

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Wildfire Safety Division

Resolution WSD-021
October 21, 2021

R E S O L U T I O N

RESOLUTION WSD-021 Resolution Ratifying Action of the Office of Energy Infrastructure Safety on Pacific Gas and Electric Corporation'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 Pacific Gas and Electric Corporation's (PG&E 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.

¹ Because the Wildfire Safety Division (WSD) transitioned from the California Public Utilities Commission (CPUC) to the Office of Energy Infrastructure Safety (Energy Safety) at the California Natural Resources Agency (CNRA) 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.

This Resolution acts on PG&E's WMP Update and WMP Update Revision submitted on February 5, 2021 and June 4, 2021, respectively. PG&E's WMP, submitted in 2020, responds to a list of 22 requirements set forth in Public Utilities Code Section 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.

PG&E's 2021 WMP Update provides information on PG&E'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 PG&E's 2021 WMP Update, the Commission acts on Energy Safety's Action statement and its analysis in terms of the extent to which PG&E'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 PG&E.
- Evaluates the maturity of PG&E's 2021 WMP Update using 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.
- Acknowledges the key areas for improvement and associated remedies in Energy Safety's Action Statement and that PG&E must address these in its November 1, 2021 Progress Report to Energy Safety.
- Acknowledges the 30 additional issues and 37 associated remedies identified by Energy Safety and that PG&E is required to address these in its 2022 WMP Update.

- Requires PG&E to file and serve its November 1, 2021 Progress Report and its 2022 WMP Update to its General Rate Case proceeding (A. 21-06-021).
- Requires PG&E to serve on the service list of R.18-10-007 change orders to its 2021 WMP Update consistent with Energy Safety's October 6, 2021 Final Change Order Process. Change orders must include any corresponding changes to cost information. Although costs are not approved through WMPs, this information is necessary for the Commission to approve any future cost recovery requests.
- Recognizes that if PG&E intends to underground 10,000 miles of power lines, Energy Safety has required an explanation of PG&E's plans in its 2022 WMP.
- Requires PG&E 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 PG&E's actual costs for 2020 and its projected costs for the implementation of wildfire mitigation efforts in its 2021 WMP Update.
- PG&E 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: PG&E's WMP Costs (thousands)

Proposed 2020 costs (as reported in the 2020 WMP)	\$4,809,851
Actual 2020 costs (as reported in the 2021 WMP Update)	\$4,821,269
Difference between 2020 proposed/actual costs (+/-)	(\$11,418)
Proposed 2021 costs	\$4,893,524

Proposed 2022 costs	\$5,117,490
Proposed total costs 2020-2022	\$14,832,284

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 Pacific Gas & Electric (PG&E) on February 5, 2021 (Attachment A), and augmented by the June 3, 2021, WMP Update Revision.² The Commission finds that PG&E 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 WSD transitioned 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

² For more information see the Energy Safety Wildfire Mitigation Plans web page: <https://energysafety.ca.gov/what-we-do/wildfire-mitigation-and-safety/wildfire-mitigation-plans/> (accessed July 26, 2021).

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.

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

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

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

electric corporation have a WMP that contains all elements required by AB 1054. For example, every WMP must contain plans for 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. PG&E 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 PG&E 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.

¹⁰ Details of the workshops appear here: <https://energysafety.ca.gov/events-and-meetings/workshops/> (accessed July 26, 2021).

Notice

In accordance with Pub. Util. Code Section 8386(d), notice of PG&E'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/> on February 5, 2021. 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 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 PG&E's 2021 WMP Update, as well as comments by June 10, 2021, on PG&E's 2021 WMP Update Revision:

- Acton Town Council (ATC)
- California Farm Bureau Federation (CFBF)
- Green Power Institute (GPI)
- Joint Local Governments (JLG)
- Kevin Collins
- Mussey Grade Road Alliance (MGRA)
- Professor Catherine Sandoval, Santa Clara University School of Law (SCU Law)
- Protect Our Communities Foundation (PCF)

- Public Advocates Office at the California Public Utilities Commission (Cal Advocates)
- Rural County Representatives of California (RCRC)
- Santa Clara County (SCC)
- Small Business Utility Advocates (SBUA)
- The Utility Reform Network (TURN)
- Valley Women's Club for the San Lorenzo Valley
- Will Abrams

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

6. Discussion

The Commission has reviewed Energy Safety's evaluation of PG&E'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 PG&E's 2021 WMP Update.

The attached Action Statement discusses in detail PG&E'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 PG&E must focus on in the coming year (including ongoing reporting requirements), and additional issues where progress is needed to improve PG&E's maturity over time.

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

Below is a summary of where PG&E has met each requirement pursuant to Pub. Util. Code Section 8386(c). The Commission ratifies Energy Safety's findings that PG&E's 2021 WMP Update satisfies the requirements of Pub. Util. Code Section 8386(c). Discussion of how PG&E 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	Section 1
2. The objectives of the plan	Met fully	Goals: 5.1 Objectives: 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	Risk Strategies: Sections 4.2-4.3, 4.5, 7.1.A Climate Change Risks: Sections 4.2-4.2.1, 6.7, 7.3.1.2 Wildfire Mitigation Programs and Initiatives: Section 7.3 PSPS Strategies: Sections 8.2.1, 8.2.2
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	Model and metric calculations: Section 4.5.2 Performance metrics: Sections 6.1-6.4 PSPS Metrics: Section 8.5
5. A discussion of how the application of previously identified	Met fully	Section 4.1; Section 6.1-6.4;

Requirement	Requirement status in WMP Update	Reference to where in WMP Update requirement is met
metrics to previous plan performances has informed the WMP		Section 8.5 (PSPS metrics)
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 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.	Met fully	Recloser Operations: 7.3.6.1 PSPS Protocols for De-energization: Sections 8.2.1 to 8.2.2
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 7.3.9.3; 8.2.4; 8.4
8. Plans for vegetation management	Met fully	Sections 5.4.1 and 5.4.2, 7.3.5, 7.3.5.1 to 7.3.5.2-0

Requirement	Requirement status in WMP Update	Reference to where in WMP Update requirement is met
9. Plans for inspections of the electrical corporation's electrical infrastructure	Met fully	Sections 5.4.3, 5.4.5, 7.2.C, 7.3.4, 7.3.4.1 to 7.3.4.15
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 fully	Section 8.2.2
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 Safety Model Assessment Proceeding (SMAP) and Risk Assessment Mitigation Phase (RAMP) filings	Met fully	Section 4.2 and 4.3
12. A description of how the WMP accounts for the wildfire risk identified in the electrical corporation's RAMP filing	Met fully	Sections 4.2 and 7.3.8.3
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	Met fully	Sections 5.4.4 and 7.3.3.1 to 7.3.3.17

Requirement	Requirement status in WMP Update	Reference to where in WMP Update requirement is met
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	Met fully	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 entities that have entered into contracts with the electrical corporation	Met fully	Workforce: Sections 7.3.9.1; 8.2.3 Mutual Assistance: Section 7.3.9.7
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 4.2.1

Requirement	Requirement status in WMP Update	Reference to where in WMP Update requirement is met
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 4.2 and 7.3.8.3
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.	Met fully	Sections 7.3.9.2, 7.3.9.4 to 7.3.9.5
19. A statement of how the electrical corporation will restore service after a wildfire.	Met fully	Sections 7.3.9.5

Requirement	Requirement status in WMP Update	Reference to where in WMP Update requirement is met
<p>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</p>	<p>Met fully</p>	<p>Section 7.3.9.3</p>
<p>21. A description of the processes and procedures the electrical corporation will use to do all of the following:</p> <p>(A) Monitor and audit the implementation of the plan</p> <p>(B) Identify any deficiencies in the plan or the plan's implementation and correct those deficiencies</p> <p>(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</p>	<p>Met fully</p>	<p>Sections 4.6, 7.2, 7.2.A to 7.2.D</p>

Requirement	Requirement status in WMP Update	Reference to where in WMP Update requirement is met
22. Any other information that the Wildfire Safety Division may require	Met fully	Initiative/WMP Costs and Expense: Sections 3.1-3.2 and Table 12 Lessons Learned: Section 4.1 Research/Pilot Projects: Sections 4.4, 7.1.D Workforce: Sections 5.4 to 5.4.4, 7.1.C Compliance with Decision 20-05-051: Section 8.1 (addressing short, medium and long-term actions each utility will take to reduce the impact of, and need for, de-energization events to mitigate wildfire risk).

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 PG&E’s progress are set forth

below. Energy Safety evaluated PG&E's progress over the past year and the Commission ratifies Energy Safety's findings that PG&E's progress is sufficient to warrant approval.

- PG&E redesigned its 2021 Wildfire Distribution Risk Model that includes vegetation probability of ignition, equipment probability of ignition, and fire consequence models. The updated model informs which circuit segments PG&E considers highest risk and enables PG&E to prioritize circuit segments for mitigation based on risk.
- PG&E has updated its Vegetation Risk Model for 2021 in a manner it claims allows it to prioritize work with more granularity at the level of circuit protection zones (CPZs).¹¹ The model's outputs are used to prioritize work for PG&E's EVM program.
- PG&E established a new system hardening program decision-making framework. The new decision-making framework provides a consistent approach for evaluating the optimal mitigation measure for each circuit segment that PG&E selects for mitigation, with a focus on reducing catastrophic wildfire risk. The new decision-making framework provides a more comprehensive and targeted approach than PG&E presented in its 2020 WMP and represents a significant improvement to PG&E's initiative selection process.^{12, 13}
- PG&E provided 10 times more risk-spend efficiency (RSE) estimates for mitigation initiatives than it did in its 2020 WMP, helping remedy a concern raised in connection with the 2020 WMP that PG&E was combining initiatives for its RSE calculations. These combinations made the RSEs less valuable because they did not

¹¹ CPZs are portions of a circuit that can be isolated from the rest of the system. https://www.pge.com/en_US/safety/emergency-preparedness/natural-disaster/wildfires/vegetation-management.page (accessed July 12, 2021).

¹² While these processes were not developed at the time of PG&E's initial submission of its 2021 WMP Update, PG&E presented the changes made to its decision-making process in a presentation given to Wildfire Safety Division on May 21, 2021. Given that this process is now in-place and was developed by the time PG&E refiled its 2021 WMP Update as part of the Revision Notice Response, Energy Safety is including the updates as part of its overall 2021 WMP review.

¹³ Energy Safety is seeking more information from PG&E regarding its July 21, 2021, announcement of its plans to underground 10,000 miles of power lines to determine if that plan will impact the decision-making framework presented in PG&E's 2021 WMP Update.

allow comparison across initiatives to determine whether certain initiatives had a more favorable RSE than others.

- PG&E improved its inspection process to identify particular issues based on its Failure Modes and Effects Analysis and ignition risk analysis to move away from its previous “run to failure” methodology. This process targets known failures that present higher ignition risk and aims to repair or mitigate them prior to failure occurring.
- PG&E improved its capability to analyze circuit segments across multiple initiatives, including vegetation management and system hardening, and developed plans to avoid conducting vegetation management where system hardening is occurring and vice versa. PG&E is working to tailor its initiative selections to the optimal solution for each CPZ instead of choosing overarching initiatives that may overlap in benefits and therefore not provide the most efficient use of resources.
- PG&E has been working toward consolidating the data collection tools for various vegetation management (VM) activities into a new geographic information system (GIS)-based vegetation management system it calls “One Vegetation Management.”¹⁴ A consolidated system will enable PG&E to improve planning, scheduling, and reporting and improve coordination between its numerous VM programs. It is important that PG&E keep track of its various VM programs in a consolidated manner to avoid situations where work done as part of one of its programs is not available to workers handling other VM programs. Anytime VM personnel – regardless of the program on which they work – needs data about a particular tree or trees, the data should be available regardless of which VM resulted in the gathering of the data.

6.3 Key Areas for Improvement and Additional Issues

Energy Safety reviewed PG&E’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

¹⁴ PG&E 2021 WMP Update Revision - Clean, p. 807.

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.¹⁵

Energy Safety identified key areas for improvement for PG&E over the next year (excerpted, below, from Energy Safety's Action Statement). Key areas for improvement are areas where 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 has required PG&E to take action to address these key areas¹⁶ and report on progress made over the year in a Progress Report due to Energy Safety by 5:00 p.m. on November 1, 2021, and in its 2022 WMP Update¹⁷ and the Commission hereby requires PG&E to file and serve these documents in its General Rate Case proceeding (A. 21-06-021).

Additionally, Energy Safety has required PG&E to address in its 2022 WMP 30 additional issues and 37 associated remedies identified and discussed in Energy Safety's Action Statement.¹⁸

¹⁵ 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.)

¹⁶ The table below provides a summary of the key areas for improvement and remedies and has been edited for length. PG&E must address the complete key areas for improvement and associated remedies which can be found in the corresponding initiative section and Appendix 10.1 of the attached Action Statement.

¹⁷ Energy Safety's Final Action Statement on 2021 Wildfire Mitigation Plan Update - Pacific Gas & Electric, p 11.

¹⁸ Energy Safety's Final Action Statement on 2021 Wildfire Mitigation Plan Update - Pacific Gas & Electric, pp. 18-19.

Risk Assessment and Mapping (Section 5.1)		
Utility-# and title	Summary of issue description	Summary of remedies required and alternative timeline if applicable
PG&E-21-01 Unclear inclusion of future climate data into planning	PG&E’s 2021 WMP Update does not include PG&E’s climate resilience team’s evaluation of High Fire Risk Areas (HFRA) ¹⁹ map initiatives in order to validate that the maps are consistent with climate projections.	PG&E must explain how it incorporates components of its climate resilience team’s report into its own risk assessment.
PG&E-21-02 Lack of consistency in approach to wildfire risk modeling across utilities	The utilities do not have a consistent approach to wildfire risk modeling. They face similar enough circumstances that there should be some level of consistency in statewide approaches to wildfire risk modeling.	The utilities ²⁰ must collaborate through a working group facilitated by Energy Safety to develop a more consistent statewide approach to wildfire risk modeling. A working group will allow for collaboration among the utilities, stakeholder and academic expert input, and increased transparency.

¹⁹ PG&E 2021 WMP Update at p. 85. PG&E identified areas of increased fire risk that are not currently included in the CPUC-designated HFTD and defined these as High Fire Risk Areas.

²⁰ Here “utilities” refers to SDG&E and Pacific Gas and Electric Company (PG&E), Southern California Edison Company (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.

Risk Assessment and Mapping (Section 5.1)		
Utility-# and title	Summary of issue description	Summary of remedies required and alternative timeline if applicable
PG&E-21-03 Inadequate speed of improvements made to risk modeling	PG&E self-reported a low risk assessment score in the Maturity Model with slower growth in comparison to the other two large investor-owned utilities (IOUs). Thus, PG&E fails to demonstrate growth at an adequate speed in regard to its risk assessment.	PG&E must demonstrate that it is applying automation as quickly as possible, explaining any constraints on progress, and supply its workplan to enhance its modeling efforts.
PG&E-21-04 PG&E does not adequately justify the wind speed inputs it uses in its Probability of Ignition Models.	PG&E's Outage Producing Winds (OPW) Model finds a correlation between equipment failure and high wind speed. Despite the correlation, PG&E does not use peak wind speed as part of its input data set for its Equipment Probability of Ignition Model.	PG&E must demonstrate that it appropriately accounts for wind speed in its Probability of Ignition Models' input data sets and addresses discrepancies between its input data sets and those of its peer utilities.
PG&E-21-05 Lack of PSPS consequence model at a circuit-segment level	PG&E does not describe any specific efforts or progress regarding the development of the PSPS risk model. The incorporation of PSPS consequence risk into the total risk reduction of a mitigation initiative is crucial to the selection process.	PG&E must provide a detailed update on the functionality of its PSPS consequence model at a circuit-segment level; and quantitative targets for any remaining work or future developments.

Risk Assessment and Mapping (Section 5.1)		
Utility-# and title	Summary of issue description	Summary of remedies required and alternative timeline if applicable
PG&E-21-06 Insufficient transparency for modifications to Wildfire Risk Models and circuit segment prioritization	In response to RN-PG&E-02, PG&E provided justification for its reprioritization of circuit segments and also provided the third-party review of its 2021 Wildfire Distribution Risk Model. The third-party's analysis included recommendations for PG&E to improve its Wildfire Risk Models. PG&E must continue to update its models and report its progress in implementing the third-party's evaluation recommendations.	PG&E must provide an update on progress made on each of the third-party's recommendations and an updated timeline for addressing the recommendations. PG&E must detail what changes have been made to its 2021 risk models since the submission of its 2021 WMP Update and describe changes it has made to its circuit segment prioritization since the submission of its 2021 WMP Update.
Situational Awareness and Forecasting (Section 5.2)		
Utility-#	Summary of issue description	Summary of remedies required and alternative timeline if applicable
PG&E-21-07 PG&E's DFA and EFD technology pilot outcome is lacking justification for the scope of installment	Following PG&E's 2020 pilot project for Distribution Fault Anticipation (DFA) and Early Fault Detection (EFD) technology, PG&E determined to ramp up deployment to 600-800 circuits. However, PG&E lacks details and performance metrics on the pilot outcome and how PG&E made the decision to ramp up deployment.	PG&E must provide details and performance metrics on the outcome of the 2020 DFA and EFD technology pilot program and explain how the determination was made to increase deployments of DFA/EFD technology across HFTD areas.

Risk Assessment and Mapping (Section 5.1)		
Utility-# and title	Summary of issue description	Summary of remedies required and alternative timeline if applicable
PG&E-21-08 Weather station program target not met	PG&E’s 2021 WMP Update originally reported installation of 404 weather stations in 2020, surpassing its program target of 400. However, in PG&E’s revised 2021 WMP Update the weather station installations changed to 378 in 2020, falling short of its target without explanation.	PG&E must provide details on why PG&E did not meet the targeted 400 weather station installs in 2020 and explain why weather station installation totals in the original 2021 WMP Update differ from the revised 2021 WMP Update.
Grid Design and System Hardening (Section 5.3)		
Utility-#	Summary of issue description	Summary of remedies required and alternative timeline if applicable
PG&E-21-09 Limited evidence to support the effectiveness of covered conductor	The rationale to support the selection of covered conductor as a preferred initiative to mitigate wildfire risk lacks consistency among the utilities. The utilities have not demonstrated a full understanding of the long-term risk reduction, cost-effectiveness, and field performance of covered conductor, and fail to provide adequate comparison to other initiatives’ ability to reduce PSPS risk.	The utilities must coordinate to develop a consistent approach to evaluating the long-term risk reduction and cost-effectiveness of covered conductor deployment (including the effectiveness of covered conductor in the field in comparison to alternative initiatives) and to determining how covered conductor installation compares to other initiatives in its potential to reduce PSPS risk.

Risk Assessment and Mapping (Section 5.1)		
Utility-# and title	Summary of issue description	Summary of remedies required and alternative timeline if applicable
PG&E-21-10 Insufficient pace of expulsion fuse replacement plan	The pace of PG&E’s current program for expulsion fuse replacements is not proportional to those of SDG&E and SCE. ²¹ The slower pace is especially problematic given PG&E’s larger service territory.	PG&E must demonstrate that it is replacing expulsion fuses with fuses that reduce wildfire risk at a speed that adequately addresses risk; explain current limits or constraints on the scope of PG&E’s expulsion fuse replacement program; and increase the pace of its expulsion fuse replacement program, provided reasonable constraints do not limit such expansion.
PG&E-21-11 Insufficient detail regarding installation of expulsion fuses in HFTD areas	PG&E continues to install non-exempt expulsion fuses, which are considered to be fire hazards, in HFTD areas. PG&E does not detail whether the non-exempt expulsion fuses it installed in the HFTD in 2019 and 2020 were installed under allowable circumstances.	PG&E must explain the circumstances under which it installed non-exempt expulsion fuses in HFTD areas; and clarify if any of the new expulsion fuses it is installing in the HFTD in 2021 and beyond are non-exempt fuses.

²¹ Cal Advocates’ Comments state at p. 36: “PG&E has approximately 22,000 expulsion fuses in HFTDs and forecasts replacing about five percent of them in 2021” which is approximately 1,100 fuses. At this rate, it will take PG&E nearly two decades to remove all the expulsion fuses from the HFTD. By comparison, BVES replaced 2,200 in 2020, which is more expulsion fuses than PG&E in 2020, although PG&E’s service territory is two thousand times larger than BVES. In 2021, SDG&E replaced “3,179 (with a focus in Tiers 3 and 2 of the HFTD), bringing the total replaced to 5,669 out of the 11,000 total populations of such fuses in the HFTD” (according to SDG&E’s 2021 WMP Update, p. 197). SCE is replacing “13,000 locations by the end of 2022 (cumulative from the inception of the program in 2018)” (according to SCE’s 2021 WMP Update, p. 216).

Risk Assessment and Mapping (Section 5.1)		
Utility-# and title	Summary of issue description	Summary of remedies required and alternative timeline if applicable
PG&E-21-12 Failure to adequately track copper conductor replacements and insufficient detail regarding targeting replacements to highest risk areas	PG&E identified that copper conductor poses a high risk due to its high incidence of failure yet does not currently track completed copper reconductoring projects nor provide sufficient evidence that its copper reconductoring plan targets the highest risk circuits.	PG&E must develop a workplan to target and track copper reconductoring projects; and demonstrate that it is targeting its copper reconductoring projects to its highest risk circuits, including justification for any projects outside of the HFTD.
PG&E-21-13 Failure to demonstrate that system hardening plan targets highest risk circuit segments	A small percentage of circuit-segments in PG&E's distribution system pose a high percentage of PG&E's wildfire risk. ²² However, PG&E does not clearly demonstrate that its system hardening plan targets these segments.	PG&E must fully demonstrate that its system hardening mitigation efforts efficiently target reducing wildfire risk and PSPS events, including a description of how PG&E determines the order in which circuit segments are scheduled for mitigation.
PG&E-21-14 Inadequate transparency of system hardening plan	PG&E provides limited detail regarding its short-term system hardening plan and does not include its long-term system hardening plan. Additionally, PG&E's July 21,	PG&E must provide additional detail on its short-term system hardening plans; provide its long-term system hardening plan; explain how, if at all, PG&E's recently announced

²² "2021 Wildfire Mitigation Plan Workshop Grid Design and System Hardening" presented February 23, 2021, p. 4.

Risk Assessment and Mapping (Section 5.1)		
Utility-# and title	Summary of issue description	Summary of remedies required and alternative timeline if applicable
	2021, press release ²³ regarding its intention to underground 10,000 miles of power lines indicates that the system hardening plan and initiative selection process that PG&E presents in its 2021 WMP Update may change.	undergrounding plan changes its decision-making framework for initiative selection; and provide an update on its system hardening efforts. Additionally, if PG&E is moving forward with its stated intention to underground 10,000 miles of power lines, PG&E must provide detail in its 2022 WMP Update on the decision to underground and its plans for such undergrounding.
Asset Management and Inspections (Section 5.4)		
Utility-#	Summary of issue description	Summary of remedies required and alternative timeline if applicable
PG&E-21-15 Insufficient detail regarding covered conductor maintenance	PG&E does not provide sufficient detail on its covered conductor maintenance requirements. PG&E does not explain or justify its spend projections for covered conductor maintenance, which decrease from 2021 to 2022	PG&E must provide its procedures for determining when covered conductor maintenance is required and explain why PG&E's cost projections decrease from 2021 to 2022 despite line mile projections remaining the same.

²³ "PG&E Announces Major New Electric Infrastructure Safety Initiative to Protect Communities From Wildfire Threat," July 21, 2021: <https://investor.pgecorp.com/news-events/press-releases/press-release-details/2021/PG&E-Announces-Major-New-Electric-Infrastructure-Safety-Initiative-to-Protect-Communities-From-Wildfire-Threat/default.aspx> (accessed July 28, 2021).

Risk Assessment and Mapping (Section 5.1)		
Utility-# and title	Summary of issue description	Summary of remedies required and alternative timeline if applicable
	despite the constant projected line miles.	
PG&E-21-16 Insufficient evidence of effective covered conductor maintenance program	PG&E does not have a separate covered conductor maintenance program.	PG&E must either provide all supporting material to demonstrate that its maintenance programs effectively maintain its covered conductor or enhance its current operations and explain how the enhancements will effectively maintain its covered conductor.
PG&E-21-17 Insufficient evidence of QA/QC for work performed by contractors	Several PG&E internal audits revealed contractors that failed to follow procedures. PG&E's response to these issues was insufficient.	PG&E must demonstrate that it is tracking the quality of contractor work; describe how it is addressing underperforming contractors; and describe how it is expanding quality control of work performed by contractors.
Vegetation Management and Inspections (Section 5.5)		
Utility-#	Summary of issue description	Summary of remedies required and alternative timeline if applicable
PG&E-21-18 Minimally planned maturity of VM program	PG&E has increased the scale of its VM program but does not foresee maturing five of six VM Maturity Model capabilities. PG&E must create a long-term VM maturation strategy and establish clear goals and targets to prioritize work and monitor progress	PG&E must clearly define goals and targets to reach each level of maturity for Maturity Model capabilities 21-26 and include a timeline for completion of the goals and targets from. PG&E must also provide a long-term vision for each VM initiative in Subsection 5 "Future

Risk Assessment and Mapping (Section 5.1)		
Utility-# and title	Summary of issue description	Summary of remedies required and alternative timeline if applicable
	toward its risk-reduction goals.	improvements to the initiative” (or similar) including any relevant timelines.
PG&E-21-19 Delays in achieving mutually agreeable environmental mitigation	PG&E cites delays in reaching mutually agreeable environmental and community impact mitigation efforts that “in certain situations,” ²⁴ result in PG&E seeking court orders. ²⁵ These delays, judicial or otherwise, can compromise working relationships between the community and state and local environmental agencies and cause further delays to WMP initiatives.	PG&E must show progress on achieving environmental and community impact mitigation agreements with agencies, local governments, and tribal governments. PG&E must consider the development of Operations and Maintenance Plans and Memorandums of Understandings with relevant federal, state, ²⁶ and local land managing agencies to facilitate agreed-upon review times of permits and/or vegetation management activities. PG&E must document the outcomes of these efforts and any lessons learned.

²⁴ PG&E 2021 WMP Revision – Clean, p. 691.

²⁵ PG&E 2021 WMP Revision – Clean, p. 691.

²⁶ This does not include the CPUC nor any environmental review processes already required by the CPUC.

Risk Assessment and Mapping (Section 5.1)		
Utility-# and title	Summary of issue description	Summary of remedies required and alternative timeline if applicable
PG&E-21-20 Non-inclusion of fire damage attributes in hazard tree assessments	It is unclear whether PG&E uses its Tree Assessment Tool (TAT) to perform hazard tree assessments in post-wildfire response circumstances or uses no tool or standard for this purpose.	PG&E must clarify what tool or standard it and its contractors use in post-wildfire response circumstances for hazard tree assessments for post-fire specifics. If PG&E does not currently use any such tool (including TAT), PG&E must develop a tool or standard for this purpose.
PG&E-21-21 Unknown environmental impact and efficacy of PG&E’s Preventative Fire Retardant Program (PFRP)	PG&E plans to undertake an environmental review of fire-retardant chemicals ahead of the 2021 wildfire season to pilot under its Utility Defensible Space (UDS) program “pre-treat[ing] Right of Ways (ROWs) and around equipment in select locations to limit a spark from causing an ignition.” In PG&E’s 2021 WMP Update, it had not determined a long-term plan for this initiative and had no set targets. However, Energy Safety has since been informed that PG&E has been applying fire-retardant to “81 pilot	PG&E must provide its review of fire-retardant to Energy Safety; a report on its 2021 applications; any plans for 2022 applications; quarterly reports regarding the deployment of fire retardant to the Compliance Division of Energy Safety per CPUC-approved Compliance Operational Protocols; ²⁸ and an RSE value for its PFRP.

²⁸ Wildfire Safety Division – Compliance Operational Protocols, issued February 16, 2021, p. 5-7.

Risk Assessment and Mapping (Section 5.1)		
Utility-# and title	Summary of issue description	Summary of remedies required and alternative timeline if applicable
	[circuit] miles” ²⁷ as part of its PFRP. The efficacy and environmental impact of PG&E’s PFRP are unknown.	
PG&E-21-22 Incomplete identification of vegetation species and record keeping	PG&E must ensure proper identification of species so that the “regional species risk values” ²⁹ put into its TAT are updated and accurate. While PG&E does not currently prescribe tree work based on specific species, it may choose to do so in the future; in this case, accurate species recordkeeping is essential.	PG&E must use scientific names in its reporting, add genus and species designation input capabilities into its systems that track vegetation, and identify the genus and species of any tree that has caused an outage ³⁰ or ignition ³¹ in the Quarterly Data Reports (QDRs).
PG&E-21-23 Inadequate joint plan to study the	RCP Action-PGE-35 ³² (Class A) required PG&E, SCE, and SDG&E to “submit a joint, unified plan” to begin a study of the effectiveness of extended vegetation	PG&E, SCE, 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

²⁷ Presentation to the Office of Energy Infrastructure Safety and the CPUC’s Safety Enforcement Division from PG&E titled “Public Safety Measures: Addressing Extreme Drought”, August 6, 2021.

²⁹ PG&E 2021 WMP Update, p. 667.

³⁰ 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.

³¹ WSD GIS Data Reporting Standard Version 2, Ignition (Feature Class), Section 3.4.3

³² Wildfire Safety Division Evaluation of Pacific Gas and Electric Company’s Remedial Compliance Plan can be found here (accessed August 2, 2021):

<https://energysafety.ca.gov/wp-content/uploads/docs/wmp-2020/pge-rcp-action-statement-20201230.pdf>

Risk Assessment and Mapping (Section 5.1)		
Utility-# and title	Summary of issue description	Summary of remedies required and alternative timeline if applicable
effectiveness of enhanced clearances	clearances. PG&E, SCE, and SDG&E presented the “joint, unified” plan to WSD on February 18, 2021. While it was apparent the three large utilities had discussed a unified approach, each utility presented differing analyses that would be performed to measure the effectiveness of enhanced clearances.	study are to: establish uniform data collection standards create a cross-utility database of tree-caused risk events (i.e., outages and ignitions caused by vegetation contact); incorporate biotic and abiotic factors into the determination of outage and ignition risk caused by vegetation contact; and assess the effectiveness of enhanced clearances
PG&E-21-24 Need for quantified vegetation management compliance targets	In Table 12, PG&E only defines quantitative targets for six of 20 VM initiatives. Energy Safety will audit PG&E when a “substantial portion” of PG&E’s VM work is complete and needs quantification in this task.	PG&E must define quantitative targets for all VM initiatives. If PG&E contends quantitative targets are not applicable to an initiative, PG&E must fully justify its position, define goals within that initiative, and include a timeline in which it expects to achieve those goals.
Grid Operations and Operating Protocols, Including PSPS (Section 5.6)		
Utility-#	Summary of issue description	Summary of remedies required and alternative timeline if applicable
PG&E-21-25 Lack of specificity regarding how increased grid	PG&E does not commit to changes in its PSPS thresholds for increased grid hardening. PG&E does not specify how	For each mitigation alternative, including pilot program initiatives, PG&E must provide quantitative analysis on: changes in system operations; changes in PSPS thresholds; and

Risk Assessment and Mapping (Section 5.1)		
Utility-# and title	Summary of issue description	Summary of remedies required and alternative timeline if applicable
hardening will change system operations, change PSPS thresholds, and reduce PSPS events	increased grid hardening will change system operations.	estimated changes in the frequency, duration, and number of customers impacted by PSPS events.
Resource Allocation Methodology (Section 5.8)		
Utility-#	Summary of issue description	Summary of remedies required and alternative timeline if applicable
PG&E-21-26 Inadequate discussion on impact of Risk Spend Efficiencies (RSE) in initiative selection	PG&E does not clearly explain how RSE estimates impact its initiative selection process. RSE estimates provide a pathway to assess the relative benefit provided by the mitigation initiatives and must play an integral role in the selection process. Energy Safety understands the dynamic nature of initiative selection due to work management efficiencies, operational realities, resource constraints, and other factors. However, a clear description of how RSE estimates impact the selection process must be provided to ensure consistency across initiatives.	PG&E must provide an overview of its decision-making framework to include a clear explanation of how RSE estimates impact decision making for initiative selection. The overview must show the rankings of the relative decision-making factors (e.g., planning and execution lead times, resource constraints, etc.) and pinpoint where quantifiable risk reductions and RSE estimates are considered in the initiative selection process. Energy Safety recommends a cascading, dynamic “if-then” style flowchart to effectively demonstrate this prioritization process and satisfy this requirement.

Risk Assessment and Mapping (Section 5.1)		
Utility-# and title	Summary of issue description	Summary of remedies required and alternative timeline if applicable
PG&E-21-27 Lack of methodology to verify RSE estimates	PG&E's response to capability 41c of the 2021 Maturity Survey showed that there is no RSE verification process in place. In order to rely on RSEs to select mitigation initiatives, PG&E must have high confidence that the calculated RSEs are accurate. PG&E must develop a methodology to assess the accuracy of its RSE estimates.	PG&E must provide a detailed RSE verification plan with attainable benchmarks and timeline.
PG&E-21-28 RSE values vary across utilities	Energy Safety raises a concern that there are stark variances in RSE estimates, sometimes on several orders of magnitude, for the same initiatives calculated by different utilities. There are also significant discrepancies between the utilities' inputs and assumptions, which further support the need for exploration and alignment of these calculations.	The utilities must collaborate through a working group facilitated by Energy Safety 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 on the specifics of this working group.
Public Safety Power Shutoff (PSPS), Including Directional Vision for PSPS (Section 6)		
Utility-#	Summary of issue description	Summary of remedies required and alternative timeline if applicable

Risk Assessment and Mapping (Section 5.1)		
Utility-# and title	Summary of issue description	Summary of remedies required and alternative timeline if applicable
PG&E-21-29 PSPS targets and projections set to expire	PG&E will update its PSPS approach and the PSPS targets and projections presented in its WMP Update and Revision Notice response will become obsolete.	After PG&E updates its PSPS approach, PG&E must submit a Change Order Report describing its updated PSPS protocols and show how its new PSPS protocols affect PSPS projections and targets.

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 PG&E's 2021 WMP Update, actual 2020 mitigation costs were higher than projected costs for 2020 (the 2020 projected costs were approximately \$3.22 billion; 2020 actual costs were \$3.33 billion) in the HFTD, a 3.4% increase. In the 2021 Update, projected 2021-2022 HFTD costs were higher than projected in the 2020 WMP (the 2020 projected costs for 2021 and 2022 were \$3.18 and \$3.33 billion respectively; the 2021 projected costs for 2021 and 2022 were \$3.30 and \$3.62 billion respectively). Over the entire three-year mitigation cycle, PG&E's HFTD wildfire mitigation costs projected in its 2021 WMP Update increased to \$10.3 billion from \$9.7 billion projected in its 2020 WMP, a 6% 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. Total costs in 2021 WMP Update increased by \$584 million.

3. PG&E shifted planned budget spends in virtually every category, with the largest shifts in the following categories:
 - i. Asset Management and Inspections decreased by \$413.9M (-33.89 percent)
 - ii. Grid Design and System Hardening increased by \$768.6M (+10.31 percent)
 - iii. Vegetation Management and Inspections increased by \$103.7M (+2.41 percent)
 - iv. Data Governance increased by \$229.7M (+124.63 percent)
4. PG&E projects in its 2021 WMP Update spending 57 percent of its total three-year budget (\$5.9 billion) in grid design and system hardening, consistent with SCE and SDG&E which project spending between 55-65 percent of their budgets in this mitigation initiative category.
5. PG&E's projects in its 2021 WMP Update planned expenditure allocation across three years in the same top two mitigation categories as the other large utilities: grid design and system hardening (\$5.99 billion or 57% of its total spending), vegetation management and inspections (\$2.569 billion or 25% of total spending), and asset management and inspections (\$0.457 billion or 4.4% 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 PG&E has made sufficient progress toward maturity in the past year. The Commission and Energy Safety expect PG&E to continue to improve its maturity in all areas in order to reduce utility-related wildfire risk.

Summary of PG&E Maturity Evaluation

All of the following scores are rated 0-4.

- PG&E currently rates its own highest maturity in the areas of
 - Situational Awareness & Forecasting (1.4)
 - Grid Operations & Protocols (1.3)
 - Stakeholder Cooperation & Community Engagement (1.4).
- The two areas where PG&E anticipates the most maturity growth by the end of the 2020-22 WMP cycle are:
 - Data Governance (from 0.3 to 2.8)
 - Emergency Planning & Preparedness (from 0.4 to 3.6)
- PG&E's overall maturity ranks considerably behind both SCE and SDG&E in several significant categories:
 - Grid Design & System Hardening (0.8)
 - Asset Management & Inspections (0.8)
 - Vegetation Management & Inspections (0.7)
 - Data Governance (0.8)
 - Resource Allocation Methodology (0.8)

- Emergency Planning & Preparedness (2.0)
- PG&E does not foresee maturing five of six VM Maturity Model capabilities.³³
- PG&E rates its current Vegetation Management & Inspections maturity at only 0.7, and only foresees improvement to 1.0. By comparison, SCE foresees improving from 2.0 to 3.0 across the WMP cycle, and SDG&E foresees improvement from 2.7 to 3.3.
 - In particular, maturity thresholds of zero were entered for both current and cycle-end estimates for capability 24 (Vegetation Grow-In Mitigation) and from capability 25 (Vegetation Fall-In Mitigation). These scores reflect PG&E's reported length of time in removing vegetation from the right of way.
- PG&E estimates that its Resource Allocation Methodology maturity will increase from 0.2 to 1.5 across the WMP cycle. By comparison, SCE anticipates improvement from 0.8 to 2.7; SDG&E from 1.0 to 2.5. Much of this disparity appears to stem from PG&E's lack of methodology for verifying its risk-spend estimates.
 - For capability 40a of the 2021 Maturity Survey PG&E selected "Utility has accurate relative understanding of cost and effectiveness to produce a reliable risk spend efficiency estimate." This selection is at odds with capability 41c, for which PG&E selected "Utility does not verify RSE estimates" for the WMP cycle 2020 - 2023.
 - PG&E self-reported a low score in risk modeling automation, with slower growth than its peer utilities.³⁴ PG&E overhauled its

³³ PG&E does not foresee maturing in the following VM related capabilities: vegetation inspection cycle (capability 22), vegetation inspection effectiveness (capability 23), vegetation grow-in mitigation (capability 24), vegetation fall-in mitigation (capability 25), and QA/QC for vegetation management (capability 26). See PG&E's 2021 response to the Maturity Survey (accessed July 18, 2021): <https://energysafety.ca.gov/wp-content/uploads/docs/wmp-2021/pge-2021-survey.pdf>.

³⁴ Within the responses to the Maturity Survey, for capabilities 1 and 2, PG&E rated itself as not automated for its climate scenario modeling for both current and end of 2023 and ranked its ignition risk automation as currently not automated, expecting to move to partially automated (<50 percent) in 2023. In comparison, SCE rated itself as partially automated for climate scenario modeling for both current and end of 2023 and expects to move from partially automated to mostly automated (>50 percent) for ignition risk. SDG&E rated itself as mostly automated for climate scenario modeling for

modeling efforts between the 2020 and 2021 WMP filings. However, PG&E fails to demonstrate growth at a rate comparable to its peers in its risk modeling automation. (For additional information on this issue see Section 5.1, Risk Assessment and Mapping.)

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

8. Next Steps

In its Action Statement, Energy Safety sets forth the next steps PG&E 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, PG&E 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.

both current and end of 2023 and expects to move from partially automated to mostly automated for ignition risk.

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 Pub. Util. Code 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 sectors in order to address the

³⁵ Government Code Section 15475.

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

- PG&E'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 Energy Safety's Action Statement approving PG&E's 2021 WMP Update subject to any requirements contained therein.

³⁶ Executive Order N-33-20, see: <https://www.gov.ca.gov/wp-content/uploads/2020/03/3.19.20-attested-EO-N-33-20-COVID-19-HEALTH-ORDER.pdf> (accessed July 27, 2021).

³⁷ Letters to each electrical corporation can be found at <https://web.archive.org/web/20210520045535/https://www.cpuc.ca.gov/covid/> under the heading "Other CPUC Actions," March 27, 2020: Joint Letters to IOUs re: Essential Wildfire and PSPS Mitigation Work (accessed July 27, 2021).

13. Comments and Energy Safety's Response

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 20 days from the mailing of the draft of this Resolution. Reply comments were not accepted.

On August 9, 2021, this draft Resolution was served on the service list of R.18-10-007 and posted on the Commission's website:

<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M397/K851/397851794.PDF>

On August 30, 2021, PG&E, Mussey Grade Road Alliance (MGRA), Green Power Institute (GPI), and the Public Advocates Office at the California Public Utilities Commission (Cal Advocates), timely submitted comments on the draft PG&E Resolution and Action Statement.³⁸

PG&E Comment Summary and Response

While PG&E's comments indicated support and a willingness to participate and provide information on a number of required remedies, the utility expressed the following concerns and clarifications on Energy Safety's draft evaluation findings.³⁹

Regarding Risk Assessment and Mapping, PG&E suggested edits for clarification regarding the issue description for PG&E-21-03. PG&E states that "[the] Action Statement also does not explain the growth in risk assessment scores for the other utilities and the type of growth by these utilities that demonstrates 'adequate speed'"⁴⁰ and, therefore, proposed removing such text from the issue description. Energy Safety disagreed with the removal of this text and associated

³⁸ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 123.

³⁹ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 124.

⁴⁰ Pacific Gas and Electric Company's Comments on Draft Resolution WSD-021 and Draft Action Statement, p. 2.

edit, as PG&E still needed to demonstrate that it is on par with other utilities in this category.⁴¹ Further, Energy Safety noted that PG&E should demonstrate proper progress in maturing its risk assessment and mapping at a comparable pace to its peers.⁴²

Regarding Situational Awareness, PG&E provided edits to the remedy related to PG&E-21-07. These edits clarify that PG&E utilized DFA/EFD technology deployments in HFTD areas, not across PG&E's entire service territory.⁴³ In response, Energy Safety made changes to PG&E-21-07 to reflect PG&E's comment.⁴⁴

Regarding PG&E-21-18, PG&E requested that Energy Safety "provide to PG&E and the other electrical corporations additional information as to how [Energy Safety] calculates maturity scores so that the electrical corporations can make more informed decisions as to actions to take and goals to set to mature their VM programs."⁴⁵ Energy Safety responded that it will consider this request.⁴⁶ Regarding PG&E-21-19, PG&E requested that the issue description more accurately represent how only in "certain limited circumstances, PG&E is required to seek a judicial remedy" for VM conflicts. In response, Energy Safety amended PG&E-21-19 in recognition of PG&E's request.⁴⁷

⁴¹ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 124.

⁴² Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 124.

⁴³ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 124.

⁴⁴ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 125.

⁴⁵ Pacific Gas and Electric Company's Comments on Draft Resolution WSD-021 and Draft Action Statement p. 3

⁴⁶ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 124.

⁴⁷ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 125.

Regarding PG&E 21-21, PG&E requested that the issue description remove text that presumes PG&E has a “long-term”⁴⁸ plan for its Preventative Fire Retardant Program. Energy Safety modified PG&E-21-21 to remove the assumption.⁴⁹ Regarding PG&E 21-22, PG&E requested that Energy Safety modify item 1 to allow PG&E to use “unique identifier[s]”⁵⁰ in lieu of documenting trees using scientific nomenclature. Energy Safety responded that, if PG&E chooses to continue to use its unique identifiers in its operations, it must convert the unique identifiers into scientific nomenclature for its Quarterly Data Reports in accordance with the Energy Safety GIS Data Standard.⁵¹

Regarding PG&E-21-24, PG&E requested that Energy Safety modify the issue description given the ambiguity of how Energy Safety defined quantitative VM targets found in Table 12, pointing out that it provided for “line miles treated” for 13 of the initiatives, not six.⁵² PG&E does provide “line miles treated” for 13 vegetation management initiatives.⁵³ Energy Safety responded that it has committed to work with PG&E and other utilities to better define quantitative VM targets (in some cases, using other units besides “line miles treated”) and strive to provide additional guidance in the forthcoming 2022 WMP Guidelines.⁵⁴

MGRA Comment Summary and Response

Regarding System Hardening, MGRA provided suggested edits to better reflect potential impacts from PG&E’s press release to underground 10,000 miles moving forward. In response, Energy Safety noted that approval of this WMP Update does not include approval of PG&E’s new undergrounding plan, which

⁴⁸ Draft Evaluation of PG&E’s 2021 WMP Update, p. 80.

⁴⁹ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 125.

⁵⁰ Pacific Gas and Electric Company’s Comments on Draft Resolution WSD-021 and Draft Action Statement p. 5

⁵¹ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 125.

⁵² Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 125.

⁵³ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 125.

⁵⁴ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 125.

is still in development and was not included in PG&E's 2021 WMP Update.⁵⁵ Energy Safety also made amendments to PG&E-21-14 in response to MGRA's comments, indicating that if PG&E is moving forward with its stated intention to underground 10,000 miles, PG&E is required to provide detail in its 2022 WMP Update.⁵⁶ Further, PG&E must explain in its 2023 General Rate Case application, A.21-06-021, or other applicable proceeding, how the proposed 10,000 mile undergrounding plan is consistent with wildfire mitigation measures and related spending requests.

Regarding Resource Allocation Methodology, MGRA provided clarifying edits regarding PG&E's machine learning model. In response, Energy Safety made these changes to increase the accuracy of this section.⁵⁷

GPI Comment Summary and Response

Energy Safety noted that GPI's suggestions regarding Risk Modeling apply across all the electrical corporations and not just to PG&E.⁵⁸ For instance, GPI suggested that PG&E's responses and associated adjustments regarding PG&E-21-01 and PG&E-21-04 be discussed as part of the risk model working group.⁵⁹ GPI further recommended implementing an on-going third-party evaluation of the wildfire risk models, requiring additional information on ingress and egress route considerations from all IOUs. In response, Energy Safety noted its intent to add GPI's recommendations to the list of topics to potentially address in the cross-utility working group established by PG&E-21-02.⁶⁰

⁵⁵ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 125.

⁵⁶ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 126.

⁵⁷ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 126.

⁵⁸ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 126.

⁵⁹ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 126.

⁶⁰ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 126.

Regarding Grid Design and System Hardening, GPI recommended removing the progress statement in the bullet point “until PG&E and the utilities are able to evaluate and quantify the risk mitigation value of overlapping initiatives (e.g. VM and grid hardening deployed together).”⁶¹ In response, Energy Safety did not remove this bullet point regarding PG&E’s progress and noted that PG&E had progressed in its efforts to eliminate overlapping initiatives when and where those overlaps were not useful or intentional.⁶²

Regarding PG&E 21-22, GPI recommended Energy Safety add language to the issue description to align it with the evaluation of SCE and SDG&E’s 2021 WMP Updates.⁶³ In response, Energy Safety modified the issue description for PG&E-21-22 accordingly.⁶⁴

Cal Advocates Comment Summary and Response

Regarding System Hardening, Cal Advocates suggested revising the remedy for PG&E-21-09 to include further clarification of Energy Safety’s intended oversight of the utilities in developing a consistent approach to evaluating the long-term risk reduction and cost-effectiveness of covered conductor deployment.⁶⁵ In response, Energy Safety noted it will review the utilities’ progress on this matter based on the November 1 progress reports and evaluate the need for oversight at that time.⁶⁶

Cal Advocates made some broader recommendations, including those relating to the change order process. Energy Safety explained it will take them into

⁶¹ Comments of the Green Power Institute on Draft Resolution WSD-021. p. 5.

⁶² Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 127.

⁶³ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 127.

⁶⁴ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 127.

⁶⁵ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 127.

⁶⁶ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 127.

consideration at the appropriate time.⁶⁷ Regarding the change order process, Energy Safety noted that it will be publishing its final position shortly.⁶⁸ On October 6, 2021, Energy Safety issued its Final Change Order Process for 2021 WMP Updates.⁶⁹

The Commission acknowledges that Energy Safety has recently updated its change order process and requires that PG&E serve, via the Commission's R.18-10-007 service list, a copy of change orders for its 2021 WMP Update when it files change orders with Energy Safety.

Findings

1. AB 1054 and Commission Resolution WSD-001 require PG&E to submit a WMP Update for 2021 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.
3. The 2021 WMP Update was reviewed and acted upon in compliance with all relevant requirements of state law.
4. PG&E's 2021 WMP Update contains all the elements required by Pub. Util. Code Section 8386(c) and PG&E has satisfied the requirements of Pub. Util. Code Section 8386(c) and the 2021 WMP Guidelines.
5. Energy Safety has required PG&E to address the 29 key areas for improvement in a November 1, 2021 Progress Report to Energy Safety.
6. Energy Safety has required PG&E to address 30 additional issues and 37 associated remedies in PG&E's 2022 WMP Update.
7. In a July 21, 2021 press release, PG&E announced that it intends to underground 10,000 miles of HFTD distribution lines.

⁶⁷ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 127.

⁶⁸ Appendix A, OEIS Final Evaluation of 2021 Wildfire Mitigation Plan Update Pacific Gas & Electric, p. 127.

⁶⁹ Available at:

<https://efiling.energysafety.ca.gov/Lists/DocketLog.aspx?docketnumber=2021-WMPs> (Last accessed on October 20, 2021).

8. PG&E did not include its proposal to underground 10,000 miles of HFTD distribution lines in its 2021 WMP Update.
9. Energy Safety has required that if PG&E moves forward with its stated intention to underground 10,000 miles, it is required to provide Energy Safety of the details in its 2022 WMP Update.

THEREFORE, IT IS ORDERED THAT:

1. Energy Safety's Action Statement approving Pacific Gas and Electric Company's 2021 Wildfire Mitigation Plan Update is ratified.
2. Pacific Gas and Electric Company shall meet all commitments in its 2021 WMP Update.
3. Pacific Gas and Electric 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. Pacific Gas and Electric Company must file and serve its November 1, 2021 Progress Report and its 2022 WMP Update to its General Rate Case proceeding (A. 21-06-021).
5. Pacific Gas and Electric 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.
6. Pacific Gas and Electric 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.
7. Pacific Gas and Electric Company must explain in its 2023 General Rate Case proceeding, A.21-06-021, or other applicable proceeding, how the proposed 10,000 mile undergrounding plan is consistent with wildfire mitigation measures and related spending requests.
8. Pacific Gas and Electric Company shall submit a new comprehensive three-year Wildfire Mitigation Plan in 2023, or as otherwise directed by Office of Energy Infrastructure Safety.

9. Pacific Gas and Electric Company must adhere to all requirements set forth herein and in the Office of Energy Infrastructure Safety's Action Statement.
10. Nothing in this Resolution should be construed as approval of the costs associated with Pacific Gas and Electric Company's Wildfire Mitigation Plan mitigation efforts.
11. In accordance with Public Utilities Code Section 8386.4, Pacific Gas and Electric 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.
12. 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 October 21, 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 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 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.)