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Decision 19-05-039 May 30, 2019

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

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| Order Instituting Rulemaking to Implement Electric Utility Wildfire Mitigation Plans Pursuant to Senate Bill 901 (2018). | Rulemaking 18-10-007 |

# DECISION ON SAN DIEGO GAS & ELECTRIC COMPANY'S 2019 WILDFIRE MITIGATION PLAN PURSUANT TO SENATE BILL 901

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# DECISION ON SAN DIEGO GAS & ELECTRIC COMPANY'S 2019 WILDFIRE MITIGATION PLAN PURSUANT TO SENATE BILL 901

## Summary

Catastrophic wildfires have devastated California in recent years. The Legislature enacted Senate Bill 901 in 2018 mandating action by this Commission on Wildfire Mitigation Plans (WMPs or Plans) submitted by the electrical corporations we regulate. This is one in a series of decisions the Commission is issuing at this time to act on the 2019 Plans of the three large California investor owned utilities, the three small/multijurisdictional utilities, and two independent transmission owners. This decision acts specifically on the Wildfire Mitigation Plan of San Diego Gas & Electric Company (SDG&E).

SDG&E's Wildfire Mitigation Plan contains each of the elements required in Senate Bill 901, Public Utilities Code Section 8386(c). This decision requires SDG&E to meet certain reporting requirements, capture data, and update its next Wildfire Mitigation Plan in the areas of inspection and maintenance, vegetation management, system hardening, and situational awareness.

Along with this decision, the Commission is issuing a guidance decision that addresses issues that are common to all of electrical corporations named as respondents, including SDG&E. SDG&E is bound by both the requirements of this decision and the guidance decision.

## 1. Overview of SDG&E's Wildfire Mitigation Plan

San Diego Gas & Electric Company filed its Wildfire Mitigation Plan (WMP or Plan) on February 6, 2019. Much of SDG&E's WMP consists of an overview of work that SDG&E has already undergone to prepare and harden its system to prevent future wildfires. The Plan also provides an overview of proposed future measures SDG&E may take to prepare for and prevent future wildfires.

We find that SDG&E's WMP contains the elements listed in Public Utilities Code Section 8386(c). Where parties raised concerns about SDG&E's Plan, we discuss them below. We also impose reporting, metrics and related requirements on SDG&E to ensure it gathers appropriate data on the effectiveness of its mitigation, and shares the data with the Commission, the California Department of Forestry and Fire Prevention (CAL FIRE) and others. Finally, we require SDG&E to make several changes to its Plan in its 2020 WMP filing.

## 2. Inspection and Maintenance

### 2.1. SDG&E's Proposed Inspection and Maintenance Program

SDG&E states that it exceeds the Commission's inspection requirements. The Commission's General Order (GO) 165, a regulation prescribing inspection requirements, requires that utilities patrol their systems once a year in urban areas and in Tier 2 and 3 of the Commission-adopted High Fire-Threat Districts (HFTD). SDG&E states that while patrols outside of these areas are required every two years, SDG&E patrols all areas every year.

### 2.2. Parties' Comments – Inspection and Maintenance

Protect our Communities Foundation (POC) is concerned that there is no summary of the findings of SDG&E's recent enhanced field inspections in the WMP.[1] POC points to SDG&E's statement that the detailed inspections must specify the condition of the inspected equipment, any problems found, and a schedule date for corrective action. POC has concern that there is no information in the Plan that summarizes the results of these inspections. POC indicates that "as a result, there is no corroborating information in the Plan to inform

[1] POC Comments on WMPs, filed March 13, 2019, at 11. Citations to party comments contain the filer's abbreviated name and the page reference. Intervenor comments were all filed on March 13, 2019, and electrical corporation reply comments filed on March 22, 2019. Citations to SDG&E's WMP contain the title "SDG&E's Plan" and the page reference.

decisionmakers whether the fire mitigation measures are properly directed or need adjustment."[2]

SDG&E notes in its reply comments that a summary of the results from its inspections in its HFTD Tier 3 area is available on the CPUC's website.[3] SDG&E states that it would be redundant to include the summary of inspection results in its WMP.

### 2.3. Discussion – Inspection and Maintenance

The Commission's General Order (GO) 165, a regulation prescribing inspection requirements, contains minimum requirements. Further, GO 95, which contains infrastructure requirements for electric utilities and others, states in Rule 31.2, that "Lines shall be inspected frequently and thoroughly for the purpose of ensuring they are in good condition so as to conform with these rules…." Thus, inspections that are more frequent or thorough than specified in GO 165 do not necessarily exceed the Commission's requirements.

We agree with POC that SDG&E should report on the results of its enhanced inspection program in future WMPs. At a minimum, the results shall include the condition of the inspected equipment, any problems found, and a schedule date for corrective action.

## 3. System Hardening

### 3.1. SDG&E's Proposed System Hardening

SDG&E lists numerous system hardening measures, some of which are already in place and others that it proposes in the future. Among the twenty programs SDG&E proposes, its WMP includes Fire Risk Mitigation, Pole Risk

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[2] POC, at 12.

[3] SDG&E, at 14.

Mitigation and Engineering, and Pole Replacement and Reinforcement. The Fire Risk Mitigation (FiRM) program is 24% complete, with 7,000 poles and 350 miles of conductor replaced. SDG&E plans to continue the program, stating that there are 1,100 miles of aged high-risk conductor remaining within the HFTD in SDG&E's service territory. At the current rate of reconductoring approximately 84 miles of high-risk conductor per year, SDG&E states that it will take approximately 13 years to complete the project with existing resources and budget.[4]

SDG&E also states that based on the catastrophic 2017 and 2018 wildfire seasons in California, it plans to accelerate the replacement of older line segments by 2025. SDG&E will rebuild aged and outdated equipment, most notably aged high-risk conductors, on the basis of recent occurrences of wire-down events, outage history on a circuit, and general condition of the equipment on a line. Through this program SDG&E is also implementing covered conductor protection technology that is designed to insulate the conductor from foreign debris that could cause a spark.

SDG&E will be changing wood poles to steel poles, stating that steel poles are a more reliable construction material. SDG&E will install the poles in conjunction with the application of higher strength conductors and increased spacing between lines beyond the requirements of GO 95. According to SDG&E, these changes will decrease the likelihood of energized lines coming into contact with one another or arcing after being struck by flying debris. To date, SDG&E has hardened 19% of the HFTD by installing over 15,000 new steel poles and plans on further investment to continue to these efforts.[5]

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[4] SDG&E Plan, at 34.

[5] *Id.* at 33.

### 3.2. Parties' Comments – System Hardening

The Commission's Office of Safety Advocates (OSA) believes SDG&E's schedule for its FiRM program can be shortened. OSA recommends that SDG&E partner with manufacturers around the world to accelerate material production for covered conductor and poles, and hire or contract with quality control experts to ensure manufacturing quality. To increase the available skilled workforce SDG&E needs to complete the work, OSA recommends that SDG&E work with trade schools and develop in-house training programs to gain the skilled workforce needed to harden the remaining areas in HFTD Tiers 2 and 3.[6]

POC disputes SDG&E's (and the other investor owned utilities') claims that replacing wood poles with steel will improve resiliency. POC asserts that this costly infrastructure project does not show clear benefits and may actually make fire evacuations more difficult if the new poles are more difficult to clear from blocking ingress or egress during fire events.[7]

Additionally, California Environmental Justice Alliance (CEJA) argues that steel poles should not be utilized, stating it is not clear "whether steel poles will necessarily perform better in fire conditions which are likely to reach temperatures above 500 degrees C[entigrade]."[8]

In response to OSA's comment about the timeframe for the implementation of the SDG&E FiRM program, SDG&E clarifies that its WMP already proposes to accelerate its FiRM program to complete the program in only 7 years.

SDG&E also addresses POC's and CEJA's comments regarding the appropriate materials to deploy for pole replacement. SDG&E states that its pole

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[6] OSA, at 18.

[7] POC, at 13.

[8] CEJA, at 16.

replacement program is principally intended to install a structure that can withstand known local wind conditions experienced during an extreme Santa Ana wind event.[9]

SDG&E states that it chose steel over wood poles for two reasons. In 2003 and 2007 wood pole structures burned and the steel poles and towers that were exposed to the fires maintained structural integrity. SDG&E cautions that it is not claiming all steel poles will withstand all fires, just that they are more resilient to fires than wood. The second reason is that steel poles have less variability in design strength than wood poles.[10]

### 3.3. Discussion – System Hardening

Since SDG&E agrees with OSA to work with manufacturers to accelerate the production of new poles and covered conductors and conduct quality control on the production of this equipment, we make such work a requirement of this decision.

SDG&E may proceed with its proposed FiRM plan to replace wood poles with steel poles in 2019, but shall base its decision for pole replacements on reasonable criteria and consider ingress and egress as part of the decision. MGRA's comments on the proposed decision challenge the finding that SDG&E has made a showing that steel poles are more resilient should a fire occur. Because the term "resilient" refers to more than one benefit (as SDG&E's own two reasons noted above demonstrate), we eliminate that sentence, but leave the rest of the discussion.[11] SDG&E shall continue to assess the best materials to use for

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[9] SDG&E, at 12.

[10] *Id.*

[11] *See* MGRA Comments on the Proposed Decisions on 2019 Wildfire Mitigation Plans, Appendix A § 1.

poles in its HFTD, and in future WMPs shall continue to make a showing that its selections for pole replacements are reasonable. We also support POC's comment that SDG&E should consider ingress and egress during a wildfire event in future WMPs when it discusses pole replacement.

## 4. Vegetation Management Plan

### 4.1. SDG&E's Proposed Vegetation Management Plan

SDG&E has a vegetation management program aimed at keeping trees and brush clear of electric power lines. SDG&E maintains a database of trees located close to electric infrastructure; regularly patrols, prunes, and identifies and removes hazardous trees and replaces the trees with the "right tree at the right place;" conducts pole maintenance with pole brushing (that is, clearing the area around poles of vegetation); and trains first responders in electrical and fire awareness.

SDG&E states that it places importance on the HFTD by performing more frequent inspections and expanding its tree-trim scope there. SDG&E proposes to increase post-trim clearances to 25 feet within the HFTD, where feasible, and to widen the scope of inspection to include trees outside of the right-of-way that could pose a fall-in risk to the line. SDG&E acknowledges that increasing its tree trim scope to a 25-foot post-trim clearance is a "significant increase" from its current distance of 12 feet.[12]

SDG&E states that it has historically used a contractor workforce to perform the vegetation management program activities of tree pre-inspection, tree pruning and removal, pole brushing, and quality assurance.

[12] SDG&E Plan, at 43-44.

### 4.2. Parties' Comments – Vegetation Management

POC recommends that SDG&E conduct more rigorous patrolling and inspection in the transmission and distribution rights-of-way in the HFTD rather than increasing the pruning of trees from 12 feet, as is the current standard, to25 feet.[13]

Regarding the 25-foot post-trim clearance, The Utility Reform Network (TURN) asserts that "SDG&E has not justified its expanded clearance requirement. TURN also states there is insufficient evidence to justify healthy tree removal, especially in areas where covered conductor is being installed.[14]

Mussey Grade Road Alliance (MGRA) asks that SDG&E "restrict its 25-foot trim radius to fast-growing species and those at statistically higher risk of causing outages, such as eucalyptus and sycamores. It should also accelerate covered conductor programs in areas with particular environmental, cultural, or aesthetic sensitivity as a substitute for the expanded trim radius."[15]

POC asserts that SDG&E provides no information on why it relies on contractors to carry out what, if performed inadequately, has potentially catastrophic implications for impacted customers in the HFTD, and for SDG&E's financial performance as resources are used to pay fire claims. POC argues that SDG&E provides no information on why contractors are used instead of SDG&E employees for this function, or whether the contractors have performed as well as full-time employees.[16] POC asserts that the Commission needs more independent

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[13] *Id.* at 19.

[14] TURN, at 23.

[15] Mussey Grade, at 22.

[16] POC, at 17.

auditors in the field patrolling and inspecting to ensure SDG&E and the other IOUs are following their WMPs.[17]

SDG&E provides additional justification for its 25-foot post-trim clearance proposal.

> SDG&E seeks to increase its post-trim clearance to 25 feet within the HFTD where feasible and where the lateral and overhead branches could impact the power lines by branch movement due to wind and/or branch breakout due to structural defect. This does not mean that SDG&E will arbitrarily remove thousands of trees, but, rather, it will target species with a known propensity for failure and will conduct its trims with knowledge of local conditions. SDG&E will obtain greater clearances when pruning by applying correct industry standards in the effort to direct tree growth away from the lines. Where applicable, SDG&E will replace removed trees with compatible species.[18]

### 4.3. Discussion – Vegetation Management

The 25-foot post-trim clearance is more than double the recommended post-trim clearance in GO 95, Appendix E (12 feet in the HFTD for lines operating at 72kV or less – typical distribution and sub-transmission line voltages).

SDG&E is clear that it will not be implementing the 25-foot post-trim clearance in the entirety of its HFTD; however, it will be doing so in the portions of the HFTD where the increased post-trim clearance is necessary and feasible. In SDG&E's next WMP, it shall propose, in detail, guidelines for where a 25-footpost-trim clearance for vegetation management is both feasible and necessary. If SDG&E plans to create a 25-foot clearance during this WMP cycle, it may only do so if such a practice is supported by scientific evidence or other data showing that such clearance will reduce risk under wildfire conditions.

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[17] *Id.* at 19.

[18] SDG&E, at 13.

## 5. De-Energization (also known as Public Safety Power Shut-Off or PSPS)

### 5.1. WMP Proposal – De-Energization

SDG&E asserts that its obligation to operate its system safely requires it to de-energize circuits (*i.e.*, turn off power) when necessary to protect public safety. SDG&E indicates it is "statutorily authorized to do so under Pub. Util. Code §§ 399.2(a) and 451, consistent with D.12-04-024 and Commission Resolution ESRB-8."[19]

SDG&E states in its Plan that it has received requests from residential customers impacted by PSPS events for back-up generation for their homes. Customers explain that they cannot afford the expense of such generation. SDG&E is considering a Generator Grant Program, administered by a neutral third party, to grant residential customers the funding for portable generation during PSPS events. SDG&E indicates this program is currently in the conceptual phase and carries with it the need to identify all aspects of cost recovery.

### 5.2. Party Comments – De-Energization

POC states that SDG&E fails to evaluate the potential fire hazard of hundreds or thousands of customers starting gasoline-fueled back-up generators outside under high wind, red flag conditions in the HFTD. POC suggests that SDG&E and other IOUs should instead focus on a renewable technologies grant program.[20]

SDG&E did not respond in reply comments to POC's assertion that gasoline-fueled back-up generators could pose an additional fire hazard. However, SDG&E did state that "alternative technologies do not mitigate wildfire

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[19] SDG&E Plan, at 54.

[20] POC, at 20.

risk; system hardening does."[21] It should be clear, however, that SDG&E did not state in its Plan that the fuel source it proposes for the Generator Grant Program would be gasoline. It also included the notion that this Generator Grant Program is currently in the conceptualization phase.

### 5.3. Discussion – De-Energization

POC's comments assert that there may be value in alternatives to fossil technologies being used for backup power sources during PSPS events. However, at this point, SDG&E did not indicate whether or not it will consider fuel sources that are alternative to fossil fuel for this program. As SDG&E moves this program from conceptualization to proposal and implementation, it should consider all possible fuel sources that are available, including renewables potentially coupled with storage.

Further, if SDG&E does move forward with a Generator Grant Program, it must make a showing to the Commission that it ensures that the Generator Grant Program will not create additional significant risk for fire threat.

## 6. Emergency Preparedness, Outreach and Response

### 6.1. WMP Emergency Preparedness, Outreach and Response Plan

SDG&E states that in advance of the peak of fire season, it will conduct ongoing education campaigns in five languages (English, Spanish, Chinese, Filipino, Vietnamese) on emergency preparedness in the event of wildfire, natural disaster or a major outage. This education campaign will also encourage customers to sign up for outage notifications, with the goal of raising awareness about SDG&E's de-energization procedures.[22]

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[21] SDG&E, at 5.

[22] SDG&E Plan, at 55.

However, SDG&E also states that "[n]otifications during wildfires are currently confined to English due to the language and translation limitations of SDG&E's current notification system. Messages in this system are also customized and recorded shortly before each event in many cases, and as such, providing additional in-language notifications in a timely manner [is] currently not feasible."[23]

### 6.2. Party Comments – Emergency Preparedness, Outreach and Response

CEJA asserts that SB 901 requires that outreach occur "during" a fire in five languages. CEJA states that while it may be difficult to translate information during a wildfire, linguistically isolated people are most likely to need the information during a wildfire event.[24] CEJA points out the component of SDG&E's WMP that indicates that SDG&E "does not have records related to the exact languages that its customers prefer." CEJA expresses concern that SDG&E is not in compliance with the statute.

SDG&E states in reply, that "SDG&E is also examining its processes and investigating the feasibility of translating and distributing in-language notifications during events, something it does not currently have the ability to do."[25]

### 6.3. Discussion – Emergency Preparedness, Outreach and Response

SB 901 contains several provisions related to an electrical corporation's emergency preparedness, response, and communications before, during and after a wildfire.

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[23] *Id.* at 62.

[24] CEJA, at 25-26.

[25] SDG&E, at 17.

Public Utilities Code Sections 8386(c)(13), (16), (17), and 768.6 require a WMP to contain emergency preparedness and response plans that comply with mandates involving communications with cities and counties, preparation for and restoration of service after a wildfire, and public outreach. Specifically, the statute requires the WMP sponsor to share its emergency preparedness and response plans with relevant cities and counties to provide input and feedback, and update and improve the plans at least every two years. It also requires the WMP to list persons responsible for plan execution, establish procedures for notifying impacted customers, establish protocols for restoration of service, and create a workforce mobilization plan for its employees before and after a wildfire.

The concerns of CEJA have merit. Public Utilities Code Section 8386(c)(16)(B) states that the WMPs must contain:

> 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.

SDG&E has an obligation to ensure that it is providing public awareness before, during, and after a wildfire in English, Spanish, and the three most common languages in the state other than English and Spanish.

Under Section 8386, SDG&E is required to communicate its WMP's emergency preparedness outreach and response in specific languages. SDG&E's WMP does not comply with this requirement.

Specifically, Public Utilities Code Section 8386(c)(16)(B) mandates that SDG&E's plan for community outreach and public awareness before, during, and after a wildfire be communicated 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. Taking official notice of United States Census data pursuant to Rule 13.9 of the commission's Rules of Practice and Procedure, the Commission determines that the following languages are the three most common languages used in the state other than English or Spanish: Chinese (including Cantonese, Mandarin, and other Chinese languages), Tagalog, and Vietnamese. In addition to those languages, SDG&E shall provide outreach in Korean and Russian, where those languages are prevalent in the service territory.

## 7. Support to Utility Customers During and After a Wildfire

### 7.1. SDG&E Proposal – Support to Utility Customers During and After a Wildfire

In R.18-03-011, the Commission adopted certain customer protections available in emergencies. The protections apply in the event the Governor of California declares a state of emergency because a disaster has either resulted in the loss or disruption of the delivery or receipt of utility service and/or resulted in the degradation of the quality of utility service. SDG&E provides emergency residential and non-residential customer protections and available communications for wildfire victims, as ordered by the CPUC. Citing Resolution M-4835, SDG&E outlines its available protections and communications, including outage reporting, support for low-income and medical baseline customers, billing adjustments, deposit waivers, extended payment plans, suspension of disconnection and nonpayment fees, and access to utility representatives.

These protections remain in effect for one year from the date of the disaster event, as specified in the Governor's state of emergency proclamation. Customer protection programs offered comply with Commission regulations and requirements, including, but not limited to, Resolution M-4833, Resolution M-4835, and D.18-08-004.

### 7.2. Party Comments – Support to Utility Customers During and After a Wildfire

CEJA requests that SDG&E include explicit provisions in its Plan to stop estimated energy usage for billing when a home or business is unoccupied due to a disaster.[26] CEJA recommends that disconnections should be suspended, and payment arrangements extended for customers whose employment was impacted by wildfires.

SDG&E addresses CEJA's comment regarding a requirement for SDG&E to stop estimated energy usage billing when a home or business is unoccupied due to a disaster. SDG&E notes that it can adjust usage when homes and/or businesses are unoccupied but that there are practical implications to this provision. It asks the Commission to limit estimated billing to areas where a mandatory evacuation order has been declared, and only require it the days and hours of the evacuation notice. "Given that the IOUs bill for an entire bill period, approximately 30 days, other days outside the evacuation order period could be estimated."[27]

SDG&E adds it is open to working with customers during wildfire events and that "[c]ustomers may set up payment arrangements using SDG&E's self-service channels or by contacting SDG&E's Call Center. SDG&E will work with customers that are impacted by wildfires to establish an agreeable payment arrangement."[28]

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[26] CEJA, at 21.

[27] SDG&E reply, at 17

[28] SDG&E, at 18.

### 7.3. Discussion – Support to Utility Customers During and After a Wildfire

While SDG&E did not specifically address R.18-03-011, SDG&E is obligated to comply with the protections afforded in declared emergencies adopted in that proceeding. Further, SB 901 contains several provisions related to an electrical corporation's emergency preparedness, response and communications before, during and after a wildfire.

Public Utilities Code Section 8386(c)(18) requires a WMP to comply with the requirements we adopted in D.18-08-004 (R.18-03-011) requiring emergency customer support during and after a wildfire. The requirements are: (a) support for low-income customers; (b) billing adjustments; (c) deposit waivers; (d) extended payment plans; (e) suspension of disconnection and nonpayment fees; (f) repair processing and timing; (g) access to utility representatives; and (h) access to outage reporting and emergency communications.

D.18-08-004 also requires an electric utility to discontinue billing and prorate any monthly access charge or minimum charges to the customer after a wildfire. Additionally, when implementing support for low-income residential customers, D.18-08-004 also requires an IOU to contact all community outreach contractors and community-based organizations who assist in enrolling hard-to-reach low-income customers into CARE after a wildfire (or other listed emergency). That decision also adopted a method for IOUs to track expenses related to the customer protections.

Additionally, we agree with CEJA that SDG&E should include explicit provisions in its Plan to stop or more reasonably estimate energy usage for billing when a home or business is unoccupied due to a disaster. We also agree that disconnections should be suspended and payment arrangements extended for

customers whose employment was impacted by wildfires. Consistent with Public Utilities Code Section 8386(c)(18), SDG&E shall address this in its next WMP. This direction is consistent with D.18-08-004:

> It is reasonable to require all of the electric and gas corporations under this Commission's jurisdiction… within 15 days of the Governor's state of emergency proclamation demonstrating compliance with the protections in Resolutions M-4833 and M-4835… (b) Stop estimated usage for billing attributed to the time period when the home/unit was unoccupied as result of the emergency… [and] (f) Suspend disconnection for nonpayment and associated fees, waive deposit and late fee requirements for residential customers.[29] SDG&E is directed to comply with each of the requirements set forth above.

## 8. Metrics, Monitoring, and Reporting

A key concern in all utilities' WMPs, including SDG&E's, is that the "metrics" are based on how much work the utility will perform (*e.g.*, how many trees it will cut, how many miles of conductor it will install), rather than on the results of this work (*e.g.*, reduction in wildfires or other events that cause wildfires).

### 8.1. SDG&E Proposal – Metrics, Monitoring and Reporting

The metrics SDG&E proposes are the following:

**Table 1: SDG&E's Proposed Metrics in its 2019 Wildfire Mitigation Plan[30]**

| Topic | Metric | Target |
|---|---|---|
| **Operational and Engineering Practices** | Percentage of reclosers that protect the HFTD that are disabled during elevated or extreme Fire Potential Index (FPI) conditions. | 95-100%. |
| **Inspection Plan** | Percentage of inspections completed pursuant to GO 165 within a 12-month period. | 95-100%. |

[29] D.18-08-004, at 17-18.

[30] SDG&E Plan, Ch. 6.

| | | |
|---|---|---|
| **System Hardening Plan** | Number of miles system hardened in the HFTD. | 90-100%. |
| **Vegetation Management Plan** | Percentage of vegetation inspections completed in the HFTD. | 95-100%. |
| **Public Safety Power Shutoff Protocols** | Percentage of PSPS impacted metered customers notified of the potential PSPS in advance. | 90-100%. |
| **Situational Awareness and Determination of Local Conditions** | Percentage of weather stations operational during Red Flag Warning (RFW) or extreme FPI. | 95-100%. |
| **Situational Awareness Tools** | Percentage of business days annually that the FPI is published and percentage of days annually that the WRRM-Ops model is functional during elevated or extreme FPI Conditions. | 95-100%. |
| **Emergency Management** | Percentage of SDG&E's EOC responders that are trained in ICS. | 95-100%. |
| **Disaster and Emergency Preparedness** | Number of internal and external emergency response preparedness trainings conducted and percentage of fire agencies in the SDG&E service territory that receive hazard training, including fire. | 95-100%. |

SDG&E also points to previously developed metrics to evaluate its Fire Prevention Plan performance, "CPUC Reportable Ignitions and Transmission and Distribution Wires Down."

### 8.2. Party Comments – Metrics, Monitoring and Reporting

A common criticism in the parties' comments on the utilities' proposed performance metrics is that the proposed metrics do not measure outcomes. Parties propose that metrics should, among other things, measure "number of deaths or injuries resulting from utility-caused wildfires" or "number of catastrophic wildfires or acres burned resulting from utility-caused wildfires."

TURN argues that the utilities' proposed metrics cannot adequately assess their progress in preventing wildfires. TURN recommends that the "indicators"

proposed by utilities be used as a metric instead. In addition, William B. Abrams (Abrams) and the Energy Producers and Users Coalition (EPUC) argue that the currently proposed metrics do not meet the burden of proof needed for ratepayer funding.

Cal Advocates proposes that the metrics, in addition to incorporating outcome-based goals, should also consider the level of risk reduced, cost of implementation, risk-spend efficiency, and the alternative strategies considered. OSA recommends that the utility should also track the number of wires down, the number of wires that remain energized, and response time to wires down. EPUC argues that the utilities' proposed metrics should meet the three guideposts provided by SB 901, which are metrics that assess harm (*e.g.*, total acres burned, or injuries, fatalities, and property damage caused by wildfires), metrics that assess the utility's response to issues (*e.g.*, how fast is a line de-energized after an ignition, how fast is a community notified after an ignition), and metrics that assess the effectiveness of mitigation measures and outreach (*e.g.,* the percentage of Tier 2 and 3 customers contacted about potential wildfire and de-energization risks, the effectiveness of inspections in identifying equipment prone to failure). Also, Small Business Utility Advocates (SBUA) recommends that the metrics measure the effects of the Plan on small business, such as the effectiveness of outreach to small business customers or the number of small businesses damaged or destroyed by utility-caused wildfires.

In its reply, SDG&E explains it believes the metrics it has set forth are appropriate to evaluate its Plan's performance. SDG&E believes that its proposed metrics, coupled with the previously identified metrics (CPUC Reportable Ignitions and Transmission and Distribution Wires Down), will enable the

establishment of a causal relationship between a specific mitigation measure and an anticipated/intended outcome.

SDG&E also states that metrics used to determine compliance and measure WMP performance is an area for continuous improvement. SDG&E disagrees that the metrics should be outcome-based.

> SDG&E's performance can determine how much system hardening it achieves as compared to plan; however, SDG&E cannot control how many structures or acres a fire may burn. These outcomes are driven [by] many external factors such as fire suppression activities, priorities set by the fire agencies, whether prescribed burns or forest thinning has occurred, whether defensible space has been enforced, whether mandatory evacuations were ordered, weather conditions, and so on.[31]

### 8.3. Discussion – Metrics, Monitoring and Reporting

A great majority of the "metrics" proposed in SDG&E's WMP are better characterized as program execution targets. SDG&E's focus may be linked to its assertion that SB 901's WMP provisions create "compliance" obligations. Using this reasoning, if the utility inspects a particular number of miles of vegetation or replaces the number of miles of conductor it says it will, it may claim it "complied" with the Commission's requirements.

Metrics are not intended to support the Commission's ability to determine whether the utility is in compliance with the WMP, but rather to inform the Commission on whether the programs proposed in the WMP are effective at minimizing the risk of catastrophic wildfire from electrical lines and equipment. To that end, SDG&E metrics must identify and track trends associated with utility-caused wildfires.

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[31] SDG&E, at 19.

SDG&E's metrics portion of its WMP should be focused on outcomes – that is, on measuring the amount by which the mitigation implemented reduces the risk of its electrical lines and equipment causing a catastrophic wildfire. The aim of the WMP portion of SB 901 is clear: "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." Pub. Util. Code § 8386(a). Every aspect of the Plan must be analyzed with this goal in mind.

Metrics are required under the statute to be used "to evaluate the plan's performance." Pub. Util. Code § 8386(c)(4). That is, metrics are to be used to evaluate whether the plan actually reduces the risk of catastrophic wildfire. Thus, it is not enough to measure how many trees are trimmed or miles of conductor are replaced. Rather, metrics must measure whether this work had an impact on the utility's wildfire risk.

Even if the risk elements associated with fire spread potential are not directly in the control of utilities, it is imperative to track data showing when and where ignitions are occurring to properly evaluate the risk of catastrophic wildfires posed by electrical lines and equipment. Accordingly, metrics that track the number of elevated fire danger days (whether Red Flag Warnings (RFWs), Fire Potential Index (FPI) ratings, or National Fire Danger Rating System (NFDRS) data are used as the indicator), and the number and types of potential ignition events (*e.g.*, wires down, blown fuses, vegetation contact) that occur on those days are imperative. Such metrics can provide the type of insight needed to better understand and properly analyze the risk of catastrophic fires caused by electrical lines and equipment.

Metrics that would be useful and informative, and that one or more IOU proposed in a WMP, include those listed below. This decision requires SDG&E to work with the Commission's Safety and Enforcement Division (SED) on a template for reporting each of these data points in a format that is consistent with other IOUs:

- Wire Down Events Within HFTD Areas;
  - The number of wires down events within HFTD areas, when the FPI is rated as very-high or higher.
- Equipment Caused Ignitions in HFTD Areas;
- Vegetation Caused Outages in HFTD Areas;
  - The number of vegetation caused outages within HFTD areas, when the FPI is rated as very-high or higher.
- Vegetation Caused Ignitions in HFTD Areas;
- Faults on Circuits in HFTD;
  - Counts of all faults on HFTD circuits associated with contact from object or equipment failures.
- Number of Conventional Blown Fuse Events; and
- Number of National Fire Danger Rating System (NFDRS)[32] "Very Dry" and "Dry" Days.

Finally, TURN pointed out in comments that language from the guidance decision applicable to the large IOUs about our General Rate Case (GRC) process was inadvertently omitted from the SDG&E proposed decision,[33] and we add it to this decision. Our recent decision in the Safety Model Assessment Proceeding (S MAP)/GRC context adopted an approach or tool called Multi-Attribute Value Function (MAVF) that provides a single value to measure the combined effects of

[32] NFDRS is used in the United States to provide a measure of the relative seriousness of burning conditions and threat of fire.

[33] TURN comments on PD, at 6.

each mitigation measure on a certain risk event. The process involves performing risk assessments and ranking risks using safety, reliability, and other attributes. This approach provides a means to compare the programs against each other for effectiveness, especially when multiple overlapping programs are proposed for the same assets and intended to mitigate the same risk event (*e.g.*, increased vegetation clearing coupled with installing covered conductor and expanded de-energization practices). Including such analysis in the WMPs would provide the Commission a transparent and effective way to balance overlapping programs in the WMP and assess which programs are needed and effective. The process of conducting these analyses may allow stakeholders to better understand the cost effectiveness of proposed mitigations.

Future large IOU WMP filings must provide the elements necessary to evaluate mitigation programs and strategies using a singular value to measure the combined effects of various mitigation measures, as now required in S-MAP and facilitated through MAVF.

## 9. Should SDG&E's 2019 Wildfire Mitigation Plan be Approved?

SDG&E's WMP contains each of the elements required by Public Utilities Code Section 8386(c). SDG&E shall comply with the reporting, metrics, advice letter, and other follow-up requirements set forth in this decision in order to address concerns with its existing WMP.

## 10. Comments on Proposed Decision

The proposed decisions of ALJ Sarah R. Thomas and ALJ Peter V. Allen in this matter were mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. In accordance with the May 7, 2019 ALJ ruling, parties filed a single set of comments on the five decisions on electrical

corporations' individual WMPs. The following parties filed comments addressing one or more of the WMP proposed decisions: RCRC on May 13, 2019; CEJA on May 16,2019; and William B. Abrams, Bear Valley Electric Service (BVES), City of Malibu, City of Placerville, the Joint Local Governments (County of Mendocino, County of Napa, County of Sonoma, and City of Santa Rosa), East Bay Municipal Utility District (EBMUD), GPI, Horizon West Transmission LLC, Liberty Utilities LLC, MGRA, Pacific Gas and Electric Company (PG&E), PacifiCorp, POC, CalPA, SDG&E, SBUA, Southern California Edison (SCE), and TURN on May 20, 2019. Reply comments were filed on May 28, 2019 by BVES, CEJA, MGRA, PG&E, POC, SDG&E, SBUA, SCE, and TURN. We have made changes throughout this decision reflecting party comments.

## 11. Assignment of Proceeding

Michael Picker is the assigned Commissioner and Sarah R. Thomas and Peter V. Allen are the assigned Administrative Law Judges in this proceeding.

## Findings of Fact

1. SDG&E provides a summary of its detailed inspections in the HFTD Tier 3 area that the Commission provides access to on its website.

2. It is possible that SDG&E can act to accelerate the construction of materials to expedite the deployment of steel poles and covered conductors in its FiRM program.

3. There are circumstances where a 25-foot post-trim clearance is feasible and necessary.

4. Gasoline-fueled back-up generators may not be the only back-up generation technology and fuel source for generation that should be employed during a PSPS event.

5. It is possible that gasoline-fueled back-up generators will create additional fire risk.

6. United States Census data shows that the top three primary languages used in California other than English and Spanish are Chinese (including Cantonese, Mandarin, and other Chinese languages), Tagalog, and Vietnamese.

7. SDG&E is able to ensure that it stops estimated energy usage for billing when a home or business is unoccupied due to a disaster and that disconnections are suspended and payment arrangements are extended for customers whose employment was impacted by wildfires.

8. It is more impactful for SDG&E to develop, monitor, and report on metrics that are not focused on inputs but rather outcomes, measuring the effectiveness by which the mitigation implemented reduces the risk of its electrical lines and equipment causing a catastrophic wildfire.

## Conclusions of Law

1. The Commission mandates that SDG&E conduct annual patrols and detailed inspections at a minimum every 3-5 years in the HFTD Tier 3 area regarding the condition of inspected equipment, any problems found, and a schedule date for corrective action.

2. Providing a summary of its inspections in the HFTD in the WMP would better inform decisionmakers about whether the fire mitigation measures proposed in the WMPs are properly directed or need adjustment.

3. The Commission's GO 165, a regulation prescribing inspection requirements, contains minimum requirements.

4. GO 95, which contains infrastructure requirements for electric utilities and others, states in Rule 31.2 that "Lines shall be inspected frequently and

thoroughly for the purpose of ensuring they are in good condition so as to conform with these rules…."

5. SDG&E should be allowed to proceed with its proposed FiRM plan to replace wood poles with steel poles in during this WMP cycle, but should base its decisions for pole replacements on reasonable criteria and consider ingress and egress as part of the decision.

6. SDG&E should continue to assess the best materials to use for poles in HFTD areas, and in future WMPs, should documents that its selection for pole replacements are reasonable and consider ingress and egress as part of the decision.

7. SDG&E may implement a 25-foot post-trim clearance during this WMP cycle where necessary and feasible if such a practice is supported by scientific evidence or other data showing that such clearance will reduce risk under wildfire conditions.

8. In SDG&E's next WMP, it should propose detailed guidelines for where a 25-foot post-trim clearance for vegetation management is both necessary and feasible.

9. Prior to implementing a generator grant program, SDG&E should consider technologies other than fossil generation that could provide benefits with safer and cleaner operation.

10. Official notice is taken, pursuant to Rule 13.9 of the Commission's Rules of Practice and Procedure, that United States Census data shows that the top three primary languages used in California other than English and Spanish are Chinese (including Cantonese, Mandarin, and other Chinese languages), Tagalog, and Vietnamese.

11. SDG&E should communicate its WMP's emergency preparedness outreach and response in English, Spanish, Chinese (including Cantonese, Mandarin, and other Chinese languages), Tagalog, and Vietnamese, as well as Korean and Russian where the latter languages are prevalent in its service territory.

12. SDG&E should give the following customer support to utility customers affected by a wildfire, during and after a wildfire: (a) support for low-income customers; (b) billing adjustments; (c) deposit waivers; (d) extended payment plans; (e) suspension of disconnection and nonpayment fees; (f) repair processing and timing; (g) access to utility representatives; and (h) access to outage reporting and emergency communications.

13. SDG&E's 2020 WMP should use the quantitative risk assessment framework adopted in D.18-12-014 in the Safety Model Assessment Proceeding to evaluate and compare the cost effectiveness of each of the mitigations that were under consideration in developing the WMP. The WMP should provide the risk spend efficiency (RSE) results of the quantitative risk analysis and include an explanation of the Multi-Attribute Variable Framework (MAVF) that was used and how it was constructed.

14. SDG&E should include explicit provisions in its next WMP to ensure that it stops estimated energy usage for billing when a home or business is unoccupied due to a disaster, and that disconnections will be suspended and payment arrangements extended for customers whose employment was impacted by wildfires.

15. The metrics portion of SDG&E's future WMPs should be focused on outcomes, measuring the effectiveness by which the mitigation implemented reduces the risk of its electrical lines and equipment causing a catastrophic wildfire.

16. SDG&E is not allowed to seek or obtain double recovery of the costs tracked in its Pub. Util. Code § 8386(e) memorandum account in any other account, including the memorandum account described in Pub. Util. Code § 8386(j), which the utility established with the Commission's Energy Division's approval. Pub. Util. Code § 8386(j) describes this account as follows: "(j) Each electrical corporation shall establish a memorandum account to track costs incurred for fire risk mitigation that are not otherwise covered in the electrical corporation's revenue requirements."

## O R D E R

**IT IS ORDERED** that:

1. In San Diego Gas & Electric Company's next Wildfire Mitigation Plan, it shall include a summary of the results of the detailed inspections it conducts in the High Fire Threat District Tier 3 area of its service territory.
2. San Diego Gas & Electric Company may proceed with its proposed Fire Risk Mitigation plan to replace wood poles with steel poles in this Wildfire Mitigation Plan cycle, but shall base its decisions for pole replacements on reasonable criteria and consider ingress and egress impacts as part of the decision.
3. San Diego Gas & Electric Company shall continue to assess the best materials to use for poles in High Fire-Threat District areas, and in future Wildfire Mitigation Plans shall document that its selections for pole replacements are reasonable and consider ingress and egress impacts as part of the decision.
4. San Diego Gas & Electric Company shall work with manufacturers to accelerate the production of new poles and covered conductors and conduct quality control on the production of this equipment.
5. San Diego Gas & Electric Company may implement a 25-foot post-trim clearance where necessary and feasible if such a practice is supported by scientific

evidence or other data showing that such clearance will reduce risk under wildfire conditions.

6. In San Diego Gas & Electric Company's next Wildfire Mitigation Plan, it shall propose detailed guidelines for where a 25-foot post-trim clearance for vegetation management is both feasible and necessary.

7. Prior to implementing a generator grant program, San Diego Gas & Electric Company shall consider technologies other than fossil generation that could provide benefits with safer and cleaner operation.

8. The metrics portion of San Diego Gas & Electric Company's future Wildfire Mitigation Plans shall be focused on outcomes, measuring the effectiveness by which the mitigation implemented reduces the risk of its electrical lines and equipment causing a catastrophic wildfire.

9. Nothing in this decision changes the notice, communication, outreach or other requirements of the Commission's de-energization decision issued concurrently in Rulemaking 18-12-005.

10. San Diego Gas & Electric shall give the following customer support to utility customers affected by a wildfire, during, and after a wildfire: (a) support for low-income customers; (b) billing adjustments; (c) deposit waivers; (d) extended payment plans; (e) suspension of disconnection and nonpayment fees; (f) repair processing and timing; (g) access to utility representatives; and (h) access to outage reporting and emergency communications.

11. San Diego Gas & Electric shall communicate its plan for community outreach and public awareness before, during, and after in English, Spanish, Chinese (including Cantonese, Mandarin, and other Chinese languages), Tagalog, and Vietnamese, as well as Korean and Russian where those languages are prevalent in the service territory.

12. San Diego Gas & Electric's 2020 Wildfire Mitigation Plan shall use the quantitative risk assessment framework adopted in Decision 18-12-014 in the Safety Model Assessment Proceeding to evaluate and compare the cost effectiveness of each of the mitigations that were under consideration in developing the Wildfire Mitigation Plan. The Wildfire Mitigation Plan shall provide the risk spend efficiency results of the quantitative risk analysis and include an explanation of the Multi-Attribute Variable Framework used and how it was constructed.

13. San Diego Gas & Electric is authorized to open the memorandum account described in Public Utilities Code Section 8386(e), which provides: "At the time it approves each plan, the commission shall authorize the utility to establish a memorandum account to track costs incurred to implement the plan."

14. San Diego Gas & Electric may not seek or obtain double recovery of the costs tracked in the Section 8386(e) account authorized in the previous paragraph, and the costs tracked in the memorandum account described in Public Utilities Code Section 8386(j), which the utility established with the Commission's Energy Division's approval. The Section 8386(j) account is described in Senate Bill 901 as follows: "(j) Each electrical corporation shall establish a memorandum account to track costs incurred for fire risk mitigation that are not otherwise covered in the electrical corporation's revenue requirements."

15. Nothing in this decision relieves San Diego Gas & Electric of the requirement to conform all of the activities described in its Wildfire Mitigation Plan to existing law, regulation and Commission General Orders.

16. This proceeding remains open.

This order is effective today.

Dated May 30, 2019, at San Francisco, California.

MICHAEL PICKER
President
LIANE M. RANDOLPH
MARTHA GUZMAN ACEVES
CLIFFORD RECHTSCHAFFEN
GENEVIEVE SHIROMA
Commissioners

## Appendix A – List of requirements in SB 901 for WMPs

8386.

(c) The wildfire mitigation plan shall include:

(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 well as protocols related to mitigating the public safety impacts of those protocols, including impacts on critical first responders and on health and communication infrastructure.

(7) Appropriate and feasible procedures for notifying a customer who may be impacted by the deenergizing of electrical lines. The procedures shall consider th need the notify, as a priority, critical first responders, health care facilities, and operators of telecommunications infrastructure.

(8) Plans for vegetation management.

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

(10) 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 and 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.

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

(12) 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, insulation of distribution wires, and pole replacement.

(13) A showing that the utility has an adequate 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 utility.

(14) 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.

(15) 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.

(16) 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.

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

(18) 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.

(19) 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.

(20) Any other information that the commission may require.

**(END OF APPENDIX A)**

## Appendix B – Cross Reference SB 901-Wildfire Mitigation Plans

CROSS REFERENCE TABLE 1
Using SB 901 Organization

| Code Reference §8386(c) | Wildfire Mitigation Plan section |
|---|---|
| (1) An accounting of the responsibilities of persons responsible for executing the plan. | VI.A. |
| (2) The objectives of the plan. | I. |
| (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. | II. |
| (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. | VI.B. |
| (5) A discussion of how the application of previously identified metrics to previous plan performances has informed the plan. | VI.C. |
| (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 and on health and communication infrastructure. | IV.A. |
| (7) Appropriate and feasible procedures for notifying a customer who may be impacted by the deenergizing of electrical lines. The procedures shall consider th need the notify, as a priority, critical first responders, health care facilities, and operators of telecommunications infrastructure. | IV.F. |
| (8) Plans for vegetation management. | IV.D. |
| (9) Plans for inspections of the electrical corporation's electrical infrastructure. | IV.B. |

| Code Reference §8386(c) | Wildfire Mitigation Plan section |
|---|---|
| (10) 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 and Risk Assessment Mitigation Phase filings. The list shall include, but not be limited to, both of the following:<br>(A) Risks and risk drivers associated with design, construction, operations, and maintenance of the electrical corporation's equipment and facilities.<br>(B) Particular risks and risk drivers associated with topographic and climatological risk factors throughout the different parts of the electrical corporation's service territory. | III.B.(1-5) |
| (11) A description of how the plan accounts for the wildfire risk identified in the electrical corporation's Risk Assessment Mitigation Phase filing. | III.B.6. |
| (12) 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, insulation of distribution wires, and pole replacement. | IV. (whole section) |
| (13) A showing that the utility has an adequate 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 utility. | V.B.3. |
| (14) 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. | III.D. |
| (15) 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. | III.A. |

| Code Reference §8386(c) | Wildfire Mitigation Plan section |
|---|---|
| (16) 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:<br>(A) Plans to prepare for, and to restore service after, a wildfire, including workforce mobilization and prepositioning equipment and employees.<br>(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. | V.A.<br>V.B. |
| (17) A statement of how the electrical corporation will restore service after a wildfire. | V.B.1. |
| (18) 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. | V.C. |
| (19) A description of the processes and procedures the electrical corporation will use to do all of the following:<br>(A) Monitor and audit the implementation of the plan.<br>(B) Identify any deficiencies in the plan or the plan's implementation and correct those deficiencies.<br>(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. | VI.D. |
| (20) Any other information that the commission may require. | VII.A. |

CROSS REFERENCE TABLE 2
Using Wildfire Mitigation Plan Organization

| **Wildfire Mitigation Plan section** | **Code Reference §8386(c)** | |
|---|---|---|
| I. Objectives consistent with §8386(a)<br>A. Categorized by following timeframes:<br>A. Before upcoming wildfire season<br>B. Before next Plan filing<br>C. Within next 5 years | 2 | |
| II. Description of preventive strategies and programs<br>B. Categorized by following timeframes:<br>A. Before upcoming wildfire season<br>B. Before next Plan filing<br>C. Within next 5 years | 3 | |
| III. Risk Analysis and Risk Drivers<br>A. Safety and wildfire risk identification and assessment methodology | 15 | |
| B. Wildfire risks and drivers list<br>C. Listed in the following categories:<br>1. Design and Construction<br>2. Inspection and Maintenance<br>3. Operational Practices<br>4. Situational/Conditional Awareness<br>5. Response and Recovery | 10 | |
| C. Description of how plan accounts for wildfire risk identified in RAMP | 11 | |
| D. Service territory fire-threat evaluation | 14 | |
| IV. Wildfire Prevention Strategies and Programs<br>D. Operational practices | 6 | 12 |
| E. Inspection and maintenance plans | 9 | |
| F. System hardening to achieve highest level of safety, reliability, and | | |

| Wildfire Mitigation Plan section | Code Reference §8386(c) | |
|---|---|---|
| resiliency | | |
| G. Vegetation management plan | 8 | |
| H. Situational awareness protocols and determination of local conditions | | |
| I. De-energization protocol | 7 | |
| J. Alternative technologies<br>K. Post-incident recovery, restoration, and remediation activities | | |
| V. Emergency Preparedness and Response<br>A. General description of overall plan<br>B. Description of consistency with emergency preparedness and response plan | | 16 |
| 1. Service restoration plan | 17 | |
| 2. Emergency communications | | |
| 3. Workforce adequacy showing | 13 | |
| C. Customer support in emergencies<br>1.1.1. Protocols for compliance with CPUC requirements | 18 | |

| Wildfire Mitigation Plan section | Code Reference §8386(c) |
|---|---|
| VI. Performance Metrics and Monitoring<br>A. Accounting of responsibilities | 1 |
| B. Description of metrics and assumptions | 4 |
| C. Discussion on how previous metrics performance has informed current plan | 5 |
| D. Processes and procedures for:<br>1. Plan monitoring and auditing<br>2. Identifying and correcting Plan deficiencies<br>3. Monitoring and auditing effectiveness of equipment and line inspections | 19 |
| VII. Any other information the CPUC may require<br>A. Cost information | 20 |

**(END OF APPENDIX B)**

## Appendix C – List of Acronyms

| | |
|---|---|
| A. | Application |
| AT&T | AT&T Mobility Wireless Operations Holdings, Inc., Pacific Bell Telephone Company, and AT&T Corp. |
| AB | Assembly Bill |
| Abrams | William B. Abrams |
| ACS | Arc Suppression Coils |
| AGP | Annual Grid Patrol |
| Air Operations | SCE's Air Operations Department |
| ANSI | American National Standards Institute |
| AR | automatic reclosers |
| Bear Valley or | Bear Valley Electric Service, a division of Golden State |
| BLF | Branch Line Fuses |
| BVLOS | Beyond Visual Line of Sight |
| C3 | Customer Crew Communications |
| Cal Advocates | Public Advocates Office fka Office of Ratepayer Advocates |
| CAISO | California Independent System Operator |
| CAL FIRE | California Department of Forestry and Fire Protection |
| Cal OES | California Office of Emergency Services |
| CARE | California Alternate Rates for Energy |
| CEJA | California Environmental Justice Alliance |
| CB | Circuit Breaker |
| CCC | Customer Contact Center |
| CCSF | The City and County of San Francisco |
| CCUE | Coalition of California Utility Employees |
| CCTA | California Cable and Telecommunications Association |
| CCWD | Contra Costa Water District |
| Cell | Critical Energy Infrastructure Information |
| CEMA | Catastrophic Event Memorandum Account |
| CEQA | California Environmental Quality Act |
| CERP | Company Emergency Response Plan |
| CFBF | California Farm Bureau Federation |
| CIRT | Centralized Inspection Review Team |
| Citizens | Citizens Sunrise Transmission LLC |

| | |
|---|---|
| CLF | current-limiting fuses |
| CMUA | California Municipal Utilities Association |
| CPUC | California Public Utilities Commission or Commission |
| CSWC | California State Warning Center |
| CUEA | California Utilities Emergency Association |
| CWSP | Community Wildfire Safety Program |
| D. | Decision |
| DATC | Duke American Transmission Company |
| DATC Path 15 | Trans-Elect NTD Path 15, LLC |
| DDS | Distribution Design Standards |
| DFA | Distribution Fault Anticipation |
| DFM | Dead Fuel Moisture |
| DIIP | Distribution Infrared Inspection Program |
| DIMP | Distribution Inspection and Maintenance Program |
| DOH | Distribution Overhead Construction Standards |
| DRI | Drought Relief Initiative |
| EBMUD | East Bay Municipal Utility District |
| Eel | Edison Electric Institute |
| EOC | Emergency Operations Center |
| EOI | enhanced overhead inspections |
| EONS | Emergency Outage Notification System |
| EPIC | Electric Program Investment Charge |
| EP&R | Emergency Preparedness and Response |
| EPUC/IS | Energy Producers and Users Coalition and Indicated Shippers |
| ERO | Emergency Response Organization |
| ESA | Energy Savings Assistance |
| ETOR | Estimated Time of Restoration |
| EVM | enhanced vegetation management |
| FEMA | Federal Emergency Management Agency |
| FERA | Family Electric Rate Assistance |
| FERC | Federal Energy Regulatory Commission |
| FHPMA | Fire Hazard Prevention Memorandum Account |
| FHSZ | Fire Hazard Severity Zone |

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|---|---|
| FIA | Fire Index Area |
| FiRM | Fire Risk Mitigation |
| FMEA | Failure Modes and Effects Analysis |
| FPI | Fire Potential Index |
| FPP | Fire Prevention Plan |
| FRP | fiber reinforced polymer |
| GIS | Geographic and Information System |
| GO | General Order |
| GPI | Green Power Institute |
| GRC | General Rate Case |
| GSRP | Grid Safety and Resiliency Program |
| GSW | Golden State Water Company |
| HD | high definition |
| Henricks | Ruth Henricks |
| HFRA | High Fire Risk Areas |
| HFTD | High Fire Threat District |
| HHZ | High Hazard Zones |
| HPCC | High Performance Computing Cluster |
| HTMP | Hazard Tree Management Program |
| I. | Investigation |
| ICS | Incident Command System |
| IMT | Incident Management Team |
| IOUs | Investor-Owned Utilities |
| IPI | Intrusive Pole Inspection program |
| IR | Infrared |
| ISA | International Society of Arborculture |
| ITO | Independent Transmission Owners |
| IVR | Integrated Voice Recording |
| km | Kilometer |
| kV | Kilovolt |
| LAC | Local Assistance Center |
| LADWP | Los Angeles Department of Water and Power |
| Laguna Beach | The City of Laguna Beach |
| Liberty | Liberty Utilities (CALPECO Electric) LLC |

| | |
|---|---|
| LiDAR | light detection and ranging technology |
| Malibu | The County of Los Angeles, City of Malibu |
| MA | Memorandum Account |
| MAA | Mutual Assistance Agreements |
| MADEC | meter alarming for downed energy conductor |
| MAVF | Multi-Attribute Value Framework |
| Mendocino | The County of Mendocino |
| MGRA | Mussey Grade Road Alliance or Mussey Grade |
| Mph | Miles per hour |
| MVCD | Minimum Violation Clearance Distance |
| Napa | The County of Napa |
| NIMS | National Incident Management System |
| NEET-West | Next Era Energy Transmission West LLC |
| NERC | North American Reliability Corporation |
| NFDRS | National Fire Danger Rating System |
| NFPA | National Fire Protection Association |
| NIFC | National Interagency Fire Center |
| NIMS | National Incident Management System |
| NWS | National Weather Service |
| OA | Operability Assessment |
| OCP | Overhead Conductor Program |
| ODI | Overhead Detail Inspection |
| ODRM | Outage Database and Reliability Metrics |
| OEM | Offices of Emergency Management |
| OES | Office of Emergency Services |
| OIR | Order Instituting Rulemaking |
| OMS | Outage Management System |
| OSA | The Commission's Office of Safety Advocates |
| PacifiCorp | Pacific Power, a division of PacifiCorp |
| Paradise | Town of Paradise |
| PCB | polychlorinated biphenyls |
| PCEA | Peninsula Clean Energy Authority |
| PEV | Post Enrollment Verification |
| PG&E | Pacific Gas and Electric Company |

| | |
|---|---|
| PI | Pole Inspections |
| PIH | Pre-installed Interconnection Hubs |
| PLP | Pole Loading Program |
| PMO | Program Management Office |
| POC | Protect Our Communities |
| POMMS | PG&E Operational Mesoscale Modeling System |
| PRC | Public Resources Code |
| PSPS | Public Safety Power Shut-Off or De-Energization |
| PTZ | pan-tilt-zoom |
| PUC | Public Utilities Code |
| QA | Quality Assurance |
| QC | Quality Control |
| QCG | Quality Control Group |
| AM | Quality Management |
| QO | Quality Oversight |
| R. | Rulemaking |
| RAMP | Risk Assessment Mitigation Phase |
| RAR | remote-controlled automatic reclosers |
| RAWS | Remote Automated Weather Stations |
| RCRC | Rural County Representatives of California |
| REACH | Relief for Energy Assistance through Community Help |
| REFCL | Rapid Earth Fault Current Limiter |
| RFW | Red Flag Warnings |
| ROW | Right-of-Way |
| Santa Rosa | The City of Santa Rosa |
| SAWTI | Santa Ana Wildfire Threat Index |
| SB901 | Senate Bill 901 |
| SBUA | Small Business Utility Advocates |
| SCADA | Supervisory Control and Data Acquisition |
| SCE | Southern California Edison Company |
| SDG&E | San Diego Gas & Electric Company |
| SE D | Commission's Safety and Enforcement Division |
| SIMP | Substation Inspection and Maintenance Program |
| SIPT | Safety and Infrastructure Protection Teams |

| | |
|---|---|
| S-MAP | Safety Model Assessment Proceedings |
| SOB | Standard Operating Bulletin |
| Sonoma | County of Sonoma |
| SOPP | Storm Outage Prediction Model |
| SoCalGas | Southern California Gas Company |
| SmartMeter | Brand Name for Automated Metering Initiative |
| SME | Subject Matter Experts |
| Sunrun | Sunrun Inc. |
| Startrans | Startrans IO, LLC |
| T&D | SCE's Transmission and Distribution business unit |
| TBC | Trans Bay Cable LLC |
| TICII | Transmission Infrared and Corona Inspection Initiative |
| TIMP | Transmission Inspection and Maintenance Program |
| TURN | The Utility Reform Network |
| UAS | Advanced Unmanned Aerial Systems |
| UAV | unmanned aerial vehicle |
| UDI | Underground Inspection Program |
| USFS | U.S. Forest Service |
| USGS | United States Geological Survey |
| VM | Vegetation Management |
| WAPA | Western Area Power Administration |
| WCCP | Wildfire Covered Conductor Program |
| WEIMAR | Western Energy Institute Mutual Assistance Roster |
| WECC | Western Electricity Coordinating Council |
| WMP or Plan | Wildfire Mitigation Plan |
| WRF | Weather Research and Forecasting |
| WRMAG | Western Region Mutual Assistance Agreement for Electric Utilities |
| WSIP | Wildfire Safety Inspection Program |
| WSOC | Wildfire Safety Operations Center |
| WSP | Wildfire Safety Plan |
| Zuma Beach | Hans Laetz on behalf of Zuma Beach FM Broadcasters |

**(END OF APPENDIX C)**