conductor among the utilities.
4. SCE projects in its 2021 WMP Update spending 60% of its total three-year budget (\$2.273 billion) in grid design and system hardening, consistent with other large utilities which project spending between 55-65% of their budgets in this mitigation initiative category.
5. SCE's projects in its 2021 WMP Update planned expenditure allocation across 3 years in the same top three mitigation categories as the other large utilities: grid design and system hardening (\$4.097 billion or 61% of its total spending), vegetation management and inspections (\$1.127

billion or 17% of total spending), and asset management and inspections (\$1.044 billion or 15% of total spending).

7. Maturity Evaluation

In 2020, WSD introduced a new Utility Wildfire Mitigation Maturity Model (the Maturity Model) to establish a baseline understanding of an electrical corporation's current and projected capabilities and assess whether each electrical corporation is progressing sufficiently to improve its ability to mitigate wildfire risk effectively. The Maturity Model also serves as an objective means of comparing measurements of progress across electrical corporations and provides a framework for driving progress in wildfire risk mitigation over time. To identify an electrical corporation's progress within the Maturity Model, the WSD required each electrical corporation to complete a survey in which it answered questions addressing its maturity regarding 52 wildfire mitigation-related capabilities at the time of submission and its projections of its maturity at the end of the three-year plan horizon. The 52 capabilities are mapped to the same ten categories identified for mitigation initiatives.

The Maturity Model will continue to evolve over time to reflect best practices and lessons learned. In 2021 the maturity model was updated to clarify definitions while remaining consistent with the 2020 model to enable year-over-year progress tracking. It is essential that the maturity levels are understood within the context of the qualitative detail supporting each level. The model results require context and should not be interpreted as the final word on an electrical corporation's wildfire mitigation capabilities without an understanding of the scoring process described in Action Statement Appendix 11.1. As such, the final Maturity Model outputs should be viewed as levels or thresholds—they are not absolute scores.

The Commission ratifies Energy Safety's findings that SCE has made sufficient progress toward maturity in the past year. The Commission and Energy Safety expect SCE to continue to improve its maturity in all areas in order to reduce utility-related wildfire risk.

Summary of SCE Maturity Evaluation

- Over the three-year mitigation cycle SCE reports moderate maturity growth, greater than PG&E and less than SDG&E, with gradual increases through 2022. According to its maturity model survey responses, SCE is also in the middle of the three large utilities in current level of maturity, averaging (two out of possible maturity four) in its overall progress (across nine of ten mitigation initiative categories).
- In its maturity model self-assessment rating, SCE is ahead of PG&E in seven mitigation initiative categories (grid design and system hardening, asset management and inspections, vegetation management and inspections, data governance, resource allocation methodology,

- emergency planning and preparedness, and stakeholder cooperation and community engagement) and behind SDG&E in five categories (grid design and system hardening, situational awareness and forecasting, data governance, emergency planning and preparedness, and stakeholder cooperation and community engagement).
- SCE projects the most maturity growth from 2021 until early 2023 in data governance (1.9 to 3.0), situational awareness and forecasting (1.6 to 2.4), and risk assessment and mapping (1.4 to 2.2).
 - It projects the highest maturity levels at the end of the three-year cycle in emergency planning and preparedness (3.6), vegetation management and inspections (3.0), and data governance (3.0).
 - SCE's expenditure allocation in the HFTD and reported maturity model survey are inconsistent across two mitigation initiative categories:
 - Asset management and inspections, HFTD spending increases 157%, as reported in 2020 vs. 2021 (from \$407M to \$1,049M), but only slight projected increase in maturity.
 - Stakeholder cooperation and community engagement, HFTD spending increases 58%, as reported in 2020 vs. 2021 (from \$32M to \$51M), with no projected increase in maturity.

SCE's maturity evaluation is further detailed in the attached Action Statement (see Action Statement Appendix 11.1 for a summary of SCE's 2021 Maturity Survey output).

8. Next Steps

In its Action Statement, Energy Safety sets forth the next steps SCE must take following Energy Safety's approval of its 2021 WMP Update. This includes a process for significantly modifying (i.e., reducing, increasing, or ending) mitigation measures in the WMP.

Upon ratification of this resolution, Energy Safety discontinues the ongoing Quarterly Report established in the 2020 WMP, except for the Quarterly Data Reports pursuant to Guidance-10 from Resolution WSD-002.

Upon ratification of this resolution, SCE is required to provide a Progress Report by 5:00 p.m. on November 1, 2021, including the following:

1. Progress on remedies associated with key areas for improvement listed in section 6.3 of this Resolution and section 1.3 of the attached Action Statement. Further details on remedies can be found in the Action Statement.

2. Additional requirements explicitly set by Energy Safety, including additional items that require ongoing progress updates, pursuant to future guidance.

We note that Energy Safety may change reporting requirements and processes through its own public notice process.

The Commission expects the electrical corporation to adhere to all ongoing requirements set forth in the Action Statement.

9. Consultation with CAL FIRE

Pub. Util. Code Section 8386.3(a) requires Energy Safety to consult with CAL FIRE in reviewing electrical corporations' 2021 WMP Updates. The Commission and CAL FIRE have a memorandum of understanding in place to facilitate this consultation (Pub. Util. Code Section 8386.5). The Commission and Energy Safety have met these requirements, but this Resolution does not purport to speak for CAL FIRE.

10. Office of Energy Infrastructure Safety

Pursuant to Public Utilities Code Section 326(b), on July 1, 2021, the Wildfire Safety Division (WSD) transitioned from the Commission into the Office of Energy Infrastructure Safety (Energy Safety) under the California Natural Resources Agency. Energy Safety "is the successor to" and "is vested with all of the duties, powers, and responsibilities of the Wildfire Safety Division,"³⁵ including, but not limited to, jurisdiction for evaluating and approving or denying electrical corporations' WMPs and evaluating compliance with regulations related to the WMPs. The Commission and the newly formed Energy Safety will adhere to all statutory requirements pertaining to the WMP process.

WSD is used to describe the work of the WSD prior to July 1, 2021. Energy Safety is used to describe the work of Energy Safety beginning on July 1, 2021. Any references to WSD action post July 1, 2021 or to Energy Safety action prior to July 1, 2021 are inadvertent and should be interpreted as the actions of WSD or Energy Safety as appropriate.

11. Impact of COVID-19 Pandemic

On March 19, 2020, California Governor Gavin Newsom signed Executive Order N-33-20 requiring Californians to stay at home to combat the spread of the COVID-19 virus. Specifically, Governor Newsom required Californians to heed the order of the California State Public Health Officer and the Director of the California Department of Public Health that all individuals living in California stay home or at their place of residence, except as needed to maintain continuity of operation of the federal critical infrastructure

³⁵ Government Code Section 15475.

sectors in order to address the public health emergency presented by the COVID-19 disease (stay-at-home order).³⁶

As articulated in the March 27, 2020, joint letters³⁷ of the WSD, CAL FIRE, and the California Governor's Office of Emergency Services regarding essential wildfire and PSPS mitigation work during COVID-19 sent to each electrical corporation, electrical corporations are expected to continue to prioritize essential safety work.

Since issuance of this letter, the WSD has expected the electrical corporations to make every effort to keep WMP implementation progress on track, including necessary coordination with local jurisdictions. Such effort is essential to ensuring that electrical corporations are prepared for the upcoming and subsequent wildfire seasons, while complying with COVID-19 restrictions requiring residents to shelter-in-place, practice social distancing, and comply with other measures that California's public health officials may recommend or that Governor Newsom or other officials may require in response to the COVID-19 pandemic.

Throughout 2021, Energy Safety expects the electrical corporations to continue to make meaningful progress on wildfire mitigation goals and efforts to reduce the scale, scope, and frequency of PSPS events while continuing to abide by COVID-19 public health guidelines.

12. Conclusion

- SCE's 2021 Wildfire Mitigation Plan Update contains all of the elements required by AB 1054, Pub. Util. Code Section 8386(c) and all elements required by the WMP Guidelines.
- The Commission ratifies the Energy Safety's Action Statement approving SCE's 2021 WMP Update subject to any requirements contained therein.

13. Comments

Pub. Util. Code Section 311(g)(1) provides that resolutions must be served to all parties and subject to at least 30 days public review. However, given that this Resolution is issued outside of a formal proceeding, interested stakeholders need not have party status in R.18-10-007 in order to submit comments. Comments were due on August 5, 2021, 20 days from the mailing of the draft of this Resolution. Reply comments were not accepted.

³⁶ Executive Order N-30-20, see <http://covid19.ca.gov/img/Executive-Order-N-30-20.pdf>.

³⁷ Letters to each electrical corporation are found at <https://energysafety.ca.gov/what-we-do/wildfire-mitigation-and-safety/wildfire-mitigation-plans/2020-wmp/>

On July 16, 2021, this draft Resolution was served on the service list of R.18-10-007 and posted on Commission's website, <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M393/K109/393109784.PDF>.

On August 5, 2021, SCE, Green Power Institute (GPI), and Cal Advocates timely submitted comments on the draft SCE Resolution and Action Statement and Energy Safety addressed those comments.

SCE's comments indicate support and a willingness to participate and provide information on a number of required remedies, but expresses several concerns on Energy Safety's draft evaluation findings. In relation to Grid Design and System Hardening, SCE states that a number of Energy Safety's findings related to the scope and pace of its covered conductor program are incorrect or should be modified or removed from the Action Statement.³⁸ For example, SCE comments on the Energy Safety finding that, "SCE does not provide enough information to adequately demonstrate the need for covered conductor for circuits ranked as lower risk by SCE's own risk ranking."³⁹ SCE asserts that it has appropriately demonstrated this need in both its 2021 WMP Update and subsequent Revision Notice Response.⁴⁰ However, Energy Safety's Action Statement finds that SCE has not provided adequate justification for the scope of its covered conductor program outside of SCE's self-identified high-risk circuits and this is described in some detail in Section 5.3. SCE must address the requirements in SCE-21-02, SCE-21-04, SCE-21-05, SCE-21-06, SCE-21-10, and SCE-21-13 to further provide justification or potentially re-scope its covered conductor program based on the evaluations performed.

SCE also comments on SCE-21-06, which requires SCE to re-scope its covered conductor program. SCE notes that it plans to insert newly-identified high risk circuit segments into its scope once its risk models are updated. SCE then provides alternatives to re-scoping the entirety of its covered conductor program by adding any additional miles identified to the current scope.⁴¹ In response, Energy Safety made changes to the Action Statement to provide better clarification of Energy Safety's expectations,⁴² as well as further clarity on the mileage covered by SCE's 2021 WMP Update to be included as part of the re-evaluation.⁴³

³⁸ SCE's Comments on Draft Resolution WSD-020, pp. 2-3, 5-6.

³⁹ SCE's Comments on Draft Resolution WSD-020, p. 3.

⁴⁰ Final Action Statement on 2021 Wildfire Mitigation Plan Update - Southern California Edison, p. 112.

⁴¹ Final Action Statement on 2021 Wildfire Mitigation Plan Update - Southern California Edison, p. 113.

⁴² Final Action Statement on 2021 Wildfire Mitigation Plan Update - Southern California Edison, p. 113.

⁴³ Final Action Statement on 2021 Wildfire Mitigation Plan Update - Southern California Edison, p. 114.

SCE further comments on Vegetation Management and Inspections findings, SCE's current process for inspecting, inventorying, and replacing C-hooks,⁴⁴ findings relating to the inclusion of vibration dampeners in SCE's covered conductor installations, an Issue and Remedy in the Situational Awareness and Forecasting category which requires SCE to discuss how the present and future effects of climate change are potentially informing weather station outputs and placement,⁴⁵ and the Change Order process set out in Section 7 of the Action Statement. Energy Safety responded to SCE's comments providing clarifications and in certain instances revised or removed requirements in response to SCE's concerns.

GPI's comments generally support Energy Safety's identified Key Areas for Improvement and associated Remedies, as well as many of the Additional Issues and Remedies. GPI requested an additional requirement of SCE to undergo a vetting process of its modeling efforts similar to PG&E as part of its WMP Revision,⁴⁶ and renewed its recommendation that all utilities' risk models be subject to verification, Energy Safety has responded to GPI's comments in the final Action Statement.⁴⁷

We also note that Cal Advocates' comments provided support for the draft Action Statement, including several remedies proposed by Energy Safety. Specifically, Cal Advocates supports the requirement for SCE to coordinate with other utilities in developing more consistent approaches to risk modeling and risk-spend efficiency (RSE).⁴⁸ Additionally, Cal Advocates supports several "additional issue" remedies that align with its earlier comments on SCE's 2021 WMP Update.⁴⁹

Findings

1. AB 1054 and Commission Resolution WSD-001 require SCE to submit a WMP Update for 2022 that conforms with Pub. Util. Code Section 8386(c) and guidance adopted in Resolution WSD-011.
2. The 2021 WMP Update was reviewed and acted upon with due consideration given to comments received from governmental agencies (including CAL FIRE), the WSAB, members of the public, and all other relevant stakeholders.

⁴⁴ SCE's Comments on Draft Resolution WSD-020, p. 10.

⁴⁵ Final Action Statement on 2021 Wildfire Mitigation Plan Update - Southern California Edison, p. 115.

⁴⁶ Comments of the Green Power Institute on Draft Resolution WSD-020, p. 2.

⁴⁷ Final Action Statement on 2021 Wildfire Mitigation Plan Update - Southern California Edison, pp. 115-16.

⁴⁸ The Public Advocates Office's Comments on Draft Resolution WSD-020, pp. 3-4.

⁴⁹ The Public Advocates Office's Comments on Draft Resolution WSD-020, p. 4.

3. The 2021 WMP Update was reviewed and acted upon in compliance with all relevant requirements of state law.
4. SCE's 2021 WMP Update contains all the elements required by Pub. Util. Code Section 8386(c) and SCE has satisfied the requirements of Pub. Util. Code Section 8386(c) and the 2021 WMP Guidelines.

THEREFORE, IT IS ORDERED THAT:

1. Energy Safety's Action Statement approving Southern California Edison Company's 2021 Wildfire Mitigation Plan Update is ratified.
2. Southern California Edison Company shall meet all commitments in its 2021 WMP Update.
3. Southern California Edison Company shall provide a Progress Report to the Commission and the Office of Energy Infrastructure Safety by 5:00 p.m. November 1, 2021, or as otherwise directed by the Office of Energy Infrastructure Safety.
4. Southern California Edison Company shall submit any reports previously required to be submitted to Wildfire Safety Division, including Quarterly Data Reports, to the Office of Energy Infrastructure Safety according to forthcoming guidance.
5. Southern California Edison Company shall submit an update to its Wildfire Mitigation Plan in 2022 according to the forthcoming guidance and schedule issued by the Office of Energy Infrastructure Safety.
6. Southern California Edison Company shall submit a new comprehensive three-year Wildfire Mitigation Plan in 2023, or as otherwise directed by Office of Energy Infrastructure Safety.
7. Southern California Edison Company must adhere to all requirements set forth in Energy Safety's Action Statement.
8. Nothing in this Resolution should be construed as approval of the costs associated with Southern California Edison Company's Wildfire Mitigation Plan mitigation efforts.
9. In accordance with Public Utilities Code Section 8386.4, Southern California Edison Company may track the costs associated with its Wildfire Mitigation Plan in a memorandum account by category of costs and shall be prepared for Commission review and audit of the accounts at any time.
10. Nothing in this Resolution should be construed as a defense to any enforcement action for a violation of a Commission decision, order, or rule.

This Resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed, and adopted at a conference of the Public Utilities Commission of the State of California held on August 19, 2021; the following Commissioners voting favorably thereon:

/s/ RACHEL PETERSON

RACHEL PETERSON
Executive Director

MARYBEL BATJER

President

MARTHA GUZMAN ACEVES

CLIFFORD RECHTSCHAFFEN

GENEVIEVE SHIROMA

DARCIE L. HOUCK

Commissioners

APPENDIX A
Action Statement

(see attached)

APPENDIX B
Public Utilities Code Section 8386

Public Utilities Code Section 8386

From Public Utilities Code (PUC) Division 4.1. Provisions Applicable to Privately Owned and Publicly Owned Public Utilities [8301 - 8390].

Chapter 6. Wildfire Mitigation [8385 - 8389]

8386.

(a) Each electrical corporation shall construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of catastrophic wildfire posed by those electrical lines and equipment.

(b) Each electrical corporation shall annually prepare and submit a wildfire mitigation plan to the Wildfire Safety Division for review and approval. In calendar year 2020, and thereafter, the plan shall cover at least a three-year period. The division shall establish a schedule for the submission of subsequent comprehensive wildfire mitigation plans, which may allow for the staggering of compliance periods for each electrical corporation. In its discretion, the division may allow the annual submissions to be updates to the last approved comprehensive wildfire mitigation plan; provided, that each electrical corporation shall submit a comprehensive wildfire mitigation plan at least once every three years.

(c) The wildfire mitigation plan shall include all of the following:

(1) An accounting of the responsibilities of persons responsible for executing the plan.

(2) The objectives of the plan.

(3) A description of the preventive strategies and programs to be adopted by the electrical corporation to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks.

(4) A description of the metrics the electrical corporation plans to use to evaluate the plan's performance and the assumptions that underlie the use of those metrics.

(5) A discussion of how the application of previously identified metrics to previous plan performances has informed the plan.

(6) Protocols for disabling reclosers and deenergizing portions of the electrical distribution system that consider the associated impacts on public safety. As part of these

protocols, each electrical corporation shall include protocols related to mitigating the public safety impacts of disabling reclosers and deenergizing portions of the electrical distribution system that consider the impacts on all of the following:

(A) Critical first responders.

(B) Health and communication infrastructure.

(C) Customers who receive medical baseline allowances pursuant to subdivision (c) of Section 739. The electrical corporation may deploy backup electrical resources or provide financial assistance for backup electrical resources to a customer receiving a medical baseline allowance for a customer who meets all of the following requirements:

(i) The customer relies on life-support equipment that operates on electricity to sustain life.

(ii) The customer demonstrates financial need, including through enrollment in the California Alternate Rates for Energy program created pursuant to Section 739.1.

(iii) The customer is not eligible for backup electrical resources provided through medical services, medical insurance, or community resources.

(D) Subparagraph (C) shall not be construed as preventing an electrical corporation from deploying backup electrical resources or providing financial assistance for backup electrical resources under any other authority.

(7) Appropriate and feasible procedures for notifying a customer who may be impacted by the deenergizing of electrical lines, including procedures for those customers receiving medical baseline allowances as described in paragraph (6). The procedures shall direct notification to all public safety offices, critical first responders, health care facilities, and operators of telecommunications infrastructure with premises within the footprint of potential deenergization for a given event.

(8) Plans for vegetation management.

(9) Plans for inspections of the electrical corporation's electrical infrastructure.

(10) Protocols for the deenergization of the electrical corporation's transmission infrastructure, for instances when the deenergization may impact customers who, or entities that, are dependent upon the infrastructure.

(11) A list that identifies, describes, and prioritizes all wildfire risks, and drivers for those risks, throughout the electrical corporation's service territory, including all relevant

wildfire risk and risk mitigation information that is part of the commission's Safety Model Assessment Proceeding (A.15-05-002, et al.) and the Risk Assessment Mitigation Phase filings. The list shall include, but not be limited to, both of the following:

(A) Risks and risk drivers associated with design, construction, operations, and maintenance of the electrical corporation's equipment and facilities.

(B) Particular risks and risk drivers associated with topographic and climatological risk factors throughout the different parts of the electrical corporation's service territory.

(12) A description of how the plan accounts for the wildfire risk identified in the electrical corporation's Risk Assessment Mitigation Phase filing.

(13) A description of the actions the electrical corporation will take to ensure its system will achieve the highest level of safety, reliability, and resiliency, and to ensure that its system is prepared for a major event, including hardening and modernizing its infrastructure with improved engineering, system design, standards, equipment, and facilities, such as undergrounding, insulating of distribution wires, and replacing poles.

(14) A description of where and how the electrical corporation considered undergrounding electrical distribution lines within those areas of its service territory identified to have the highest wildfire risk in a commission fire threat map.

(15) A showing that the electrical corporation has an adequately sized and trained workforce to promptly restore service after a major event, taking into account employees of other utilities pursuant to mutual aid agreements and employees of entities that have entered into contracts with the electrical corporation.

(16) Identification of any geographic area in the electrical corporation's service territory that is a higher wildfire threat than is currently identified in a commission fire threat map, and where the commission should consider expanding the high fire threat district based on new information or changes in the environment.

(17) A methodology for identifying and presenting enterprise-wide safety risk and wildfire-related risk that is consistent with the methodology used by other electrical corporations unless the commission determines otherwise.

(18) A description of how the plan is consistent with the electrical corporation's disaster and emergency preparedness plan prepared pursuant to Section 768.6, including both of the following:

(A) Plans to prepare for, and to restore service after, a wildfire, including workforce mobilization and repositioning equipment and employees.

(B) Plans for community outreach and public awareness before, during, and after a wildfire, including language notification in English, Spanish, and the top three primary languages used in the state other than English or Spanish, as determined by the commission based on the United States Census data.

(19) A statement of how the electrical corporation will restore service after a wildfire.

(20) Protocols for compliance with requirements adopted by the commission regarding activities to support customers during and after a wildfire, outage reporting, support for low-income customers, billing adjustments, deposit waivers, extended payment plans, suspension of disconnection and nonpayment fees, repair processing and timing, access to electrical corporation representatives, and emergency communications.

(21) A description of the processes and procedures the electrical corporation will use to do all of the following:

(A) Monitor and audit the implementation of the plan.

(B) Identify any deficiencies in the plan or the plan's implementation and correct those deficiencies.

(C) Monitor and audit the effectiveness of electrical line and equipment inspections, including inspections performed by contractors, carried out under the plan and other applicable statutes and commission rules.

(22) Any other information that the Wildfire Safety Division may require.

(d) The Wildfire Safety Division shall post all wildfire mitigation plans and annual updates on the commission's internet website for no less than two months before the division's decision regarding approval of the plan. The division shall accept comments on each plan from the public, other local and state agencies, and interested parties, and verify that the plan complies with all applicable rules, regulations, and standards, as appropriate.

(Amended by Stats. 2020, Ch. 370, Sec. 256. [SB 1371] Effective January 1, 2021.)