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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Implement
Electric Utility Wildfire Mitigation Plans
Pursuant to Senate Bill 901 (2018).

Rulemaking 18-10-007

**GUIDANCE DECISION ON 2019 WILDFIRE MITIGATION PLANS
SUBMITTED PURSUANT TO SENATE BILL 901**

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**GUIDANCE DECISION ON 2019 WILDFIRE MITIGATION PLANS
SUBMITTED PURSUANT TO SENATE BILL 901**

Introduction and 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 of the electrical corporations we regulate. This decision addresses issues that are common to all of the Wildfire Mitigation Plans. It is one in a series of decisions the Commission is issuing at the same time to act on the 2019 Wildfire Mitigation Plans of the three large California investor owned electric utilities, the three small and multijurisdictional utilities, and two independent transmission owners.

Along with this decision, the Commission is issuing separate decisions addressing the individual Wildfire Mitigation Plans submitted by Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas and Electric Company, and a single combined decision on the Wildfire Mitigation Plans of PacifiCorp, Bear Valley Electric Service and Liberty Utilities. Finally, we issue a single decision on the Wildfire Mitigation Plans of independent transmission owners Trans Bay Cable LLC and NextEra Energy Transmission West, LLC., now known as Horizon West Transmission LLC.

This decision addresses issues that are common to all of the Wildfire Mitigation Plans, and applies to the Wildfire Mitigation Plans of all respondent electrical corporations. Specifically, this guidance decision interprets Senate Bill 901; describes the procedural background of the proceeding; orders all electrical corporations to collect data and file reports on this year's Wildfire Mitigation Plans; initiates a process to establish "metrics" to evaluate the Wildfire Mitigation Plans and makes clear that these metrics should focus on the success

of mitigation at lowering the risk of catastrophic wildfires and not simply program targets such as the number of trees removed or wires replaced; and creates a process for next year's Wildfire Mitigation Plans.

Generally speaking, the key and most costly aspects of the individual Wildfire Mitigation Plans consist of vegetation management; system hardening such as widespread electric line replacement with covered conductors designed to lower wildfire ignitions; new inspection programs; and “situational awareness” technology such as weather stations, high definition cameras, and use of computer modeling, weather and wind data and machine learning to predict where wildfires are most likely to strike. The individual Wildfire Mitigation Plan decisions focus on these issues because they are the ones on which parties provided the most input.

In order to ensure that the Wildfire Mitigation Plans actually reduce the risk and occurrence of wildfire, the Commission directs the electrical corporations to track data and assess outcomes, so that next year's plans reflect this year's lessons. We also require reporting this year on 2019 Wildfire Mitigation Plan achievements. Senate Bill 901 requires useful metrics that measure whether a Wildfire Mitigation Plan is effective in mitigating catastrophic wildfires. The “metrics” the electrical corporations currently use tend to focus on inputs (number of actions taken such as trees cut or miles of conductor installed) rather than outputs or results (effectiveness of the action in reducing the risk of wildfire ignition and spread). The statute requires a focus on outcomes: “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.”¹ This decision orders one or more workshops led by the Commission’s Safety and Enforcement Division for the electrical corporations to work with Commission staff, parties, and other stakeholders to improve the metrics for next year. We allow the electrical corporations to track data they characterize as “metrics,” but they should not use the term to describe what are actually “program targets.” Using the “metrics” label for program targets such as the number of trees cut down causes confusion given SB 901. We also list data the filers should capture.

It is important to point out what this decision does and does not do. Senate Bill 901 is explicit that approval of Wildfire Mitigation Plans does not constitute approval of the costs associated with the actions in the plan. Rather, cost recovery is a separate matter to be addressed in each utility’s General Rate Case. Thus, while the electrical corporations in some cases submitted high-level cost estimates, the Order Instituting Rulemaking initiating this case made clear that such information was only an aid to understanding the overall magnitude of the Wildfire Mitigation Plans and where the largest expenditures may occur. However, we do not approve costs here, because the statute does not allow it. We also do not find that substantial compliance with an element of a Plan, or all elements of a Plan, establishes that the electrical corporation acted prudently when it later seeks to recover its costs. Senate Bill 901 did not redefine the “prudent manager” test.

There are limits on what can be accomplished in this proceeding, as the strict statutory deadlines – three months to approve the Wildfire Mitigation Plans, with very limited exceptions – provide little time to evaluate each Plan’s

¹ Public Utilities Code Section 8386(c)(4) (emphasis added).

effectiveness. At the same time, this is only the first of what we anticipate will be many Wildfire Mitigation Plan proceedings, so this decision contains many substantive and procedural requirements for future plans based on lessons learned this year.

We understand the need for haste: all Californians deserve comprehensive action before the wildfire season. We hope and expect improvement in the Wildfire Mitigation Plans each year through engineering and technological advances, but we will not solve the problem of catastrophic wildfires in one year. We and the electrical corporations we oversee are but a piece of the solution to mitigating catastrophic wildfires.

1. Procedural Background

The Commission opened this proceeding via an Order Instituting Rulemaking (OIR) issued on October 25, 2018. The intent of the OIR is to implement the provisions of Senate Bill (SB) 901 requiring electrical corporations under the Commission's jurisdiction to submit annual Wildfire Mitigation Plans (WMP or Plan). The OIR provided guidance on the form and content of the initial WMPs, provided a timeline for review of the 2019 WMPs on the three-month schedule set forth in SB 901, and noted that in future years the Commission would refine the content of and process for review and implementation of WMPs to be filed in future years.

The OIR named the three large California investor-owned electric utilities (IOUs) as respondents: Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E). It also required Plan filing by three small or multijurisdictional IOUs: Liberty Utilities/CalPeco Electric (Liberty), Bear Valley Electric Service, a division of Golden State Water Company (Bear Valley or BVES), and Pacific

Power, a division of PacifiCorp (PacifiCorp). We address each of the large IOUs' Plans in an individual decision and the three small and multijurisdictional IOUs in a single decision.

In a ruling dated January 17, 2019, the assigned Administrative Law Judge (ALJ) added four Independent Transmission Owners (ITOs) as respondents and ordered the ITOs to file WMPs, naming Citizens Transmission LLC; Startrans IO, LLC (Startrans); Trans Bay Cable LLC; and Trans-Elect NTD Path 15, LLC. This decision ratifies that ruling.

By ruling dated January 31, 2019, the ALJ granted the motion of Citizens Transmission LLC (whose correct name is Citizens Sunrise Transmission) to be relieved from the obligation to file a 2019 WMP. The ALJ did so after SDG&E confirmed by a filing dated January 30, 2019 that it has all operation and maintenance obligation for the line Citizens leases.

Other ITOs also sought dismissal or relief from the obligation to file a WMP this year. This decision does not grant dismissal but relieves DATC Path 15, LLC (the successor in interest to Trans-Elect NTD Path 15, LLC) and Startrans of the obligation to file a 2019 WMP based on their assertion that a third party not regulated by this Commission is obligated to operate and maintain the relevant independent transmission line.

DATC Path 15, LLC² is the current holder of transmission rights on the Path 15 Upgrade transmission project, which rights it acquired from the entity identified in the ALJ's January 31, 2019 ruling, Trans-Elect NTD Path 15, LLC. DATC filed a motion to be removed as a respondent on March 4, 2019 on the ground that the Western Area Power Administration (WAPA) is solely

² DATC Path 15, LLC is indirectly owned by Duke-American Transmission Company LLC.

responsible for operation and maintenance of the line. DATC supported its claim by a declaration under penalty of perjury by the President of DATC Path 15, LLC. Since we do not regulate WAPA, a federal agency organized under the United States Department of Energy, we do not have a second party corroborating DATC's assertion. Nonetheless, we relieve DATC Path 15, LLC from the obligation to file a WMP in 2019, but do not dismiss it as a respondent.

Similarly, Startrans filed a motion to be dismissed from the proceeding on March 25, 2019. Startrans claims it is a minority owner of the line, but that the line is operated and maintained by publicly owned utility Los Angeles Department of Water and Power (LADWP). Startrans' General Manager filed a declaration swearing to the foregoing facts. As with DATC, we relieve Startrans of the obligation of filing a WMP in 2019, but do not dismiss it as a respondent.

The remaining ITO in the January 17, 2019 ruling, Trans Bay Cable LLC, filed a WMP as required on February 6, 2019. An entity not named in the foregoing ruling, Horizon West Transmission LLC., formerly known as NextEra Energy Transmission West, LLC (Horizon West)³ filed a WMP with regard to a new transmission line, the Suncrest Dynamic Reactive Power Support Project approved late last year in Decision (D.) 18-10-030. The Commission addresses the Trans Bay Cable LLC and Horizon West WMPs in a single ITO decision.

Parties commented on the OIR on November 18, 2018.⁴ PG&E, SCE, SDG&E, Liberty, PacifiCorp, Bear Valley, Trans Bay Cable LLC, and Horizon

³ NextEra Energy Transmission West LLC changed its name to Horizon West Transmission, LLC, and filed a notice of name change in this proceeding on March 21, 2019. It will henceforth be referred to as Horizon West.

⁴ On November 18, 2018, each of the IOUs filed comments on the OIR, jointly or in combination. The following additional parties also filed comments on the OIR: The Utility Reform Network (TURN); Green Power Institute (GPI); the Commission's Public Advocates'

Footnote continued on next page

West submitted WMPs on the February 6, 2019 due date.⁵ On February 13, 2019, the Commission held a day-long workshop at which parties and members of the public were provided presentations about each WMP by the filers, and were able to ask questions and make statements. After the February 13, 2019 workshop, parties were asked to suggest topics that required additional attention for discussion at follow-up workshops. On February 26, 2019, a half-day workshop took place on the meaning of SB 901 approval of WMPs, and a full-day workshop occurred on February 27, 2019, to examine the filers' vegetation management plans as well as conductors and related system hardening. Over 300 people attended the workshops.

Two prehearing conferences took place in the proceeding, the first on November 14, 2018 and the second on February 26, 2019. The Assigned Commissioner issued a scoping ruling after the first prehearing conference. The parties were given an opportunity to request hearings, and on the prescribed deadline of February 20, 2019, two parties – The Utility Reform Network (TURN)

Office (Cal Advocates); Hans Laetz on behalf of Zuma Beach FM Broadcasters (Zuma Beach); California Municipal Utilities Association (CMUA); the Commission's Office of the Safety Advocate (OSA); the City of Laguna Beach (Laguna Beach); Pacific Bell Telephone Company, d/b/a AT&T California, AT&T Mobility1 and AT&T Corp. (AT&T); the California Cable and Telecommunications Association (CCTA); East Bay Municipal Utility District (EBMUD); Mussey Grade Road Alliance (MGRA); Coalition of California Utility Employees (CCUE); and Small Business Utility Advocates (SBUA). Several additional parties sought and obtained party status; those that filed comments are listed below.

⁵ On April 25, 2019, PG&E filed a second amended WMP proposing to extend the timelines on many of its major wildfire mitigation efforts. We do not act on those proposals in this decision since they were filed too late to be considered and to receive party comment. Phase 2 of this proceeding will consider the matter and filings associated with it. This decision does not approve actions proposed or described in the PG&E second amended WMP even if PG&E has already conducted those actions.

and Protect Our Communities Foundation (POC) – did so. At the February 26, 2019 prehearing conference the ALJs denied both motions.

The ALJ also issued a ruling on January 30, 2019 ordering respondents to this proceeding to reimburse the Commission for expenses related to the engagement of an independent evaluator to review and inspect electrical facilities and operational practices for compliance with Commission General Orders, statutory requirements and all other applicable decisions and orders. This decision ratifies that ruling.

The intervenors (those not filing WMPs) filed comments on the WMPs on March 13, 2019, and the IOUs and ITOs filed reply comments on March 22, 2019.⁶ Thereafter, the proceeding was submitted for decision.

2. Organization of Individual Wildfire Mitigation Plan Decisions

Public Utilities Code Section 8386(c) contains a list of 19 elements each electrical corporation must include in its WMP. (The Commission may also direct the inclusion of material, making the full list 20 items long.) The WMPs and the individual decisions acting on them differ in structure from the statutory list because the focus is on the elements on which parties made comments, particularly:

⁶ On March 13, 2019, the following intervenors filed comments on the WMPs: William B. Abrams (Abrams), California Environmental Justice Alliance (CEJA), California Farm Bureau Federation (CFBF), California Large Energy Consumers Association (CLECA), CCUE, GPI, EBMUD, Energy Producers and Users Coalition (EPUC), The County of Los Angeles (LA County), City of Malibu (Malibu), MGRA, OSA, POC, Cal Advocates, The City and County of San Francisco (CCSF), SBUA, and TURN. Additionally, the following parties jointly filed comments: AT&T and CCTA; The County of Mendocino, The County of Napa, The County of Sonoma, and The City of Santa Rosa; and Peninsula Clean Energy Authority (PCEA) and Sunrun Inc.. On March 22, 2019, the following IOUs and ITOs filed reply comments: PG&E, SCE, SDG&E, Liberty, Bear Valley, and Horizon West.

- inspection and maintenance (Section 8386(a) and (c)(9));
- vegetation management (Section (c)(8));
- system hardening (Section 8386(c)(12));
- situational awareness (Section 8386(c)(3));
- de-energization (Sections 8386(c)(6) and (7));
- disaster preparedness and customer outreach (Sections 8386(c)(16), (17), (18)); and
- metrics for evaluating the Plans (Sections 8386(c)(4), (5) and (19)).

In addition, several of the items listed under Section 8386(c) are not mitigation activities, but general requirements that apply to one or more mitigation measures or to the WMP as a whole. For example, several sections require the filer to prioritize risk (Sections 8386(c)(3)(10), (11) and (15)). We discuss risk in the context of the mitigation measures noted above, since the WMP is supposed to target mitigation measures where they will have the greatest impact. Similarly, Section 8386(c)(14) relates to wildfire threat maps, which govern where mitigation occurs.

Each individual decision explains whether the WMP contains all the required elements in Section 8386(c) and addresses any deficiencies. Further, each decision contains as Appendix B a chart cross-referencing the statute with the WMP organizational structure, so it is clear that the Plans meet the statutory requirement.

3. State Response to Wildfires

Some history of California's experience with catastrophic wildfires over the past dozen years is in order. Catastrophic wildfires took place in Southern California in 2007, and SDG&E ultimately was found responsible for three catastrophic wildfires, named Rice, Witch and Guejito. After the 2007 wildfires,

the Commission stepped up efforts to mitigate the risk of utility-sourced wildfires, as well as more broadly incorporating potential safety risks in decision-making. Among other actions and orders, the Commission required that IOUs prioritize their asset management and expenditure plans according to a safety risk-ranking; strengthened its regulations governing the minimum safety standards of overhead electrical infrastructure (e.g., General Order (GO) 95); updated the state's fire maps; and opened a companion proceeding to this one, Rulemaking (R.) 18-12-005, to examine existing rules on electric grid de-energization (i.e., turning off power at times of high fire threat, sometimes known as Public Safety Power Shutoffs or PSPS). Despite our best efforts to date, utility-caused wildfires are still occurring, and the Commission recognizes the need to redouble wildfire prevention efforts.

4. Requirements of SB 901

Senate Bill (SB) 901 builds on the public utilities' existing Commission-regulated wildfire mitigation and vegetation management plans. SB 901 is a comprehensive plan of action for forest management and wildfire mitigation and suppression across the state in multiple sectors. With respect to utility infrastructure-related wildfire risks, SB 901 requires electrical corporations to submit WMPs each year. Pub. Util. Code Section 8386(b). A complete list of the 19 elements each WMP must contain is set forth in SB 901 appears in Appendix A to this decision. Appendix B to this decision cross references the WMPs with the statutory requirements.

These annual WMPs must include, among other things:

- “Protocols for ... 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,” Pub. Util. Code § 8386(c)(6);

- Actions the filer will pursue “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,” Pub. Util. Code § 8386(c)(12);
- The filer’s “preventative strategies and programs ... to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks,” Pub. Util. Code § 8386(c)(3);
- Metrics to evaluate the WMP’s performance, Pub. Util. Code § 8386(c)(4);
- A ranking of “*all wildfire risks, and drivers for those risks,*” throughout the filer’s service territory, which shall include wildfire risk and risk mitigation information contained in the utility’s Safety Model Assessment Proceeding (S-MAP) and Risk Assessment Mitigation Phase (RAMP) filings,⁷ (Commission-mandated programs to compel risk-based utility management and spending), Pub. Util. Code § 8386(c)(10) (emphasis added);
- Vegetation Management Plans, Pub. Util. Code § 8386(c)(8);
- Inspection plans for the filer’s electric infrastructure, Pub. Util. Code § 8386(9); and
- Improvements to the Commission’s fire mapping, Pub. Util. Code § 8386(c)(14).

⁷ Not all of the parties that filed WMPs are subject to RAMP and S-MAP, but the large IOUs are.

The Commission’s task pursuant to SB 901 is to approve, subject to modification, the statutory WMPs after verifying compliance with “all applicable rules, regulations, and standards, as appropriate.” Pub. Util. Code § 8386(d).

5. Meaning of Commission Approval of WMP Under SB 901

A topic that generated a great deal of discussion in the proceeding was the effect of WMP approval under SB 901. The IOUs contend that approval of a WMP, and “substantial compliance” with the plan, is determinative of whether the utility acted as a “prudent manager” when the utility seeks cost recovery for the activities in the Plan. Many intervenors, in contrast, assert that approval of a WMP has no bearing on whether the IOU has a right to cost recovery, since the statute expressly defers review of program costs to IOUs’ general rate cases (GRCs). These parties assert that approval of the WMP has no effect on whether an IOU seeking cost recovery acted reasonably by meeting the prudent manager standard.⁸ We discuss these arguments below.

5.1. Parties’ Comments on What Approval Means Under SB 901

5.1.1. IOU and CCUE Comments – WMP Approval is Relevant to Prudent Manager Test for Cost Recovery

The IOUs and Coalition of California Utility Employees (CCUE) make two basic arguments about the meaning of SB 901 approval: first, that approval has bearing on whether they may recover costs of implementing their WMPs in their

⁸ For a discussion of the prudent manager standard in the catastrophic wildfire context, see the Commission’s decision on SDG&E’s application for cost recovery for the 2007 wildfires, D.17-11-033, and the decision denying rehearing, D.18-07-025. On November 13, 2018 and January 30, 2019, respectively the California Court of Appeal and California Supreme Court denied review of the decision denying cost recovery.

GRC; and second, that approval and “substantial compliance” with the approved WMP is evidence that they meet the “prudent manager” standard that will be at issue when they seek cost recovery.

PG&E states that approval of a plan by the Commission creates compliance obligations on the part of the utility. Therefore, it asserts, the utilities’ activities to execute the plans must be deemed reasonable if they are in substantial compliance with the approved plans, and the utilities must be allowed recovery of just and reasonable costs to implement those plans. “To do otherwise would constitute an unfunded mandate.”⁹ PG&E requests that the Commission’s approval of its WMP expressly acknowledge that the utilities will be allowed recovery of just and reasonable costs to implement the approved programs, and, subject to reasonableness review, the utilities retain discretion to reprioritize work to address changing conditions, new information, or as a result of external factors beyond their control. PG&E also asks that it be allowed to seek cost recovery outside the GRC schedule for costs related to its WMP:

In light of the multi-year intervals between GRCs and the likely substantial costs to implement annual plans, the Commission should also authorize utilities to seek interim cost recovery via application, with costs subject to refund upon reasonableness review in the GRC, to provide utilities with the revenues to implement the plans.¹⁰

⁹ PG&E Reply Comments filed March 22, 2019, at 3. References to comments and reply comments filed on the WMPs refer to the filer and the page numbers. Intervenor comments were filed on March 13, 2019, and electrical corporation reply comments were filed on March 22, 2019.

¹⁰ PG&E, at 30.

SCE asserts that it takes a “middle ground” by asking that approval of a WMP be evidence that SCE acted as a prudent manager when it later seeks cost recovery in a GRC.¹¹ SCE states:

Here, SCE is recommending the Commission develop an upfront approach that appropriately takes into account the fact that many of the factors listed in [Public Utilities Code] Section 451.1 substantially overlap with the content of the utilities’ WMPs. Furthermore, under SCE’s proposed framework, the Commission would use several of the remaining factors listed in Section 451.1 to apportion disallowances if a utility fails to substantially comply with its WMP and that non-compliance is linked to a wildfire ignition. This is an appropriate approach that holds utilities accountable for managing wildfire risk without subjecting them to uncertain and prolonged cost recovery.¹²

Acknowledging that SB 901 does not refer to the “prudent manager” test, SCE nonetheless states that the Commission should interpret the statute to include one:

Further, as the Joint Utilities have made clear, while the statutory language does not explicitly mandate that substantial compliance with the approved WMP is equivalent to a finding that the utilities met the “prudent manager” standard, neither does it preclude such an interpretation. It is well within the Commission’s inherent authority to interpret the statute in a common-sense manner to make that determination.¹³

¹¹ The IOUs are on different GRC cycles, and SCE has sought cost recovery for a large part of its WMPs in a separate “Grid Safety and Resiliency Program (GSRP)” application, Application 18-09-002. The fact that SCE filed and the Commission is considering the GSRP application outside the GRC process has no bearing on the meaning of SB 901.

¹² SCE, at 3.

¹³ *Id.*

SCE remarks that an early ruling in the proceeding required the furnishing of certain cost data,¹⁴ and that that ruling represents a decision that the Commission would be determining costs in this proceeding.

SDG&E recommends that, in approving WMPs, the Commission should determine that when an electric utility substantially complies with its approved Plan, the electric utility has been prudent for purposes of cost recovery applications, including but not limited to Public Utilities Code Section 451.1. A utility that does not substantially comply is subject to penalties, and if such non-compliance is the proximate cause of a wildfire or wildfire costs, the Commission may disallow recovery of all, or a portion of, the wildfire costs. SDG&E also asserts that even though SB 901 does not mention the prudent manager standard, the Commission is free to interpret the law to allow one here: “Even if the statute is not explicit in this regard, it is within the Commission’s right to interpret the law. SDG&E is required to put forth mitigations in a Wildfire Mitigation Plan and after the Commission approves the Plan, if SDG&E complies with the Plan, then SDG&E should be deemed prudent.”¹⁵

CCUE supports the IOUs, asserting that Commission approval should establish compliance requirements and that substantial compliance with a plan means the utility acted reasonably and prudently. The remedy for lack of substantial compliance, according to CCUE, is a penalty. “It makes no sense to say that the plans are mere goals and then mandate penalties if a utility fails to

¹⁴ While the ruling asked for high level cost data, it cited the OIR in this proceeding making clear that such costs would not be considered in this proceeding. This issue is discussed in the discussion section.

¹⁵ SDG&E, at 4.

comply with the goal.”¹⁶ Like SCE, CCUE argues that certain required components of the plans mirror the factors the Commission must consider, pursuant to Public Utilities Code Section 451.1, in determining whether a utility can recover costs and expenses arising from a catastrophic wildfire. Therefore, CCUE asserts, approval must mean that substantial compliance with the plan equates to reasonable and prudent actions by the utility.¹⁷

Some respondent electrical corporations asked the Commission to allow them interim rate relief, subject to refund. This decision does not resolve those requests.

5.1.2. Other Party Comments – WMP Approval Has No Impact on Later Cost Recovery

By contrast, many parties assert that SB 901 requires keeping approval of the WMPs separate from a judgment on reasonableness of any associated expenditures. They assert that the statute requires that reasonableness be left to GRC applications. They oppose treating the WMP proposals as compliance requirements, and allege that SB 901 does not support the IOUs’ claim that a finding of substantial compliance with the targets in a WMP satisfies the prudent manager standard.¹⁸ Some of these parties advocate that approval be limited to verifying the plans comply with Section 8386(c), *i.e.*, that they address whether the WMPs contain each of the 19 components of Section 8386(c).¹⁹

¹⁶ CCUE, at 5.

¹⁷ *Id.* at 7-8.

¹⁸ POC, TURN, Cal Advocates, MGRA, Abrams, CLECA, CEJA, CCSF, CFBF, Malibu, GPI, SBUA, and LA County make this argument.

¹⁹ These parties are TURN, CEJA, CCSF, EPUC, Malibu, and SBUA.

CLECA asserts that the plain meaning of SB 901 requires that a reasonableness determination occur in a GRC.²⁰ SBUA notes that Public Utilities Code Section 451.1 identifies 12 factors the Commission must consider in determining whether to authorize cost recovery, and the WMPs are just a part of one of those factors.²¹

Others assert that the statutory language deferring cost recovery to a GRC was intentional. The 3-month schedule allowed for Commission consideration of a WMP does not allow time for development of the evidentiary record necessary to determine reasonableness of programs or costs.²² The cost estimates are by no means sufficiently precise to merit a determination as to their reasonableness.²³

TURN states that SB 901's process is nothing new:

The Commission's longstanding rate case practice makes it clear that the determination of whether the costs of a utility program are just and reasonable is a two-step process, which can be broadly summarized as: (1) whether the program itself is necessary, reasonable in scope and pace, and otherwise cost-effective; and (2) if so, whether the costs to perform the scope of work that is found to be reasonable are themselves reasonable. The first step is often the most important and, under the utilities' interpretation, would somehow be resolved by this case, despite the strikingly inadequate record that this case affords for making such a determination. (TURN, at 5.)

TURN likens this case to the Commission's approach to energy storage, asserting that the Commission first approved a framework, and in later more

²⁰ CLECA, at 4-7; CEJA, at 3; EPUC, at 7; CFBF, at 4-5; Malibu, at 1; SBUA, at 2-3.

²¹ SBUA, at 3-4.

²² Malibu, at 4; POC, at 2-3; MGRA, at 3; Cal Advocates, at 3; CCSF, at 2-3; TURN, at 1-8; SBUA, at 1-2.

²³ CFBF, at 4; Cal Advocates, at 3.

cost-specific proceedings determined cost recovery. TURN cites the Commission's approval of Smart Grid Development Plans (SGDP) in D.10-06-047, where the Plans "are guidance documents, and approval of the SGDP does not constitute a determination of the reasonableness of any specific project."²⁴

TURN also analogizes this approach to the Commission's past approach to a PG&E program called Cornerstone, where the Commission stated:

. . . our overarching policy is that PG&E must provide reliable electric service to its customers. However, that alone is insufficient reason for approving Cornerstone. We also have the obligation to ensure that rates are reasonable. Whether characterized as a policy or a basic ratemaking principle, for a capital program or project such as Cornerstone, there must be a compelling demonstration of need. A broad policy such as the desirability of maintaining or improving electric distribution reliability can only be implemented at the program or project level if there is demonstrated need for the particular programs or projects. PG&E has the burden to demonstrate such need for Cornerstone.²⁵

Similarly, Green Power Institute (GPI) suggests the Commission take a similar approach here as in the Integrated Resource Plan process, where approval does not guarantee cost recovery, "although it can authorize specific procurements that are included in the plans.... As far as we can tell, no such authorizations were requested in the February 6, 2019, WMP filings."²⁶

TURN distinguishes the power procurement statute (Assembly Bill (AB) 57²⁷) from SB 901:

²⁴ TURN, at 2-3, quoting D.10-06-047 at 21 & 124.

²⁵ TURN, at 5, quoting D.10-06-048, at 16.

²⁶ GPI, at 2.

²⁷ Stats. 2002, Ch. 835.

Section 454.5(d) states that one objective of the AB 57 procurement plans is to “eliminate the need for after-the-fact reasonableness reviews” and replace it with a process to verify that contracts are administered in accord with the terms of the contract. In stark contrast with that language, Section 8386(g) reaffirms the role of rate cases and the just and reasonable requirement under Section 451 and 451.1.

TURN concludes, “Prudence requires not just completing a certain amount of work, but doing it right.”²⁸ Energy Users and Producers Coalition (EPUC) makes the same point: “the utilities’ approach tortures the ‘reasonable manager’ standard by assuming that completing work as targeted is per se reasonable regardless of the way in which the utility performed the work or circumstances that might have made performance unreasonable.”²⁹

5.2. Discussion of What Approval Means Under SB 901

Approval of the WMP does not determine whether, at the time an IOU seeks recovery for the costs of carrying out its plan, the IOU complied with the prudent manager standard. Indeed, approval of a WMP here is not dispositive of an IOU’s ultimate cost recovery for the operations and maintenance costs of hardening its system, managing vegetation, increasing situational awareness and taking the other steps to mitigate wildfire risk.

There is a second set of costs at issue when catastrophic wildfires occur: liability costs attributable to claims against the electrical corporation for personal injury and property damage. Recovery of those costs is governed by Public Utilities Code Section 451 and 451.1, as well as case law. SB 901 modified the

²⁸ TURN, at 11.

²⁹ EPUC, at 9.

requirements for utility recovery of liability costs by adding Section 451.1, which explicitly governs “an application by an electrical corporation to recover costs and expenses arising from a catastrophic wildfire occurring on or after January 1, 2019.”³⁰ One of the factors relevant to recovery of such costs – which occur after a catastrophic wildfire – is “The electrical corporation’s compliance with regulations, laws, commission orders, *and its wildfire mitigation plans* prepared pursuant to Section 8386, including its history of compliance.”³¹

However, this proceeding does not deal with those liability costs, or an electrical corporation’s eligibility to recover them. Instead, we are examining planned wildfire mitigation – that is, future activity to reduce the likelihood that utility infrastructure is the source of catastrophic wildfire ignition and to make utility infrastructure more resistant to wildfire. With that distinction in mind, we proceed to a discussion of what approval means for mitigation costs included in a WMP.

SB 901’s drafters separated WMP approval from cost recovery for the mitigation measures. The statute defers all consideration of cost to the GRC:

The commission shall consider whether the cost of implementing each electrical corporation’s plan is just and reasonable in its GRC application. Nothing in this section shall be interpreted as a restriction or limitation on Article 1 (commencing with Section 451) of Chapter 3 of Part 1 of Division 1. Pub. Util. Code § 8386(g).

Section 451 requires a utility seeking to pass costs to ratepayers to prove such costs are reasonable:

All charges demanded or received by any public utility, or by any two or more public utilities, for any product or commodity

³⁰ Pub. Util. Code § 451.1(a).

³¹ Pub. Util. Code § 451.1(a)(9) (emphasis added).

furnished or to be furnished or any service rendered or to be rendered shall be just and reasonable. Every unjust or unreasonable charge demanded or received for such product or commodity or service is unlawful.

Thus, the requirement that a utility demonstrate its costs are just and reasonable is not altered by SB 901, which leaves Section 451 untouched. Given the express language of Section 8386(g), the Commission should consider cost recovery related to WMPs in GRCs, not in this proceeding.

Another provision of SB 901 affirms that cost recovery is not assured upon WMP approval: Section 8386(j) directs the Commission, in a subsequent proceeding, to review costs in the fire risk mitigation memorandum account (one of two memorandum accounts discussed in SB 901 allowing an electrical corporation to track its mitigation costs) and disallow recovery of costs that are unreasonable.

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. The commission shall review the costs in the memorandum accounts and disallow recovery of those costs the commission deems unreasonable.

Under this provision, costs are not deemed reasonable until the Commission conducts a "review [of] the costs." Section 8386(g) makes clear that this review must occur in a GRC, as noted above. The electrical corporations may establish this memorandum account without a Commission decision, but the Commission must later review and approve recovery of the amounts recorded.

Similarly, the second memorandum account authorized in SB 901 for electrical corporations (the "Section 8386(e) memorandum account") is simply a tracking mechanism, but this one requires Commission approval. Establishment

of the memorandum account has nothing to do with the later determination of whether the costs in the account are reasonable and therefore recoverable.

Section 8386(e) provides for a memorandum account to “track costs”; it says nothing about cost recovery.

(e) 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. (Emphasis added.)

We allow the establishment of the Section 8386(e) memorandum account in the accompanying decisions approving the electrical corporations’ WMPs.

The IOUs’ incorrect position that “substantial compliance” ensures WMP cost recovery is based on the penalty provision in SB 901, which allows for Commission-imposed penalties if an IOU does not substantially comply with its Plan. Section 8386.1 sets forth the penalty provision:

The commission shall assess penalties on an electrical corporation that fails to substantially comply with its plan. In determining an appropriate amount of the penalty, the commission shall consider all of the following:

- (a) The nature and severity of any noncompliance with the plan, including whether the noncompliance resulted in harm.
- (b) The extent to which the commission has found that the electrical corporation complied with its plans in prior years.
- (c) Whether the electrical corporation self-reported the circumstances constituting noncompliance.
- (d) Whether the electrical corporation implemented corrective actions with respect to the noncompliance.
- (e) Whether the electrical corporation knew or in the exercise of reasonable care should have known of the circumstances constituting noncompliance.

(f) Whether the electrical corporation had previously engaged in conduct of a similar nature that caused significant property damage or injury.

(g) Any other factors established by the commission in a rulemaking proceeding, consistent with this section.

This provision has nothing to do with cost recovery for the costs of implementing a WMP. Ratemaking and the imposition of penalties are two separate exercises; one allows a utility to pass costs to ratepayers if it acts reasonably, while the other allows the Commission to impose penalties on a utility for misconduct. Thus, the “substantial compliance” provision in SB 901 is relevant to whether penalties are proper, not whether rate recovery is appropriate. If in the future there are proceedings to consider whether penalties are appropriate, we will examine what is meant by “substantial compliance” under the statute.

SCE’s citation to an early ruling in the case seeking high-level cost information is not relevant. The ruling asked for “Cost estimates for each item in the WMP in order for the Commission to weigh the potential cost implications of measures proposed in the plans,” but also cited the Order Instituting Rulemaking’s statement on cost: *“The Commission will not consider or approve explicit expenditures in wildfire mitigation plans in this proceeding; however, in evaluating the proposed plans the Commission may weigh the potential cost implications of measures proposed in the plans.”*³² The ruling sought cost information so the Commission could understand the magnitude of certain mitigation elements, but made clear that it would neither “consider” nor “approve” those costs here.

³² See OIR 18-10-007, at 4 (emphasis added).

The question remains: what does WMP approval mean? Here again the statute provides the answer: approval means that every WMP contains 19 elements that the SB 901 Legislature deemed essential to catastrophic wildfire mitigation. Those elements are aimed at ensuring an electrical corporation has plans in place to protect the public from catastrophic wildfire. Without SB 901, existing wildfire-prevention and other safety requirements might not include all of the elements on the list.

6. Metrics, Monitoring and Reporting Required of All WMP Filers

This section discusses the metrics, monitoring and reporting requirements the Commission will require all Wildfire Mitigation Plan filers to follow, and will develop in Phase 2 of this proceeding. Individual requirements addressing specific deficiencies in individual Plans appear in the Plan-specific decisions.

Metrics that track the number of elevated fire danger days, whether based on Red Flag Warnings issued by the National Weather Service, utility-provided "Fire Potential Index" ratings, or National Fire Danger Rating System (NFDRS) data, and the number and types of potential ignition events (wires down, blown fuses, vegetation contact, and similar events) that occur on those days are imperative for providing the type of insight needed to better understand and properly analyze the risk of catastrophic fires caused by electrical lines and equipment.

Some of the WMPs provide this type of useful metrics:

- Wire Down Events Within High Fire-Threat District (HFTD) Areas³³

³³ PG&E WMP, at 134.

- The number of wires down events within HFTD areas, when the FPI is rated as very-high or higher;
- Equipment Caused Ignitions in HFTD Areas³⁴;
- Vegetation Caused Outages in HFTD Areas³⁵;
 - The number of vegetation caused outages within HFTD areas, when the Fire Potential Index (FPI) is rated as very-high or higher;
- Vegetation Caused Ignitions in HFTD Areas³⁶;
- Faults on Circuits in HFTD³⁷;
 - Counts of all faults on HFTD circuits associated with contact from object or equipment failures;
- Number of Conventional Blown Fuse Events³⁸;
- Number of NFDERS “Very Dry” and “Dry” Days

The Commission's Safety and Enforcement Division (SED) will, through one or more workshops, work with all stakeholders, including the WMP filers, to develop a common template for capturing metrics of this type. These workshops should result in a list of metrics that provides the Commission, the Department of Forestry and Fire Protection (CAL FIRE), related agencies and researchers tools to evaluate the effectiveness of the WMPs at mitigating catastrophic wildfires. This is the statutory mandate, not simply program targets that measure how many actions an electrical corporation takes in the areas a Plan

³⁴ *Id.*

³⁵ *Id.* at 136.

³⁶ *Id.*

³⁷ SCE WMP, at 93 (using SCE's own "High Fire Risk Areas," on which we discuss concerns in the decision on SCE's WMP).

³⁸ BVES WMP at 53.

lists (e.g., how many trees it cuts down). To avoid confusion, these program targets should not be described as “metrics” in the future.

SED will kick off this workshop process later this year. Other topics may also be considered during the workshop(s), and those topics, along with scheduling and other logistics will be spelled out in future rulings.

7. Evaluation of Current Inspection Plans

One aspect of SB 901 merits a special mention. Public Utilities Code Section 8386(c)(19)(C) requires electrical corporations to "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." Because many of the existing inspection practices include simple drive-by patrols or are limited to visual observation, they may not be effective in detecting anything but the most egregious problems with overhead utility poles, lines and other equipment. The WMPs filed do little to address this issue.

In order to comply with Section 8386(c)(19)(C), future WMPs must include a discussion of how the utility evaluates the effectiveness of routine inspection programs developed in accordance with existing regulations such as the Commission's infrastructure inspection requirements in GO 165.³⁹ At a minimum, the discussion should detail what the inspection is looking for, the

³⁹ Both PG&E and SCE plan “enhanced” inspections in their WMPs, asserting the new inspections will exceed General Order (GO) requirements. However, with respect to the minimum inspection frequencies provided by GO 165, GO 95, Rule 31.2 states, “Lines shall be inspected frequently and thoroughly for the purpose of ensuring they are in good condition so as to conform with these rules...” As such, it is not necessarily beyond GO 95 requirements to conduct inspections more frequently or thoroughly than specified in GO 165, as those are minimum requirements.

number of each type of inspection conducted, the cost of each type of inspection, and a listing of the top five violations or hazards identified by each inspection program, including its location and GO 95, Rule 18 priority level rating.

8. Integration of GRC Process with WMP Review

The WMP statute refers to the Commission's safety-oriented processes carried out during GRCs.⁴⁰ We interpret the inclusion of those processes to reflect a desire to ensure the safety work in GRCs is incorporated into WMPs. We agree that both processes are important to a consideration of the adequacy of utility safety efforts.

Our recent decision in the S-MAP/GRC context adopted an approach that prioritizes actions based on their "Risk-Spend Efficiency." The approach uses a tool called Multi-Attribute Value Function (MAVF)⁴¹ that provides a single value to measure the combined effects of 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 (i.e., increased vegetation clearing coupled with installing covered conductor and expanded de-energization practices).

⁴⁰ SB 901 requires a ranking of "all wildfire risks, and drivers for those risks," throughout the filer's service territory, which shall include wildfire risk and risk mitigation information contained in the utility's S-MAP and RAMP filings, Commission-mandated programs to compel risk-based utility management and spending), Pub. Util. Code § 8386(c)(10).

⁴¹ D.18-12-014 (adopting a settlement agreement updating the S-MAP procedure).

Including such analysis in the WMPs⁴² would provide the Commission a transparent and effective way to balance overlapping programs in the WMP and assess which programs are needed and effective. As stated above, the statute requires “all relevant wildfire risk and risk mitigation information that is part of the Safety Model Assessment Proceeding and Risk Assessment Mitigation Phase filings.” This quantitative information is relevant, and the process of conducting these analyses may allow stakeholders to better understand the cost effectiveness of proposed mitigations.⁴³

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. Off Ramps

It is essential that there be a process for modifying, reducing, increasing, or ending mitigation measures that are not working, or otherwise require modification. Therefore, all electrical corporations named as respondents shall file via a Tier 3 Advice Letter “Reports on Possible Off Ramps” describing any concerns about the effectiveness of any program in the WMP. The first Advice Letter shall be filed no later than 6 months from the effective date of this decision

⁴² Most of the IOU WMPs justify inspection and hardening program proposals as being informed by an internal risk assessment. However, that risk assessment is often a black box with insufficient description of the supporting information and rationale for proposed programs. Future filings should provide documentation of the risk analysis used to justify the proposals. A “trust us, we know what we are doing” approach to risk assessment is not appropriate given recent wildfire activity.

⁴³ Other advantages of MAVF are listed in D.18-12-014 at 44.

and the second one no later than 12 months after the effective date of this decision.

The reports shall clearly describe the concern, contain a specific proposal for action, including if applicable a recommendation to modify, reduce, increase, or end the specific mitigation identified, and include any expert or other authoritative information available on the efficacy of the mitigation.

10. Future WMPs

10.1. Party Comments – Future WMPs

Many parties commented on items IOU respondents should include in their 2020 WMPs, and asked for a process in the future that gives all stakeholders more time to review the Plans. The workshop(s) we will conduct in Phase 2 of this proceeding should help address many of these concerns.

MGRA recommends that parties have more time to review Plans in future wildfire proceedings, with an open discovery period of about two months prior to the utilities' WMP filing. The CFBF recommends that the Commission stagger IOU WMP filings in the future and extend the deadline for Plan approvals, as the statute allows. The Commission's Public Advocates Office (Cal Advocates) recommends a "Notice of Intent" process to allow parties an opportunity to identify shortcoming of the utilities' WMP before they formally file their plans. SBUA suggests that utilities file their future WMPs through an application process in a consolidated proceeding so that future proceedings will allow for intervenor testimony and evidentiary hearings.

SCE disagrees with the above suggestions. SCE states that adjusting and/or extending the WMP filing schedule or decision date timeline would add unnecessary uncertainty regarding the approval of the utilities' proposed mitigation efforts, and would potentially delay the implementation of critical

wildfire mitigation work. SCE also maintains that evidentiary hearings are not necessary to develop a sufficient record, and that hearings are counterproductive and hinder the timely approval of the utilities' annual plans. SCE recommends maintaining the existing February WMP filing and 90-day review/decision period in future WMP proceedings.

TURN recommends that the Commission set a second phase in this proceeding to receive concurrent opening and reply comments on recommendations for future WMPs. In addition, TURN recommends that the future wildfire mitigation plans should 1) be more focused on preventing catastrophic wildfires, not simply ignitions, 2) provide more analysis concerning the effectiveness of past and current investments and operational strategies, 3) quantify the incremental risk reductions that any new proposed program provides, and 4) include a discussion about how the plans comply with all applicable rules, regulations and standards.

In response, SCE explains that the factors affecting catastrophic wildfire, such as wind speeds and relative humidity, are beyond SCE's reasonable control. Thus, SCE's WMP focuses on factors that SCE can reasonably control, of which the predominant factor is the number of ignitions caused by utility infrastructure. SCE explains that its RAMP proceeding conducted a "baseline risk analysis" and a "mitigation effectiveness analysis," and both analyses support SCE's WMP incremental activities. SCE is working to advance its risk analysis capabilities to better understand wildfire risks and the effectiveness of an individual risk mitigation.

Cal Advocates also recommends that future utilities wildfire plans should 1) list the evidence and metrics that will demonstrate compliance of each proposed activity/program, and 2) include detailed cost information concerning

the specifics of a program, with a more narrow cost estimate range than proposed in this proceeding, and provide high-level revenue requirement impacts for the subsequent five years following the plan.

SCE explains that it currently lists the evidence and the goals and metrics to demonstrate compliance for each activity. SCE also suggests that Cal Advocates address concerns for cost reasonableness in proceedings where the utilities are seeking cost recovery.

OSA recommends that, in the future, utilities establish a framework for managing wildfire risk based on best safety management practices of similarly complex industries. As an example, OSA cites to the Plan-Do-Check-Act model, a safety management framework developed for the natural gas pipelines. At a minimum, OSA proposes that the utilities develop and incorporate quality assurance programs, management of change controls, incident investigation and root cause analyses in their next set of wildfire mitigation plans. SCE agrees with OSA that future WMPs should include quality assurance programs, management of change controls, incident investigation and root cause analyses.

CLECA proposes that a common lexicon of standard terms be developed in a subsequent phase of this proceeding, so that the next round of wildfire mitigation plans can use this common lexicon.

POC recommends that future WMPs provide analyses on the effectiveness of mitigation per dollar spent. SCE agrees that cost-efficiency of risk mitigating strategies should be a contributing factor in the selection of wildfire mitigations, but notes that cost-efficiency should not be the only factor for consideration. SCE explains that the utilities also consider other factors, such as funding, labor resources, and technology when selecting mitigation plans.

CEJA recommends that future WMPs 1) consider more effective outreach efforts to the community, particularly for the more vulnerable populations, 2) focus on increasing the resiliency of affected communities, and 3) explore how to effectively harden the system against catastrophic wildfires. SCE feels that its current WMP already addresses CEJA's concerns.

PG&E agrees in reply comments with the recommendation of several parties to include improvements in future plans, stating that its WMP contemplates "continuous improvement." PG&E agrees with CLECA that the decision on this year's WMPs should include a timeline for the next WMP proceeding. PG&E states that it does not oppose the future steps suggested by several parties including OSA, Cal Advocates, and MGRA, but recommends that the Commission convene a pre-hearing conference after acting on this year's WMPs to determine next steps before the filing of the 2020 plans.

10.2. Discussion – Future WMPs

We agree with the parties that assessment of risk is essential to determining where to conduct wildfire mitigation, and that the WMPs filed this year do not always show that electrical corporations are targeting the area of greatest risk. We therefore believe steps are necessary to ensure that risk is given adequate consideration in next year's WMP filings.

A proper risk analysis takes into account where and when the risk of wildfire is greatest. There are two primary components that determine fire spread potential: (1) the native fuel system and topography where the ignition occurs, and (2) the climatological conditions (*i.e.*, temperature, relative humidity, wind speed/direction) present when the ignition occurs.

As shown by the IOU ignition data reported to the Commission for 2014-2018, most utility-caused ignitions result in very small fires. The critical

factors in differentiating between ignitions likely to be contained to a small area and catastrophic wildfires (that is, fire spread potential) are where an ignition occurs and when the ignition occurs. Certain parts of the state are more susceptible to rapid fire growth than others due to factors in the area: typical climate and wind conditions, fuel systems, and topography. These factors, along with proximity to people and property, formed the basis for the development of the CPUC Fire-Threat Map and subsequent HFTD and its elevated (Tier 2) and extreme (Tier 3) risk zones.

Mitigating ignitions that occur in the HFTD should be prioritized, as these represent areas where an ignition could be problematic, given the simultaneous existence of climatological conditions consistent with high rates of fire spread. Consideration could be given to differentiating between the risk of ignitions in different HFTD Tiers.

The HFTD can be used as a straightforward, universal measure to identify areas susceptible to catastrophic wildfire promulgation. However, the HFTD covers over 44% of the land area in the state. As such, the HFTD, in and of itself, may be of insufficient granularity to appropriately prioritize the highest risk areas for targeting of certain mitigation efforts. Some utilities have recognized this shortcoming and have internally employed more refined categorization and delineation of HFTD areas. For example, PG&E uses 91 Fire Index Areas that span the HFTD; Bear Valley Electric Service has prioritized “high-risk areas” (a subset of its HFTD area) where it focuses much of its wildfire mitigation efforts.

When an ignition occurs (*i.e.*, under what conditions) is just as important as where an ignition occurs. Even if an ignition occurs in a Tier 3 HFTD, that does not mean that there will automatically be a large, catastrophic wildfire. Hypothetically, if an equipment failure takes place, creating a potential ignition

source during a wet winter storm, the likelihood of a wildfire occurring is negligible. If the same failure takes place on a day with high temperatures, low relative humidity, during high wind conditions, and in the presence of a receptive fuel bed, the probability of a catastrophic wildfire increases tremendously.

As with using the HFTD map to identify locations where ignitions should be avoided, there are tools that can inform conditions during which ignitions should be avoided because they are more likely to result in a large catastrophic fire. As a starting point, Red Flag Warnings (RFWs), issued by the National Weather Service, are intended to capture weather and climate conditions commensurate with high fire danger. However, RFWs are not very effective from an operational perspective because they are being issued more frequently and can span coverage of multiple counties, thus lacking the granularity needed to effectively target mitigation efforts.

Alternatively, all the large IOUs are all developing or have developed their own FPI, which is a more granular fire danger rating tool than RFW. IOUs are already using FPIs to inform “Operating Conditions” that trigger certain work restrictions, special operating protocols (*e.g.*, disabling reclosers), and inspection and maintenance activities. Still, there are issues and limitations that make using FPIs problematic. FPIs are developed in-house by IOUs and there is no independent scientific verification of the approaches used. FPIs do not have consistent rating systems (*i.e.*, number of rating categories, nomenclature, and the like). The workshop(s) SED runs later this year may address FPI consistency.

We expect the reporting, workshop(s), and process requirements we discuss below and order in these decision to factor in the foregoing analysis, and focus on demonstrating that the WMPs actually target areas of greatest risk.

The Commission is aware that the expedited nature of the WMP approval process has caused many parties concern. We have learned a great deal about improvements that can be made in future plans. To that end, we order all respondent electrical corporations in this proceeding to file and serve reports and conduct other follow up, and anticipate workshop(s), facilitated by SED, later this year.

Our aim is for next year's WMP process to start this year. The reporting requirements and recommendations for 2020 involve devising better metrics to measure mitigation effectiveness; creating databases and data sets for future analysis; and working with experts in the field, including those who were involved in the Wildfire Technology Innovation Summit sponsored by the Commission and several other agencies on March 20-21, 2019.

The reporting and other follow-up actions we require of all electrical corporations subject to our jurisdiction (in addition to any individual reporting identified in individual WMP decisions and the "Report on Possible Off Ramps" discussed in the previous section) shall be the following:

1. All electrical corporation respondents should, by July 30, 2019, file and serve on the service list for this proceeding a report entitled "Data Collection for Wildfire Mitigation Plans" that:
 - a) includes a "Data and Map Product Catalogue" that lists, identifies, and describes all datasets and map productions the electrical corporation possesses, collects and maintains that could be useful in assessing the effectiveness of its Wildfire Mitigation Plan (WMP) in reducing catastrophic wildfire risk;
 - b) provides a "Data Dictionary" detailing the data tables, attribute column headers, sample attributes, alias, description, and metadata about the datasets and map products identified in (a);
 - c) proposes metrics to assess whether the Wildfire Mitigation Plans are having or will have the desired result (i.e. - a reduction in the risk of catastrophic wildfire);
 - d) suggests new areas of data collection that could assist in assessing WMP effectiveness and

align utility data collection efforts; e) proposes a schedule for collecting and using the data for future wildfire mitigation efforts; and f) proposes a manner of making the data available to third party researchers for the purposes of improving wildfire mitigation. Before making this filing, the electrical corporations should consult experts in data analysis, including, if relevant, presenters at the Wildfire Technology Innovation Summit, to ensure they gather the data in a manner that allows assessment, including using common data gathering methods across all respondent electrical corporations. The filing shall include the results of this consultation. Parties may comment on the filing on August 21, 2019. The workshop(s) discussed elsewhere in this decision will consider this material along with other matters. Parties will have an opportunity to propose topics for workshop(s).

2. Further, later this year, SED will convene one or a series of workshops for the purpose of kicking off next year's WMPs. The workshops should include discussion of: a) proper metrics; b) the timing of WMP filing, including whether to stagger large IOU filings and those of the small and multijurisdictional utilities; c) discovery and data exchange in 2019 that will assist stakeholders in assessing and commenting on the WMPs; and d) other process improvements to reduce the time constraints faced during this proceeding to date, and other related issues.

11. Consultation with CAL FIRE Has Occurred

SB 901 requires that the Commission and CAL FIRE consult on the review of each wildfire mitigation plan (Pub. Util. Code § 8386(b)) and that the two agencies have a memorandum of understanding in place to facilitate this consultation (Pub. Util. Code § 8386.5).⁴⁴ The Commission has met these

⁴⁴ Section 8386.5 provides: "The commission and the Department of Forestry and Fire Protection shall enter into a memorandum of understanding to cooperatively develop consistent approaches and share data related to fire prevention, safety, vegetation management, and energy distribution systems. The commission and the department shall share results from various fire prevention activities, including relevant inspections and fire ignition data."

requirements, but neither this decision nor the decisions on the individual WMPs purport to speak for CAL FIRE.

12. Conclusion

The WMP decisions the Commission issues in this proceeding are but one action the state and its regulated electrical corporations will take to mitigate the risk of catastrophic wildfire. This will be an annual process, and we expect continuous improvement as our actions here are an important element of the collective state efforts to mitigate risks of catastrophic wildfires. As such, the annual WMP process will be iterative, and will require reporting, monitoring, evaluation and updating to ensure the electrical corporations are targeting the greatest risk with effective programs.

Pursuant to SB 901, the costs of the actions in the WMP will be the subject of review at a later time, in the context of individual GRCs. Thus, nothing in this decision should be interpreted as a determination that those costs are reasonable or that any respondent has acted as a prudent manager. Any provision in a WMP that represents that approval of the Plan constitutes a determination on cost, reasonableness, or prudence is disapproved.

13. Comments on Proposed Decision

The proposed decision of ALJs Thomas and Allen in this matter was 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 separate comments on the guidance proposed decision and one set of comments regarding the proposed decisions on electrical corporations' individual WMPs. The following parties filed comments addressing the guidance proposed decision: on May 15, 2019, Rural County Representatives of California

and on May 16, 2019, California Environmental Justice Alliance. On May 20, 2019, the following filed comments: Bear Valley Electric Service, California Farm Bureau Federation, California Large Energy Consumers Association, City of Malibu, Energy Producers and Users Coalition, Green Power Institute, Ruth Henricks, Mussey Grade Road Alliance, Pacific Gas and Electric Company, PacifiCorp, Protect Our Communities Foundation, Public Advocates Office, San Diego Gas & Electric Company, Small Business Utility Advocates, Southern California Edison Company, and The Utility Reform Network.

Reply comments were filed on May 28, 2019 by California Environmental Justice Alliance, California Large Energy Consumers Association, City of Malibu, City and County of San Francisco, Ruth Henricks, Mussey Grade Road Alliance, Pacific Gas and Electric Company, PacifiCorp, Protect Our Communities Foundation, Public Advocates Office, San Diego Gas & Electric Company, Small Business Utility Advocates, Southern California Edison Company, and The Utility Reform Network. We have made changes throughout this decision addressing party comments.

14. Assignment of Proceeding

Michael Picker is the assigned Commissioner and Sarah R. Thomas and Peter V. Allen are the assigned ALJs for this proceeding.

Finding of Fact

The “metrics” the respondent electrical corporations propose focus on activities or inputs such as the numbers of trees cut down or miles of covered conductors installed.

Conclusions of Law

1. Senate Bill 901 (SB 901) does not provide for the Commission to approve cost recovery for the costs of a Wildfire Mitigation Plan (WMP) or the programs the WMP proposes in the Commission's decision approving the WMP.

2. SB 901 provides for cost recovery related to the WMP in a General Rate Case.

3. SB 901 does not provide that Commission approval of a WMP is dispositive of whether the WMP filer acted reasonably and prudently when the filer seeks recovery of WMP-related costs.

4. SB 901 requires WMPs to contain metrics that allow the Commission, CAL FIRE and other stakeholders to assess whether the WMPs will reduce the risk and impact of catastrophic wildfires. Many of the activities the electrical corporations label as "metrics" are program targets.

5. The Commission should require additional reporting and activity to assist with the WMP process next year, and to help evaluate the effectiveness of the mitigation measures in this year's WMPs.

O R D E R

IT IS ORDERED that:

1. All electrical corporations named as respondents shall file two Tier 3 Advice Letters entitled "Reports on Possible Off Ramps," describing any concerns about the effectiveness of any program in their individual Wildfire Mitigation Plans. The first Advice Letter shall be filed and served on the service list for this proceeding no later than 6 months from the effective date of this decision and the second Advice Letter shall be filed and served no later than 12 months after the effective date of this decision. Each report shall clearly

describe the concern, contain a specific proposal for action, including if applicable a recommendation to reduce or end the specific mitigation identified, and include any expert or other authoritative information available on the efficacy of the mitigation.

2. All electrical corporation respondents shall, by July 30, 2019, file and serve on the service list for this proceeding a report entitled “Data Collection for Wildfire Mitigation Plans” that: a) includes a “Data and Map Product Catalogue” that lists, identifies, and describes all datasets and map productions the electrical corporation possesses, collects and maintains that could be useful in assessing the effectiveness of its Wildfire Mitigation Plan (WMP) in reducing catastrophic wildfire risk; b) provides a “Data Dictionary” detailing the data tables, attribute column headers, sample attributes, alias, description, and metadata about the datasets and map products identified in (a); c) proposes metrics to assess whether the Wildfire Mitigation Plans are having or will have the desired result (i.e. – a reduction in the risk of catastrophic wildfire); d) suggests new areas of data collection that could assist in assessing WMP effectiveness and align utility data collection efforts; e) proposes a schedule for collecting and using the data for future wildfire mitigation efforts; and f) proposes a manner of making the data available to third party researchers for the purposes of improving wildfire mitigation. Before making this filing, the electrical corporations shall consult experts in data analysis, including, if relevant, presenters at the Wildfire Technology Innovation Summit co-sponsored by this Commission on March 20-21, 2019, to ensure they gather the data in a manner that allows assessment, including using common data gathering methods across all respondent electrical corporations. The filing shall include the results of this consultation. Parties may comment on the filing on

August 21, 2019. The workshop(s) discussed elsewhere in this decision will consider this material along with other matters. Parties will have an opportunity to propose topics for workshop(s).

3. Later this year, the Commission's Safety and Enforcement Division is authorized to convene one or more workshops with the parties to this proceeding and other interested stakeholders for the purpose of initiating the 2020 Wildfire Mitigation Plan (WMP) process. The workshop(s) will include discussion of: a) proper metrics; b) the timing of WMP filing, including whether to stagger large investor owned utility filings and those of the small and multijurisdictional utilities; c) discovery and data exchange in 2019 that will assist stakeholders in assessing and commenting on the WMPs; and d) other process improvements to reduce the time constraints faced during this proceeding to date, and other relevant matters. Additional details and other related issues about the workshop(s) will be provided by future ruling in this proceeding.

4. As part of the workshop(s), the Commission's Safety and Enforcement Division shall work with all stakeholders, including the Wildfire Mitigation Plan (WMP) filers, to develop a common template for capturing metrics. This process shall result in a list of metrics that provides the Commission, the Department of Forestry and Fire Protection, related agencies and researchers tools to evaluate the effectiveness of the WMPs at mitigating catastrophic wildfires.

5. In order to comply with Public Utilities Code Section 8386(c)(19)(C), future Wildfire Mitigation Plans must include a discussion of how the utility evaluates the effectiveness of routine inspection programs developed in accordance with existing regulations such as the Commission's infrastructure inspection requirements in General Order (GO) 165. At a minimum, the discussion shall

detail the purpose of each inspection, the number of each type of inspection conducted, the cost of each type of inspection, and a listing of the top five violations or hazards identified by each inspection program, including its location and GO 95, Rule 18 priority level rating.

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

7. This decision ratifies all rulings issued in this proceeding.

8. This decision does not act on the second amended Wildfire Mitigation Plan distributed by Pacific Gas and Electric Company on April 25, 2019. Phase 2 of this proceeding will consider the matter and filings related to the second amended Wildfire Mitigation Plan.

9. This decision resolves all issues required by Senate Bill 901, Public Utilities Code Section 8386(c) for 2019, except as otherwise provided in this decision.

10. 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

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 the need to 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 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.

(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

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
<i>(1) An accounting of the responsibilities of persons responsible for executing the plan.</i>	VI.A.
<i>(2) The objectives of the plan.</i>	I.
<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.</i>	II.
<i>(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.</i>	VI.B.
<i>(5) A discussion of how the application of previously identified metrics to previous plan performances has informed the plan.</i>	VI.C.
<i>(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.</i>	IV.A.
<i>(7) Appropriate and feasible procedures for notifying a customer who may be impacted by the deenergizing of electrical lines. The procedures shall consider the need to notify, as a priority, critical first responders, health care facilities, and operators of telecommunications infrastructure.</i>	IV.F.
<i>(8) Plans for vegetation management.</i>	IV.D.
<i>(9) Plans for inspections of the electrical corporation’s electrical infrastructure.</i>	IV.B.

<p align="center">Code Reference §8386(c)</p>	<p align="center">Wildfire Mitigation Plan section</p>
<p><i>(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:</i></p> <p><i>(A) Risks and risk drivers associated with design, construction, operations, and maintenance of the electrical corporation's equipment and facilities.</i></p> <p><i>(B) Particular risks and risk drivers associated with topographic and climatological risk factors throughout the different parts of the electrical corporation's service territory.</i></p>	<p align="center"><i>III.B.(1-5)</i></p>
<p><i>(11) A description of how the plan accounts for the wildfire risk identified in the electrical corporation's Risk Assessment Mitigation Phase filing.</i></p>	<p align="center"><i>III.B.6.</i></p>
<p><i>(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.</i></p>	<p align="center"><i>IV. (whole section)</i></p>
<p><i>(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.</i></p>	<p align="center"><i>V.B.3.</i></p>
<p><i>(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.</i></p>	<p align="center"><i>III.D.</i></p>
<p><i>(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.</i></p>	<p align="center"><i>III.A.</i></p>

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

CROSS REFERENCE TABLE 2

Using Wildfire Mitigation Plan Organization

Wildfire Mitigation Plan section	Code Reference §8386(c)	
I. Objectives consistent with §8386(a) A. Categorized by following timeframes: A. Before upcoming wildfire season B. Before next Plan filing C. Within next 5 years	2	
II. Description of preventive strategies and programs B. Categorized by following timeframes: A. Before upcoming wildfire season B. Before next Plan filing C. Within next 5 years	3	
III. Risk Analysis and Risk Drivers A. Safety and wildfire risk identification and assessment methodology	15	
B. Wildfire risks and drivers list C. Listed in the following categories: 1. Design and Construction 2. Inspection and Maintenance 3. Operational Practices 4. Situational/Conditional Awareness 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 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		
K. Post-incident recovery, restoration, and remediation activities		
V. Emergency Preparedness and Response		
A. General description of overall plan		
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		
1.1.1. Protocols for compliance with CPUC requirements		18

Wildfire Mitigation Plan section	Code Reference §8386(c)
VI. Performance Metrics and Monitoring	
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:	
1. Plan monitoring and auditing	
2. Identifying and correcting Plan deficiencies	
3. Monitoring and auditing effectiveness of equipment and line inspections	19
VII. Any other information the CPUC may require	
A. Cost information	20

(End of Appendix B)

Appendix C

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 BVES	Bear Valley Electric Service, a division of Golden State Water Company
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
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 Arboriculture
ITO	Independent Transmission Owners
IVR	Integrated Voice Recording
km	Kilometer
kV	Kilovolt
LAC	Local Assistance Center
LA County	Los Angeles County
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)