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California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

SUBJECT: Southern California Edison's Reply to Public Comments on its 2021 Wildfire Mitigation Plan Update

Director Thomas Jacobs,

Pursuant to Resolution WSD-011, Southern California Edison Company (SCE) respectfully submits these Reply Comments responding to the Public Comments served on March 29, 2021. Given that many parties' Comments substantially overlap, SCE has limited its responses to the most salient comments on particular subjects. SCE's silence on any particular stakeholder proposal should not be interpreted as acceptance of, agreement to, or acquiescence with that proposal.

REPLY TO PUBLIC COMMENTS

1. Policy Issues

A. SCE's 2021 WMP Update Appropriately Prioritizes Safety While Taking Into Account Affordability

SCE fundamentally disagrees with TURN that the WMP is a utility "wish list," where "every dollar that is spent by the IOUs, even in the name of wildfire mitigation, is a dollar that makes electric rates less affordable."[1] The programs in SCE's WMP are among the most crucial work SCE performs. The risk of catastrophic wildfire is an existential crisis facing our communities, and we must be diligent to protect public safety. The WMP is not a "wish list;" rather it is a prudent response to manage the increasing wildfire risk in California to safeguard people's lives and property, and SCE is statutorily required to minimize the risk of catastrophic wildfire posed by its electrical lines and equipment and ensure our system achieves the highest level of safety, reliability and resiliency.[2] TURN argues that "[u]tility customers in California are facing an affordability crisis"[3] and therefore "the Wildfire Safety Division/Commission must view affordability as a

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[1] TURN Comments at p. 4.
[2] *See* Cal. Pub. Util. Code §8386(a) and §8386(c)(13).
[3] TURN Comments at p. 1.

constraint when reviewing the IOUs' WMPs."[4] SCE agrees that customer affordability is a key issue facing the California Public Utilities Commission (CPUC), but affordability considerations should not be the predominant focus of the WSD. WSD appropriately plays a crucial but limited function in approving the IOUs' WMPs, one that is informed by and constrained by statute. Moreover, the CPUC is addressing customer affordability in other venues, including through an open Rulemaking (R.18-07-006) to which TURN is a party, and recently conducted a highly-publicized Electricity Rates and Costs En Banc, at which TURN was a presenter.[5]

SCE's primary objectives are providing safe, reliable, resilient, and clean electricity service and continuing vital wildfire mitigation work. We, along with our stakeholders, recognize the urgent need to invest in grid hardening and undertake enhanced operational practices including vegetation management, inspections and situational awareness. But we are also committed to sustaining affordable bills for our customers. SCE has worked hard to keep rate increases at or below the rate of inflation, as reflected in the February 2021 CPUC White Paper's charts showing SCE's average rates and bills are lower compared to others in the utility industry.[6] The Commission has various tools to address customer affordability, including securitization of certain eligible costs, ratemaking and rate design alternatives, and various important customer protection programs such as CARE. Impeding the utilities' ability to implement crucial public safety measures should not be one of them.

Finally, the appropriate venue to litigate WMP costs is a General Rate Case (GRC) or other applicable cost recovery proceeding, not through the WMP approval process. SCE's forecast and recorded costs are subject to strict scrutiny in those cost recovery proceedings, including via detailed discovery on SCE's forecast wildfire mitigation investments and expenses, expert review and analysis to inform the record, written party testimony, evidentiary hearings with cross-examinations, post-hearing briefing citing record evidence, and an opportunity for parties to comment on a proposed decision. Wildfire mitigation investments are also addressed in annual risk spending accountability reports and public participation hearings, to ensure that necessary wildfire mitigation investments provide value to customers, reflect prudent decision-making, and should be recovered in rates.

B. The WMP Is Not a Cost Recovery Proceeding

While acknowledging that "SCE's WMP reported two data points for rate increases: increases to system average rates and increases to non-CARE residential customers,"[7] SBUA nevertheless urges WSD to "require SCE to provide more granular data and

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[4] TURN Comments at p. 3.
[5] *See* February 2021 CPUC Draft White Paper "Utility Costs and Affordability of the Grid of the Future: An Evaluation of Electric Costs, Rates, and Equity Issues Pursuant to P.U. Code Section 913.1" (White Paper). SCE, TURN, and others submitted comments to the CPUC on this draft white paper on March 19, 2021.
[6] *See* February 2021 CPUC White Paper at p. 11.
[7] SBUA Comments at p. 7.

report on rate increases for small commercial customers in addition to reporting on increases to non-CARE residential customers."[8] The WMP is not a cost recovery exercise and does not directly lead to "rate increases." The Commission has a long-established Rule of Practice and Procedure that utilities must provide the information requested by SBUA when they file a cost recovery application for approval.[9] That Rule is inapplicable and unnecessary in the WMP context. SCE does not oppose SBUA's other recommendation that SCE "clarify" its payment plan and billing adjustment policies for emergencies such as wildfire events in a future WMP,[10] as long as it is clear that the substance of those policies are not adjudicated in or within the scope of the WMP process.

Similarly, Cal Advocates asserts that "[t]he methodology for estimating rate and bill impacts requires further development in workshops."[11] SCE believes the existing estimated rate and bill impacts information required in the WMP to be straightforward and transparent and notes once again that the WMP is not a cost recovery proceeding and the issue should not affect the approval of SCE's WMP. However, SCE is not opposed to having further discussions on this topic in the context of streamlining the WMP process for future submissions.

C. Additional Financial Information Should Not Be Added to the WMP Requirements

Cal Advocates recommends that utilities be required to explain substantial year-to-year changes in their WMP cost forecasts. Specifically, Cal Advocates recommends that, "The WSD should require that future WMP update filings provide an explanation where forecast costs have substantially changed and should consider adopting a percentage threshold for this requirement."[12] Current WMP submissions contain sufficient information on financial forecasts for WMP initiatives consistent with WMP requirements. Financial information is provided in both the WMP narrative and within Table 12 of the non-spatial Quarterly Data Reports (QDR). Further, as part of the WMP Annual Compliance Report, utilities are required to provide detailed financial variance analyses comparing planned versus actual expenditures for WMP initiatives. Lastly, because the WMP is not a proceeding in which cost recovery is authorized, the level of financial information currently provided as part of the annual filing is more than sufficient to review utility WMPs.

Cal Advocates also recommends a further disaggregation of individual initiative costs to more granular levels.[13] SCE appreciates Cal Advocates desire to further clarify the scope of activities performed for each WMP initiative, however, that can likely be done

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[8] Ibid.
[9] *See* Commission Rule of Practice and Procedure 3.2.
[10] SBUA Comments at pp. 7-8.
[11] Cal Advocates' Comments at Appendix D, Section A.
[12] Cal Advocates' Comments at p. 55.
[13] Cal Advocates' Comments at p. 52

without requiring structural changes to utility accounting and reporting practices. Prior to adopting a blanket recommendation such as this, SCE encourages WSD and stakeholders to fully evaluate the potential benefits of doing so against the level of complexity and meaningfulness that such cost figures may provide in future workshops.

D. SCE's Efforts to Preserve Confidentiality Are an Accepted Practice and Protect a Vital Public Interest

MGRA challenges SCE's confidential designation of certain data regarding its assets, including Geographical Information System (GIS) data files. While MGRA claims to support "IOU efforts to protect critical infrastructure," MGRA nevertheless argues that the confidentiality concerns raised by SCE are "implausible," "overbroad," and do not represent "realistic threats."[14] MGRA recommends that WSD work with the IOUs and stakeholders to identify the confidential and public elements of its GIS templates, and suggests that IOUs be required to release public GIS data along with quarterly updates.[15]

As an initial matter, MGRA's challenge to SCE's confidentiality concerns rings hollow given that MGRA, and any other interested stakeholder, may receive confidential data under well-established processes used in Commission proceedings. Specifically, it is standard for third parties to use Non-disclosure Agreements (NDAs) to protect confidential information, and SCE has provided confidential data to those stakeholders willing to sign such NDAs. SCE has invited MGRA to enter into an NDA; however, MGRA has refused. Confidentiality is crucial to protect customers and to safeguard the public against potential threats to the California electrical grid.

Moreover, as MGRA acknowledges, SCE's confidential designations primarily are intended to safeguard critical energy infrastructure information. Release of the precise location, age, and other attributes of SCE's assets alongside the precise location of critical facilities may significantly increase safety risk to the public. While a data element such as equipment age may be deemed non-confidential on a standalone basis, when that data is related to location and probability and consequence of ignition information, it could provide critical information to a bad actor putting SCE facilities and communities at grave risk. As another example, knowledge of underground line routes and electrical equipment serving a critical facility could facilitate an attack on that critical facility's power supply. Also, knowledge of the location of specific SCE assets in areas with historical high fire weather could make them vulnerable to attack during the time at which the risk of fires may be highest. While maps of varying age and detail of SCE's transmission system may be publicly available from other sources, SCE does not believe it is prudent to further propagate that information, which taken together with other information, could be used to harm the public.

[14] MGRA Comments at p. 85; MGRA Comments on 2020 Wildfire Mitigation Plan Q4 Quarterly Report of SDG&E, PG&E and SCE, at pp. 5-6.
[15] MGRA Comments at p. 85.

SCE has provided legal support for its confidential designations, as is the accepted practice.[16] The designated information meets the balancing test of California Government Code section 6255. There also is little to no benefit to making this information publicly available given that third parties do not need this information to evaluate SCE's 2021 WMP Update (and MGRA fails to articulate how it even would use such information). Finally, public disclosure of information that could identify the company, customer, or the location/site or other private information could raise privacy and competitive concerns. Therefore, certain data related to SCE's assets are properly classified as confidential and should continue to be classified as such.

E. SCE Welcomes Opportunities to Further Improve the WMP Process

Many stakeholder comments take issue with the WMP Guidelines and/or the overall WMP process, and make recommendations to change the schedule, hold workshops on a variety of subjects, add requirements to the Guidelines, etc. Cal Advocates, for example, states that "[t]he current WMP submission and review schedule is infeasible"[17] and makes several recommendations to adjust the schedule, process and requirements in future WMP Guidelines, including proposals to hold technical workshops to review practices and revise or standardize requirements.[18] Similarly, MGRA "request[s] that WSD allow a more thorough public review of WMPs by granting additional time in future reviews,"[19] asks for workshops to evaluate programs[20] and seeks to standardize information.[21]

SCE appreciates the points raised by Cal Advocates, MGRA, and other stakeholders regarding the accelerated schedule and complexity of the current WMP process. The extensive requirements extend into aspects of utility operations and planning beyond wildfire mitigation. Provision of such information under compressed timelines, e.g., year-end data in early February, creates substantial challenges and strains resources, including the employees who must focus on WMP regulatory work at the same time they work on operationalizing wildfire mitigation activities. SCE welcomes opportunities to collaborate with the WSD, stakeholders, and the other utilities in improving the utilities' focus on *wildfire* risk reduction. In fact, SCE has previously recommended changes to streamline the WMP Guidelines, schedule, and reporting requirements, and suggested the WSD conduct workshops to rationalize the requirements. Nevertheless, SCE notes that these changes cannot and should not be applied to the WSD's approval

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[16] *See* Gov't Code § 6254(c); Gov't Code § 6254(k); Civil Code §§ 1798.3 & 1798.24 (the California Information Practices Act); Cal. Const., Art. I, § 1 (California constitutional right to privacy); Gov't Code §§6254(k), 6254.7(d); Evid. Code §1060; Civil Code §3426 et seq.; Competitive Data: Gov't Code §§ 6254(k), 6254.7(d); Evid. Code §1060; Civil Code §3426, et seq.

[17] Cal Advocates' Comments at p. 42.

[18] Cal Advocates' Comments at pp. 42-65.

[19] MGRA Comments at pp. 2-3.

[20] MGRA Comments on 2020 Wildfire Mitigation Plan Q4 Quarterly Report of SDG&E, PG&E and SCE at p. 4.

[21] MGRA Comments at p. 58.

of the IOUs' current WMPs, as SCE has met the WMP Guidelines as originally written. The WSD should limit the scope of issues to the statutory requirements of PUC Section 8386, as modified by SB 901 and AB 1054, related to the WMPs, with future revisions to be addressed after the pending WMPs are approved. SCE supports stakeholder recommendations to conduct workshops to streamline the 2022 WMP Guidelines, rationalize the reporting requirements, and assess changes to the overall schedule after the 2021 WMP Update approval.

Cal Advocates also recommends implementing an Advice Letter process for IOUs' Change Order Reports.[22] SCE disagrees with this approach, in light of the WSD's impending move to the California Natural Resources Agency (CNRA). As Advice Letters are a Commission-authorized process, it would make little sense for the utilities to adhere to such a process once the WSD has left the Commission. Rather, the Change Orders Report process should remain the same as the 2020 process. Refinements to this process could be discussed after WMP approval as part of an overall process to streamline the WMP requirements.

2. Grid Design and System Hardening

A. TURN's Proposal to Limit the Deployment of Covered Conductor Based on Alleged Affordability Concerns Should Be Rejected

TURN's primary argument that SCE's "WMP should be rejected until the utility provides a properly scoped covered conductor program"[23] is inconsistent with the WMP approval statutory framework. In SB 901 – as affirmed by AB 1054 – the Legislature established a specific framework for WMP approval. Specifically, WSD "reviews and approves" a utility's WMP based on 22 enumerated requirements in P.U.C. Section 8386(c). TURN's Comments essentially invent a 23rd requirement—that WSD should reject the entire WMP if a single intervenor takes issue with the proposed scope of a single program in a utility's WMP.[24] On that basis alone, TURN's primary proposal is contrary to statute and must be rejected.

In tacit recognition that its primary proposal is inconsistent with the statutory framework for WMP approval, TURN offers a secondary proposal, namely that "[i]f the WSD/Commission does not deny the WMP, it should limit any approval of SCE's covered conductor proposal to the covered conductor budget approved in the forthcoming GRC Decision."[25] Both TURN's primary and fallback positions, however, are deeply flawed. Procedurally, TURN's proposals appear to be an attempt to preempt the Commission's decision-making in SCE's pending 2021 GRC Track 1, in which a Proposed Decision is expected shortly based on the schedule in that proceeding.

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[22] Cal Advocates' Comments at pp. 64-65.
[23] TURN Comments at p. 47.
[24] TURN Comments at p. 48
[25] TURN Comments at pp. 48-49.

Specifically, TURN blatantly attempts to re-litigate one of the key GRC issues: the appropriate scope of SCE's covered conductor deployment. In addition, as discussed below, TURN also mis-characterizes how SCE believes the Commission is likely to adjudicate that issue procedurally. Substantively, both here and in the GRC, TURN's preferred much-more-limited scope of covered conductor deployment conflates the concepts of relative risk versus absolute risk and would unjustifiably subject hundreds of thousands of people to unacceptable wildfire risk.

i. WSD Should Appropriately Defer to the Commission's GRC Process and Other Regulatory Dockets to Adjudicate the Appropriate Scope of Covered Conductor Deployment and Attendant Cost Recovery Considerations

TURN admits that it "fully litigated the proper scope and budget for the covered conductor program in SCE's GRC"[26] and that "a decision is outstanding"[27] in that docket. Indeed, a Proposed Decision is imminent.[28] WSD should defer to the Commission's GRC docket to set the appropriate scope of covered conductor deployment, as that is where the issue was fully litigated and it is in that proceeding where the resulting necessary funding will be authorized.

As mentioned above, TURN alternatively argues that WSD "should limit any approval of SCE's covered conductor proposal to the covered conductor budget approved in the forthcoming GRC Decision."[29] As a procedural issue, SCE does not believe it is likely that the Commission in the GRC docket will approve a set "covered conductor budget." SCE proposed a two-way balancing account for wildfire mitigation work in that proceeding, with amounts above a certain threshold for any provisionally-authorized amounts subject to further review. In any event, any uncertainty regarding the ratemaking construct the Commission will ultimately adopt in the GRC is yet another reason to not pre-judge the issue here.

In addition, as discussed in detail in the following section, the debate between SCE and TURN regarding the appropriate scope of covered conductor deployment rests on the acceptable amount of residual risk to customers that will remain when that scope is completed. But that issue is not ripe for adjudication in this WMP review. Indeed, the Commission will examine that *exact* issue in Phase II of the open Risk-Based Decision-Making Framework Rulemaking (R.20-07-013), where it will consider:

> "Should the Commission adopt an As-Low-As-Reasonably-Practicable (ALARP) framework and/or a risk tolerance standard? If the Commission adopts a risk

[26] TURN Comments at p. 48.
[27] TURN Comments at p. 47.
[28] *See* November 25, 2019 Assigned Commissioner's Scoping Memo and Ruling in A.19-08-013 at p. 9 (targeting a Track 1 Proposed Decision in "Q4 2020 / Q1 2021").
[29] TURN Comments at pp. 48-49.

tolerance standard and/or an ALARP framework, what are the minimum necessary building blocks that must be adopted concurrently or sequentially?"[30]

After a process that SCE expects will include rigorous analysis from a wide range of stakeholders and regulators, the Commission will presumably provide definitive guidance regarding what it views as acceptable residual risk in that Rulemaking. Accordingly, TURN's arguments here about the appropriate scope of covered conductor deployment and the associated acceptable amount of residual risk following the execution of that scope are premature.

Finally, TURN's argument that "[t]he WSD/Commission should direct that before SCE uses a MARS PSPS Risk Score to justify or deploy covered conductor, it must quantify the impact on potential PSPS events or commit to a reducing reliance on PSPS as a mitigation"[31] is also beyond the appropriate scope of this proceeding. Although SCE notes that it is not currently using a "MARS PSPS Risk Score" when deciding where to deploy covered conductor, SCE has accelerated certain grid hardening activities to reduce the frequency, scope and duration of PSPS events, especially for historically frequently impacted circuits, as set forth in our February 12, 2021 PSPS Corrective Action Plan (Action Plan). The Commission's open PSPS-specific Rulemaking (R.18-12-005) is the appropriate docket to consider details about PSPS guidelines and requirements.

ii. TURN's Re-Stated Arguments About Covered Conductor Scope Again Conflate Concepts of Relative and Absolute Risk

SCE vigorously disagrees with TURN that the limited amount of covered conductor deployment scope TURN proposes will sufficiently reduce risk for customers. Protecting customers and the public from destructive wildfires is SCE's number one priority. Extensive, risk-informed deployment of covered conductor – a technology that SCE has tested, evaluated and benchmarked – through the Wildfire Covered Conductor Program (WCCP) is SCE's most important and effective tool to mitigate wildfire risk for Californians. In the GRC, and again here, TURN proposes massive reductions to SCE's proposed scope of this critical work necessary to protect lives and property. Not only would those cuts constitute poor public policy and needlessly endanger Californians, they also ignore existing law that supports SCE's request.

Following the devastating wildfires of 2017 and 2018, the Legislature enacted SB 901, which required the utilities to develop and implement comprehensive WMPs. Pursuant to that statute, each utility "shall construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of catastrophic wildfire posed by those electrical lines and equipment."[32] In order to achieve this risk reduction, a utility's wildfire mitigation programs must be designed "to ensure its system will achieve the highest

[30] November 2, 2020 Assigned Commissioner's Scoping Memo and Ruling in R.20-07-013 at pp. 8-9.
[31] TURN Comments at p. 54.
[32] Cal. Pub. Util. Code §8386(a) (emphasis added).

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 … ."[33] TURN's covered conductor proposal, which it admits is based exclusively on addressing relative risk analysis, not absolute risk,[34] ignores the statutory requirement to "minimize the risk of catastrophic wildfire" so that the "highest level of safety" can be achieved. SCE's proposal, which optimizes risk reduction given physical resource, environmental, permitting, and operational constraints, fulfills the statutory intent and would protect the lives and homes of hundreds of thousands of customers that would be left out by TURN's proposal.

TURN's proposed incomplete roll-out of WCCP would retain material wildfire risk, which WSD should not ignore. SCE vigorously disagrees with TURN's proposal to stop covered conductor installation at 2,581 circuit miles, which TURN unilaterally deems will provide an acceptable level of remaining public safety risk. In TURN's view, because there is a diminishing marginal level of risk reduction per-mile as more miles are completed in the highest relative risk areas, SCE should stop installing covered conductor at a point earlier on the "risk buydown curve." TURN misinterprets the risk buydown curve. The curve is a mathematical model that should only be used to *prioritize* the order of deployment of the covered conductor circuit-segments, not to determine the amount of covered conductor to be installed. In other words, the risk model informs where covered conductor installation should start due to the non-uniform nature of the risk distribution throughout the CPUC's Tier 3 and Tier 2 areas, not the appropriate place to stop.[35]

Moreover, TURN's Comments are also internally contradictory. In the same Comments in which it criticizes SCE for proposing to deploy too much covered conductor, it appears to admonish PG&E and SDG&E for not deploying enough.[36] TURN has no basis to adjudicate the "sweet spot" of conductor deployment-- the Commission, the WSD, and dozens of utility risk experts with expansive subject matter expertise are much better suited to the task.

TURN's argument pivots around what it considers to be less cost-effective wildfire mitigation work. "Less cost effective" should not be confused with not "cost effective." TURN's proposal is based on a faulty analysis of cost-effectiveness that compares relative risk reduction from any particular mile of covered conductor replacement to the

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[33] Cal. Pub. Util. Code §8386(c)(13) (emphasis added).
[34] TURN Comments at p. 49 ("that risk is relatively concentrated in a limited number of miles") (emphasis added); *see also* TURN, Borden, Tr. 11/1237:9-12:38:25 in A.19-08-013.
[35] *See* Exhibit SCE-15, Vol. 05, p. 13 in A.19-08-013.
[36] TURN Comments at p. 35 ("TURN recommends that the WSD and the Commission should question the allocation of spending by PG&E and SDG&E on grid design and system hardening activities [in light of the fact that 89% of SCE's spend is on covered conductor compared to less than 20% for the other utilities]. … It would take PG&E about one hundred years to replace all of its HFTD conductor, and SDG&E almost as long.").

risk reduction from the previous priority mile.[37] But the relevant cost-effectiveness test should compare the cost of installing a mile of covered conductor to the absolute risk mitigated from that mile of covered conductor. In addition, Risk-Spend Efficiencies (RSEs) have inherent limitations, e.g., they do not take into account certain operational realities, resource constraints, and other factors that SCE must consider in developing its plan. Thus, it would be inappropriate to implement a comprehensive wildfire risk mitigation plan based solely on RSEs.[38]

TURN argues that areas further down the risk buydown curve are less risky and therefore it is less cost-effective to install covered conductor in those areas as compared to earlier areas.[39] While current models show relative risk reduction declining as deployment increases (which is expected), substantial absolute risks would remain under TURN's proposal.[40] It is important to understand the magnitude of wildfire risk (which could be mitigated by covered conductor) remaining along the curve. While it may appear that risk approaches a small amount towards the right-hand side of the curve, this is largely due to the wide-ranging scale of Reax and Technosylva wildfire consequence scores (from 0 to *over 100,000*), and the extremely high modeled risk associated with some areas of the risk curve.[41] In other words, the curve appears steep because certain circuit-segments have extraordinarily high-risk values.[42]

It is important to consider the consequences of ignoring *absolute* risk by focusing solely on *relative* risk – those consequences include potentially serious impacts to structures, public safety, and land. There are a significant number of homes and businesses that could be impacted by potential wildfires starting much further down the risk curve than the areas that TURN would propose covering.[43] In fact, destructive wildfires recently

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[37] *See* Exhibit SCE-15, Vol. 05, p. 20 in A.19-08-013.
[38] *See* Exhibit SCE-15, Vol. 05, at p. 20 and App. A, pp. A8-A10 in A.19-08-013; Southern California Edison's 2021 Wildfire Mitigation Plan Update Supplemental Filing- CORRECTED Regarding Action Statements in Wildfire Safety Division's Evaluations of its Remedial Compliance Plan and First Quarterly Report, pp. 197-99.
[39] *See* Exhibit TURN-02, pp. 13-20 in A.19-08-013.
[40] *See* Exhibit SCE-15, Vol. 05, p. 21 in A.19-08-013.
[41] *See* Exhibit SCE-15, Vol. 05, p. 21 in A.19-08-013. The consequence module of the Wildfire Risk Model is based on the analysis performed by Reax Engineering. These calculations involve an input of high-resolution hourly gridded fields of relative humidity, temperature, dead fuel moisture, and wind speed/direction into Monte Carlo simulations that include an analysis of hundreds of thousands of ignition locations. Consequence is estimated as the product of the number of structures burned within a modeled fire perimeter and the fire volume (acres burned) associated with that fire perimeter. To limit the order of magnitude of consequence scores, these scores are scaled by a factor of 1,000. The formula is as follows: fire volume x impacted structures x 0.001. See Exhibit SCE-15, Vol. 05, p. 19, n. 42 in A.19-08-013.
[42] *See* Exhibit SCE-15, Vol. 05, p. 21 in A.19-08-013, *see also* TURN, Borden, Tr. 11/1238:2-1239:22 in A.19-08-013.
[43] *See* Exhibit SCE-15, Vol. 05, pp. 16:22-23 in A.19-08-013.

have occurred in SCE's service area on circuit-segments located in areas on the risk buydown curve that TURN would leave uncovered.[44]

The risk curve assumptions TURN used in the GRC present an incomplete view of the world in another way: the GRC model is heavily weighted towards acres burned instead of structures impacted by a potential wildfire. Focusing on the latter instead, as demonstrated in SCE's GRC rebuttal testimony, the curve appears much "flatter."[45] Even more important than structures affected by a potential wildfire are the hundreds of thousands of people living in SCE's HFRA in areas that would be excluded from the protection of covered conductor if TURN's proposed scope is adopted. That population includes hundreds of critical care customers and thousands of critical infrastructure facilities.[46] In SCE's view, despite the natural mathematical effect of diminishing relative risk reduction that results from installing covered conductor in a risk-prioritized fashion, it remains important to consider the people and communities that would be left out if one only focuses on that single measure.

Ignitions associated with points along the far right-hand side of the risk curve could lead to destructive wildfires. These potential ignitions pose real risks to communities throughout the HFRA and the outcome of the ignitions can depend greatly on weather conditions and third-party fire-fighting abilities to effectively contain resulting wildfires.[47] As demonstrated in a table in SCE's rebuttal testimony in the GRC (reproduced below), SCE illustrated the consequence portion of the wildfire risk associated with various points on the risk curve, in natural units of measure (*i.e.*, absolute risk). For example, this table shows that for the cost of deploying one mile of covered conductor along some point on SCE's system between 5,001 and 6,250 cumulative miles on the risk curve, on average, 23 structures and 1,597 acres could be prevented from destruction.[48] Due to the limitations of Reax and Technosylva fire propagation modeling (*i.e.*, the assumption that wildfires last only 6 or 8 hours) the average potential wildfire consequence per mile in the table below is a conservative value (*i.e.*, in a real-world fire, the damages or "consequence" could very well be much greater).[49] Although since the GRC SCE has evolved its risk modelling and is now employing a Technosylva-based model, it remains true that significant numbers of assumed structures and acres burned are likely to occur significantly down the risk buy-down curve.

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[44] *See* Exhibit SCE-15, Vol. 05, pp. 24-25 in A.19-08-013.
[45] *See* Exhibit SCE-15, Vol. 05, p. 16 in A.19-08-013.
[46] *See* Exhibit SCE-15, Vol. 05, pp. 16; 23-24 in A.19-08-013.
[47] *See* Exhibit SCE-15, Vol. 05, p. 21 in A.19-08-013.
[48] *See* Exhibit SCE-15, Vol. 05, pp. 21-22 in A.19-08-013.
[49] *See* Exhibit SCE-15, Vol. 05, p. 22 in A.19-08-013.

***Average Wildfire Consequence Along the Relative Risk Buydown Curve*[50]**

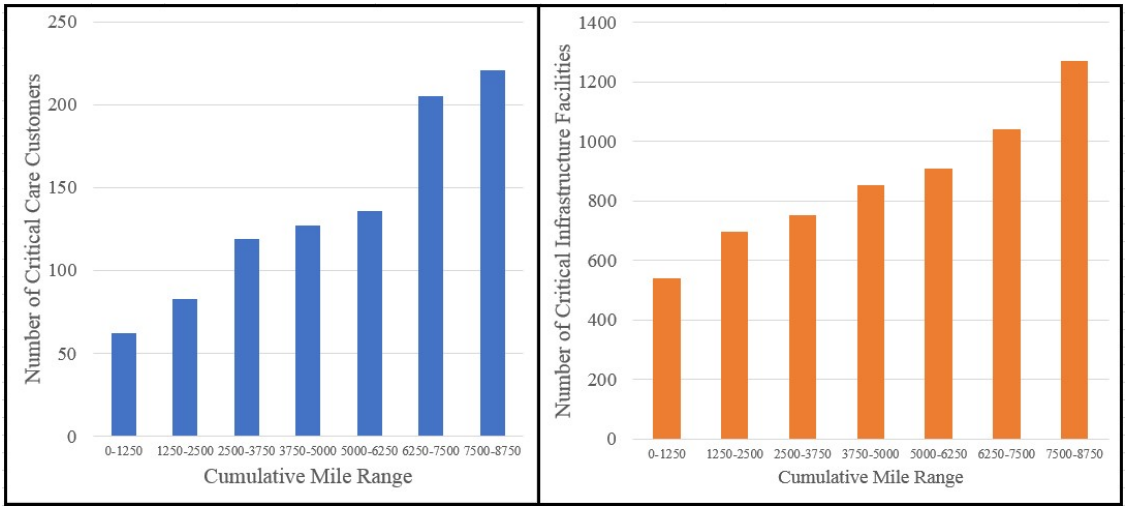
Tranches of Cumulative Miles on Risk Curve	Average Reax Score for Tranche[51]	Average Wildfire Consequence per Mile for Tranche[52]
0-1,250	6,849	272 structures and 33,036 acres
1,251-2,500	1,291	107 structures and 16,830 acres
2,501-3,750	371	69 structures and 8,617 acres
3,751-5,000	104	42 structures and 4,102 acres
5,001-6,250	24	23 structures and 1,597 acres
6,251-7,500	3	9 structures and 334 acres
7,501+	0	1 structure and 23 acres

Further, it is important to understand the impacts to some of SCE's most vulnerable residential customers and essential services facilities in areas throughout the risk curve.[53] It is important to understand the limitations of TURN's proposal as it relates to the ability for covered conductor to lessen the potential for wildfires to affect critical care customers, medical baseline customers, income qualified customers, critical facilities, etc., and mitigate other impacts including PSPS for those customers. The figure below from SCE's rebuttal testimony shows the number of some of these types of customers and facilities by cumulative circuit miles on the risk curve. Adopting TURN's proposal would leave out more than eight hundred critical care customers and approximately 5,000 critical infrastructure facilities.[54]

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[50] *See* Exhibit SCE-15, Vol. 05, p. 22, Table II-7 in A.19-08-013.
[51] Rounded to nearest whole number. Reax values are derived from current DOTS 2.0 risk-prioritization model.
[52] Rounded to nearest whole numbers. Consequence data from original methodology used to populate illustrative risk buydown curve shown in SCE's direct testimony and TURN testimony in the GRC. SCE has also "mapped" the consequence data to current DOTS 2.0 model.
[53]These residential customers are classified as critical care customers, which means they depend on the use of life-supporting medical devices for their survival and cannot tolerate loss of electricity sources for two or more hours. *See* D.19-05-042 for the definition of "critical facilities, "which are facilities and infrastructure that are essential to the public safety and that require additional assistance and advance planning to ensure resiliency during de-energization events.
[54] *See* Exhibit SCE-15, Vol. 05, pp. 22-23 in A.19-08-013.

***Histograms of the Number of Critical Care Customers (Left) and Critical Infrastructures Facilities (Right) Along the Relative Risk Buydown Curve*[55]**



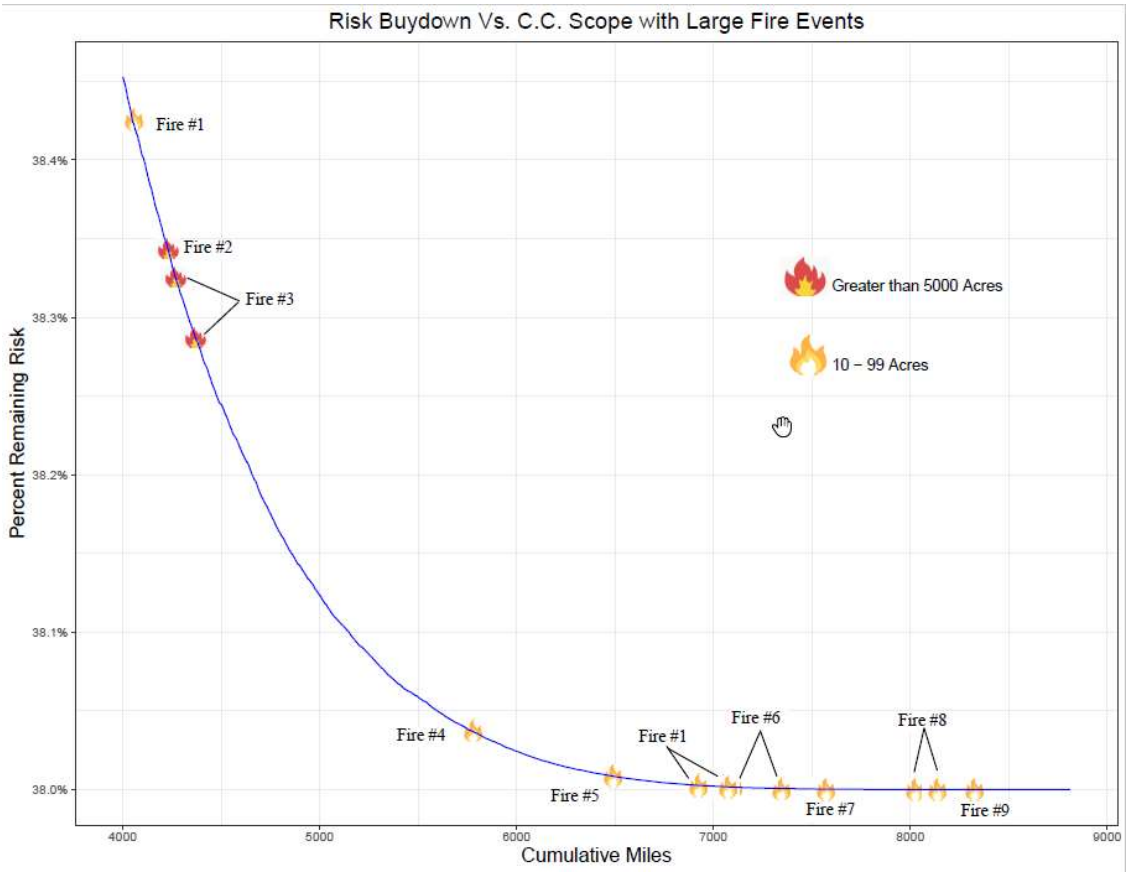
Moreover, large wildfires have recently occurred from ignition points much further down the risk buydown curve than TURN's proposal. This is unsurprising: Almost every mile of prospective covered conductor installation will occur in areas the Commission has already deemed inherently dangerous by designating them as Tier 3 and Tier 2 HFTD. SCE has approximately 9,600 circuit miles of overhead circuit miles located in the Commission's designated Tier 3 and Tier 2 HFTD areas.[56] The risk of a relatively small fire becoming a catastrophic fire is largely driven by exogeneous factors (most importantly weather and fire-fighting response) that are not only outside of SCE's reasonable control but are also not yet sufficiently captured in the risk modelling.[57] As mentioned above, the risk buydown curve used in the GRC is based on a mathematical model that simulates the estimated effects of a wildfire that burns for only six hours, and the one used in the 2021 WMP simulates an eight-hour wildfire. Experience has shown that extremely dangerous and destructive fires can last for days, not hours.[58] Thus, the consequence captured in SCE's risk model is not reflective of the worst-case scenario. It is critical to keep in mind that many potential ignitions – given the wrong conditions – could turn into the next catastrophic wildfire event. Covered conductor is particularly effective at mitigating risk associated with certain types of ignitions (*i.e.*, contact from object, wire-to-wire contact, and wire-related equipment failure). These are the same types of ignitions that are often correlated with the kinds of weather conditions that can lead to catastrophic wildfires if an ignition does occur (*e.g.*, high wind events).[59]

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[55] *See* Exhibit SCE-15, Vol. 05, p. 24, Figure II-2 in A.19-08-013.
[56] *See* Exhibit SCE-15, Vol. 05, p. 24 in A.19-08-013.
[57] *See* Exhibit SCE-15, Vol. 05, p. 15 in A.19-08-013.
[58] *See* Exhibit SCE-15, Vol. 05, p. 24 in A.19-08-013.
[59] *See* Exhibit SCE-15, Vol. 05, p. 24 in A.19-08-013.

To illustrate this, SCE's rebuttal testimony in the GRC overlaid large historical reportable ignitions which have occurred since 2014 on the updated risk curve presented previously (X-axis scale adjusted to start at 4,000 circuit miles). As can be seen in the figure from that testimony reproduced below, there have been two recent ignitions greater than 5,000 acres which occurred up to the 4,500 mile-mark. In other words, while the relative modeled risk reduction does decrease beyond 2,500 miles, there is substantial *actual* risk – not just modeled risk – proven to have occurred beyond 2,500 miles. Limiting the covered conductor installation scope to TURN's recommended amounts would be insufficient in reducing risk.

Overlay of Historical Large Fire Events on SCE's Relative Risk Buydown Curve[60]



SCE has presented a solution–WCCP–to dramatically reduce the potential for ignitions that have the potential to lead to a significant fire event. It is clear from this figure that TURN's proposal[61] could prove to be insufficient in preventing ignitions from occurring

[60] *See* Exhibit SCE-15, Vol. 05E3, p. 25E, Figure II-3 in A.19-08-013; see also Exhibit TURN-78 in A.19-08-013.
[61] TURN Comments at pp. 37-38 and 47-52.

and turning into large wildfires of the same size and scale that California has seen in recent years. Finally, it is important to note that the risk curve modelling was completed at a fixed point in time based on historical data.[62] California's population – which SCE has a universal obligation to serve in its service area – continues to expand into the wildland-urban interface,[63] and the climate continues to change.[64] Unfortunately, both factors make future impactful wildfires more likely. SCE cannot control either of those factors,[65] but it can substantially reduce the number of ignitions associated with our equipment. Covered conductor is the most effective way to do so in SCE's service area.[66]

B. Cal Advocates' Proposal to Revise the Covered Conductor Workplan Is Not Necessary

Cal Advocates recommends the WSD reprioritize SCE's covered conductor workplan to focus on circuits that it has identified as the highest risk circuits.[67] SCE agrees that work prioritization and execution should be informed by risk. SCE ranks all circuit-segments from highest risk to lowest risk for covered conductor prioritization, though operational constraints sometimes require deviations from the risk ranking based work prioritization. The difference between the *current* risk scores associated with completed covered conductor installation and the *current* risk priority is driven by several factors. The earlier scope was based on previous risk models which SCE has since enhanced. Moreover, though covered conductor deployment locations were selected based on higher risk, the original work plans were organized by circuit to support work efficiency even though risk scores of circuit-segments on a circuit can vary. As a result, some circuit-segments were covered that were relatively lower on the risk scale. Recently, SCE has scoped covered conductor installation based on the latest risk models and field deployment is mostly at a circuit-segment level, though some adjustments have to be preserved for work efficiency, scheduling, permitting, etc.[68]

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[62] *See* Exhibit SCE-15, Vol. 05, p. 16 in A.19-08-013.
[63] *See* Exhibit SCE-15, Vol. 05, p. 16, n. 32 in A.19-08-013 (http://tejonranch.com/los-angeles-county-board-of-supervisors-finalizes-approval-of-centennial-at-tejon-ranch/).
[64] *See* Exhibit SCE-15, Vol. 05, p. 16, n. 33 in A.19-08-013 (https://www.gov.ca.gov/wp-content/uploads/2019/06/Strike-Force-Progress-Report-6-21-19.pdf).
[65] SCE has advocated for and put into effect robust and far-reaching initiatives to combat global climate change, prominently but not limited to the RPS and transportation electrification arenas. SCE is deeply committed to those measures and believes them to be vitally important. But it is beyond reasonable dispute that climate change driven by man-made GHG emissions is a problem that is beyond the unilateral control of any particular company, state, or country.
[66] In its response to a data request in the GRC, SCE showed its covered conductor has a ~62% mitigation effectiveness at the risk sub-driver level (see Exhibit SCE-15, Vol. 5, App. A, p. A5 in A.19-08-013).
[67] Cal Advocates at p. 7.
[68] A segment is a length of conductor between two isolation points – dead ends, 10 switches, tap line, etc. -- typically between 0.5 and 1 mile long.[69] Cal Advocates Comments at p. 11.

Therefore, Cal Advocates' assertion that SCE is not prioritizing its highest risk conductor is incorrect. Even considering just the 71 circuits identified by Cal Advocates in Data Request Set CalAdvocates-SCE-2021WMP-007, Question No. 1, 1,779 (61%) of the total 2,933 miles on these circuits are in-flight or have been completed. Based on the foregoing, revisions to SCE's risk-informed covered conductor work plan are unnecessary.

C. SCE's Approach to Replacing C-hooks in HFRA Should Not Be Revised

Cal Advocates recommends SCE inspect its entire service area, including areas outside its HFRA to inventory C-hooks.[69] This recommendation should not be adopted as part of SCE's WMP because replacement of equipment outside of SCE's HFRA is outside the scope of the WMP and properly reviewed in utilities' GRCs.

Furthermore, SCE's current resources are focused on reducing ignition risks by proactively replacing C-hooks in HFRAs that were identified using current inspection methods. As explained in Section 7.3.3.15.1 of the 2021 WMP Update, although SCE has not experienced any C-hook ignitions in its system, given that the Camp Fire in Pacific Gas and Electric's (PG&E) service area was related to a damaged C-hook, SCE has a limited number C-hooks in our system, and it was difficult to determine the condition of these C-hooks using visual inspection, SCE decided to replace C-hooks in its HFRA. SCE will continue leveraging its existing inspection methods to address aging components that require replacement.

D. SCE's De-Energization Delay Time Settings Should Not Be Shortened

Cal Advocates recommends utilities implement maximum de-energization delay time setting (2 seconds at twice the maximum predicted load) on distribution lines during high fire-risk weather[70] based on the claim that setting a shorter delay time will prevent more ignitions yet cause few additional outages at a relatively low implementation cost.[71] SCE's distribution protection philosophy for HFRA is two-fold: (1) Distribution circuits clear for abnormal conditions in 2.00 seconds or less during high fire risk conditions and Non-high fire risk conditions and (2) Fast Curve (FC) settings provide faults energy reduction by shortening the clearing time for abnormal conditions during high fire risk conditions. Although SCE's protection philosophy is similar to Cal Advocates' proposal, our approach differs. SCE is generally supportive of Cal Advocates' suggestion for application of overcurrent settings and near instantaneous settings to help reduce wildfire ignition, although their initial proposal for double circuit loads and maximum 2-second delay is not recommended for adoption. Cal Advocates' references to the Australian study efforts were in relation to Rapid Earth Fault Current Limiter (REFCL) research. As suggested by Cal Advocates, low current magnitude fault events can be an ignition concern and SCE has two projects specifically targeting these

[69] Cal Advocates Comments at p. 11.
[70] Cal Advocates Comments at p. 38.
[71] Cal Advocates Comments at pp. 35-38.

types of fault events. These projects include efforts for application of various REFCL technology options as well as a pilot installation for High Impedance (HiZ) Fault relays. High current fault events are in practice cleared many times much faster than 2-seconds. Therefore, SCE does not support the proposed configuration settings from Cal Advocates and rather suggests continued configuration of relay settings by utility system studies as well as continued exploration and testing of new technologies which are evolving to detect faults and help reduce ignition risk.

E. SCE's 2021 WMP Update and Action Plan Include Significant System Hardening and Other Actions to Reduce PSPS

The Los Angeles County Department of Regional Planning, Public Works and Fire (LA County) recommends SCE pursue broader infrastructure protection (e.g., insulation of conductors or undergrounding infrastructure) to reduce PSPS.[72] The Green Power Institute (GPI) similarly recommends WSD establish a deadline for utilities to perform a comprehensive assessment of the ability of grid hardening initiatives to increase operating thresholds.[73] SCE agrees that reducing PSPS impacts is critically important and has outlined aggressive strategies in its 2021 WMP Update and recent PSPS Action Plan to target system hardening to reduce PSPS impacts, especially for historically frequently-impacted circuits. As covered conductor is installed throughout an isolatable circuit-segment,[74] PSPS windspeed thresholds can be increased that will reduce the frequency of potential de-energization. Based on the planned work, more than 250 isolatable circuit-segments are expected to be fully covered by October 2021, resulting in PSPS reductions if the weather from 2020 remained the same.

SCE's plan to reduce the need for PSPS also involves determining additional "circuit-segment exceptions" using updated information on the infrastructure and the environment. SCE removes circuit-segments from PSPS protocols in situations where persistent or prevalent wildfire risk associated with these segments are temporarily abated or no longer exist, such as a recent burn scar. While the potential for reducing PSPS based on circuit exceptions is much more limited than grid hardening activities, the exception process does not require installation or replacement of assets and, therefore, analysis and application of this option can typically be performed quicker than grid hardening activities when the latest information supports such exceptions.

3. Risk Modeling

[72] Los Angeles County Comments at p. 2.
[73] Green Power Institute Comments at p. 30.
[74] A circuit-segment that has covered conductor deployed cannot meaningfully reduce PSPS impacts if SCE is not able to electrically isolate that circuit-segment from its contiguous circuit-segments that still have bare conductor. Thus, SCE must install covered conductor to the next structure that will allow SCE to isolate the covered portion of the circuit from the bare portion of the circuit. In order to achieve this PSPS benefit for any isolatable-portion of a circuit, additional circuit miles will be required.

A. Proposals to Prioritize Work Based Solely on Risk Models Is Not Practical and Should be Rejected

Cal Advocates and MGRA recommend that SCE and the utilities be required to submit workplans that prioritize mitigations on their highest risk circuits.[75] SCE agrees that work prioritization and execution should be informed by risk. Importantly, however, risk analysis cannot solely dictate the prioritization and eventual execution of wildfire mitigation work. This is because the risk models do not account for various operational considerations and execution constraints related to the execution of wildfire risk mitigations. As discussed above, SCE continues to evolve its risk modeling capabilities. When meaningful advances have been made to our risk models, SCE begins to scope new work based on those new risk models.

For example, SCE accounts for operational considerations and execution constraints through the scoping and execution of covered conductor. SCE uses the most recent version of its risk model to prioritize circuit-segments based on risk. This is used to identify the next tranche of circuit-segments with the highest calculated risk scores to be sent for further job scoping. Once the defined scope is delivered, planning and design activities begin. After an approved design is completed, the agency permitting processes begins along with other activities to prepare for work execution. These include activities such as environmental review, access review, landowner and city negotiations, defined work hours, and the removal of other constraints. Upon completion of these activities, tentative scheduling is determined. The design-to-construction process for covered conductor generally takes between 16-to-24 months depending on the size and complexity of the work scope. Some of the variables that may slow work completion include such things as: site accessibility, weather conditions, environmental constraints, emergent events and storm restoration, customer outage restrictions and agency constraints.

Further, as was discussed in SCE's 2021 GRC Track 1,[76] there can be operational realities when deploying covered conductor that may also necessitate prudent deviation from the initial risk-informed prioritization of work. In the field, when SCE installs covered conductor, SCE may prudently extend that covered conductor installation beyond the risk-prioritized segment to the next contiguous structure with equipment or the next dead-end structure,[77] even if those structures are outside of the range of the initial scoping predicted by the risk model. Similarly, if a pole needs additional guying to support the increased weight of the covered conductor compared to bare conductor, and the space or easement to install a guy wire is restricted, covered conductor needs to be installed to a point where there is sufficient space for a guy wire or to extend to a location where a guy wire is not needed.

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[75] Cal Advocates Comments at pp. 7-8 and 27-29, and MGRA Comments at p.28.
[76] S*ee* Exhibit SCE-15, Volume 5
[77] A dead-end structure is required for the transition from bare to covered conductor and vice versa. This avoids the need to splice together bare and covered conductor.

As another example, where there are more than one circuit on the same structures, and one of the circuits is deemed as higher risk because of higher probability of ignition (consequence of ignition would be the same at the same location), SCE installs covered conductor on all the lines on the structure at the same time as it is more cost effective and has less outage or traffic control impact on customers.

As such, these types of operational considerations must be taken into account in conjunction with risk analysis and Cal Advocates' recommendation should not be adopted.

B. Acton Town Council's Misguided Assertions that SCE's Fire Consequence Modeling Is Inaccurate and Its Claim that FPI and Windspeed Thresholds Are Too Low Should Be Disregarded

Acton Town Council (ATC) cites anecdotal evidence to assert that SCE's wildfire consequence modeling is inaccurate.[78] With respect to wildfire consequence, the models from both Reax Engineering and Technosylva consistently score the Acton area very high consequence. In fact, at a March 26, 2021 CPUC meeting, Technosylva presented the simulation results of a fire originating in the Acton area during an SCE PSPS event in October 2019. The model predicted that the fire would grow to over 42,000 acres and impact over 3,700 buildings in Acton and communities to the south and west. It is important to note that this model does not consider the mitigating impact of active fire suppression. Data from a few fires that fortunately were quickly contained due to available fire suppression resources does not imply a reduction in ignition risk at these locations and does not prove the inadequacy of data and science-driven fire propagation models.

ATC also asserts that SCE's use of FPI is "unreasonable".[79] FPI is a tool that estimates how receptive fuels are to ignition and propagation based on consideration of a number of factors, which include live fuel moisture, dead fuel moisture, the state of cured grasses and environmental characteristics. SCE has set its FPI threshold for activating the PSPS protocol at 12, which represents conditions that could result in a significant wildfire, whereas SDG&E has set its threshold at 14. SCE's threshold settings were validated by our fire science team by analyzing 25 years of historical fires and comparing those to corresponding FPI values. The weather and terrain in SCE's service area along with the fire frequency and size is very different from SDG&E's service area and therefore it is unreasonable to expect SDG&E's FPI values (which are correlated to their fire activity) to equate to the same fire activity in SCE's service area. Due to these relative differences in service area conditions, it thus makes sense that SCE and SDG&E use different FPI values to trigger PSPS.

In regards to ATC's assertion of SCE's wind thresholds for de-energization being too low, as a general rule, in the absence of confirmed grid hardening, SCE's PSPS

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[78] ATC Comments at pp. 19-20.
[79] ATC Comments at p. 13.

activation thresholds are set as the lower of the 99th percentile wind speed for the local area of the circuit and the National Weather Service (NWS) wind advisory level, which is 31 mph sustained and 46 mph gusts. These settings were selected because the 99th percentile represents a wind speed value that is uncharacteristic or extreme for the local area of the circuit, occurring only about four times per year. The NWS cap is crucial as it represents that wind speed at which the NWS has articulated that debris can become airborne and create a contact risk for our conductors.[80] Contact from foreign object is a primary driver for ignitions associated with utility infrastructure. It should also be noted that windspeed thresholds for a small percentage of circuits are set based on correlation between windspeed and outage, but this is the exception and not the rule.

Furthermore, some of the circuits in the Acton area have many long spans. Recent engineering analysis shows that these long spans are more susceptible to conductor clash (i.e., wire slap) at high winds, thus increasing the probability of sparks and ignitions. Therefore, PSPS thresholds are discounted to help ensure the circuit is prioritized for de-energization before the safe windspeed thresholds for that particular circuit are exceeded. In addition to the long spans, there are other asset conditions that have been identified through inspections on these circuits which increase ignition risks during high winds till remediated. SCE is focused on remediating all inspection found asset issues within compliance timeframes and has also initiated a long span remediation activity as discussed in its 2021 WMP Update. Completion of these remediations along with continued deployment of covered conductor will enable SCE to raise the PSPS thresholds for circuits serving the Acton area, thereby reducing the impact of PSPS on the community.

C. MGRA's Recommendation To Include Damage Data into Risk Calculations Needs To Be Discussed Among Stakeholders

MGRA states, "[u]tilities should incorporate damage data into their risk calculations in the same manner as outage and ignition data."[81] SCE conceptually agrees, but notes that a comprehensive list of conditions that could have led to ignitions in the absence of PSPS is not available as many conditions, such as blown in palm fronds or debris, can be blown away during severe weather conditions. However, SCE disagrees with MGRA's comment that "standard ignition and outage data becomes more irrelevant as metrics as PSPS becomes more prevalent as a mitigation." PSPS is not becoming more prevalent, and in fact SCE is diligently working on grid hardening and other wildfire mitigation activities to reduce the frequency and scope of PSPS. SCE's current approach of developing risk models uses outages and ignitions, is robust and should

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[80] *See* the Beaufort Wind Scale as provided by the National Weather Service Weather Prediction Center at https://www.wpc.ncep.noaa.gov/html/beaufort.shtml. The 31/46 mph wind thresholds correspond roughly to the NWS minimum sustained/gust speed magnitudes for issuing a Wind Advisory and generally correspond to the magnitudes where larger vegetation begins to move in response to the force associated with the wind flow, and debris may become airborne as described by the Beaufort Wind Scale.

[81] MGRA comments at p 82.

continue, but SCE is amenable to discussing how best to include damage information during PSPS into risk modeling in workshops.

D. MGRA's Assertion that SCE's Wildfire Models Inappropriately Simulates Smaller Fires Is Incorrect

In its Opening Comments, MGRA states:

> *"All three major IOUs run into a significant issue with this modeling, however: the fires being simulated are smaller than typical "catastrophic" wildfires that cause damage. One reason is that the duration of the simulation is limited to 8 hours, a choice made by all three major IOUs. The net effect of smaller simulated fires is to artificially shift the calculated risk towards utility infrastructure proximate to population centers, and to downplay the risk of ignitions in remote areas that grow into major fires before descending as a broad front into wildland urban interface areas. These modeling assumptions need to be re-examined, as could potentially lead to a shifting of mitigation resources away from the areas of highest risk."*[82]

SCE disagrees with MGRA's assertion that its wildfire simulation assumptions are inaccurate. Although there is no adopted definition regarding the consequence dimensions of a "catastrophic" fire, SCE understands that even a relatively small urban fire can pose a significant public safety risk and that rural fires may burn for several days unsuppressed. As such, SCE has aligned on a methodology to rank the relative consequences of an ignition event using a more reasonable propagation period.[83] For wildfire mitigation planning, SCE uses the maximum modeled consequences across 41 weather scenarios for ignition simulations with an eight-hour propagation period. An eight-hour duration was chosen for each simulation to allow for comparison and interpretation of outputs when comparing all simulations.

In prioritizing protecting life and property, SCE considers it prudent to choose a fire duration value for consequence modeling that could cause significant impact in many locations in our HFRA. Eight-hour fire duration is a standard benchmark for modeling as such a fire is a significant public safety risk in populated areas. SCE recognizes that though shorter duration fires may not have similar consequences in rural areas, unsuppressed fires for longer duration could increase the risk substantially. SCE is open to having further discussions on how best to supplement fire spread simulations with other fire durations to appropriately prioritize mitigation efforts.

Conversely, if SCE were to simulate unsuppressed fires for a 24-hour period, the relative ranking of mitigation deployment would likely shift to prioritizing rural areas in which a fire could spread, unsuppressed, while posing no risk to public safety SCE will

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[82] MGRA comments at p. 12.
[83] S*ee* CAL FIRE, "Top 20 Deadliest California Wildfires," and CalFire "Top 20 Most Destructive California Wildfires."

continue to conduct benchmarking sessions with other utilities on wildfire risk modeling, and is open to participating in workshops with stakeholders.

E. MGRA Misunderstands SCE's Position on the Correlation Between High Winds and Wildfire Ignitions

In its Comments, MGRA quotes a statement made by SCE during the February 22, 2021 technical workshop regarding a correlation between wind speeds and outage rates, and the availability of wind-driven outage data at the circuit level.[84] For clarification, SCE agrees that high winds can cause catastrophic wildfires and that is why windspeed is used as one factor for potential PSPS de-energization. However, high winds are not the only cause of catastrophic wildfires, and not all ignitions that occur during high winds will invariably cause a significant wildfire, therefore implying that high winds are the only cause of catastrophic wildfires in incorrect. This has been demonstrated in 2020 where the state experienced "fuel driven" wildfires during moderate winds as well as fires starting during high winds that were quickly contained.

SCE's approach to mitigating wildfire risk seeks to reduce the probability of ignitions due to all causes (not only wind driven causes) at the locations that have the highest consequence if an ignition were to occur. As described in its WMP, SCE uses outages that can lead to a spark as a proxy for ignitions in its probability of ignition models and these models include the cumulative wind forces as a feature with compounding factors increasing the likelihood of an outage. Additionally, windspeed is a key variable in the ignition consequence model to predict acres and structures burned. Therefore, although SCE agrees that high wind conditions increase the likelihood of outages, ignitions, and fire spread, SCE's statement was meant to say that it is not the only factor that can lead to significant wildfires and that mitigations should not be limited to only preventing outages during extreme wind conditions.

F. Mr. Abrams' Assertion that There Is a Lack of Recognition Regarding Failures Creating Gaps in Risk Approaches Is Incorrect

Mr. Abrams asserts the "[p]rimary reason for these sizeable gaps in the risk approaches of the IOUs seem to be a lack of recognition regarding recent failures and causes of recent catastrophic wildfires."[85] This is incorrect because SCE differentiates between ignition risks by modeling each asset class separately which results in a probability of failure for each piece of equipment in the field. This probability calibrated to the number of expected fires based on past fires attributed to the corresponding asset class. In this way, there is an expected frequency of fires at the specific asset level whose sum total of fires is aligned with historical fire counts attributed to that specific asset class. In other words, historical fire events are assigned to their causes, e.g., conductor, transformer, etc. The weighting that converts the probability of outage into frequency of ignition is based on these historical fire counts by classification.

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[84] MGRA comments at pp. 14-15.
[85] Abrams' Comments at p. 2.

G. SCE Supports Workshops in the Appropriate Proceeding to Further Consider and Refine Risk Estimates

In its Comments, MGRA notes the difficulty in comparing estimation of risk between the IOUs, requesting further WSD direction in this area.[86] SCE supports further collaboration with stakeholders and IOUs regarding risk estimates in the appropriate proceeding, however there are numerous challenges regarding comparing IOU risk estimates. In fact, D.18-12-014 notes that one of the disadvantages is that the "proposed SA [Settlement Agreement] does not provide a procedure to produce comparable risk scores across utilities. This is theoretically possible but would require common weights and a great deal of normalization across the utilities, which would be difficult to achieve in practice."[87] SCE welcomes the opportunity to work with stakeholders and working groups, and suggests the Risk Based Decision Framework proceeding (R.20-07-013) is the appropriate proceeding to assess the efficacy of any proposed changes to risk estimation methodologies.

4. Public Safety Power Shutoffs (PSPS)

A. Numerous Comments Regarding PSPS Should Be Considered in the PSPS Rulemaking and not Through the WMP

Mr. Abrams, Acton Town Council, and Cal Advocates make recommendations related to PSPS operational issues such as de-energization guidelines (including consistency with ESRB-8 standards), levels and quality of service to customers during PSPS events, use of community resource centers, and use of live field observers.[88] SCE notes that these types of issues that address practices specific to PSPS events fall squarely within the scope of the PSPS OIR (R.18-12-005) and not the WMP, which addresses activities and policies to reduce wildfires. Furthermore, SCE has provided additional information about its plans for improvement as part of its February 12, 2021 Corrective Action Plan. Therefore, these issues are appropriately addressed in the PSPS OIR and should not impede the approval of SCE's WMP.

B. MGRA's Proposal to Discuss How PSPS Impacts Will Be Eliminated Is Unnecessary

MGRA suggests SCE applies an aggressively low threshold for PSPS, turning off power for NWS High Wind Advisories (31 mph sustained and 46 mph wind gust) for bare conductor segments, and that WSD should examine de-energization at low wind speed thresholds to determine whether these are masking unreported defects. MGRA also recommends WSD ensure that defects limiting safe operation of utility infrastructure

[86] MGRA comments at p. 12.
[87] D.18-12-014, p. 30.
[88] Abrams' Comments at pp 8-16. ATC Comments at pp. 3-14. Cal Advocates Comments at pp. 8-10.

under known local conditions are given a high priority.[89] MGRA's recommendation is off-base and should be dismissed. SCE is substantially compliant with GO 95 and GO 165, and have gone beyond minimum regulatory requirements to identify and remediate asset conditions that may pose ignition risks. Windspeed thresholds are not set based on what wind loading utility assets such as poles can withstand, but rather based on windspeeds when vegetation or other equipment can fall or fly into energized equipment or conductors can contact each other despite being in good condition. Regarding the thresholds, SCE follows NWS wind advisory levels generally. If the 99th percentile windspeed for the local area is lower than the NWS levels, SCE uses that as it represents extreme conditions for that location. The NWS cap is crucial as it represents that wind speed at which the NWS has articulated that debris can become airborne and create a contact risk for our conductor. Contact from foreign object is a primary driver for ignitions associated with utility infrastructure. SCE is currently in the process of reviewing its PSPS wind speed and FPI thresholds. If the review being performed results in a change to the PSPS activation or de-energization thresholds, SCE will inform the WSD and CPUC of any changes. SCE will also publish the appropriate information on its website.

C. SCE Has Proactively Conducted Stakeholder and Community Meetings Since 2018

In its Opening Comments, LA County requested that SCE provide information on whether it proactively scheduled meetings with communities in the Santa Monica Mountains North Area and the Santa Monica Mountains Coastal zone or these were held as a result of the County requiring SCE's attendance.[90] SCE regularly and proactively meets with local and tribal governments in HFRA and hosts numerous community meetings to educate customers on its wildfire mitigation activities, including PSPS. Community meetings conducted in 2020 were in areas that have been impacted by PSPS. For example, in 2020, SCE held seven virtual meetings for communities affected by PSPS, including communities within LA County such as Acton/Agua Dulce, Santa Clarita, and Chatsworth. SCE also held two virtual community meetings open to and inviting all customers located HFRA. The Santa Monica Mountains North Area and the Santa Monica Mountains Coastal zone were not targeted due to limited to no PSPS impacts. In addition, SCE holds "Power Talks" to educate customers across its service area on issues such as PSPS. These events are conducted proactively and not as a result of LA County requiring SCE's attendance. In 2021, the two areas noted by LA County will be invited to attend the community meetings that are open to all customers. Furthermore and as described in Section 7.3.10 of the 2021 WMP Update, SCE conducts extensive community outreach to customers in HFRA including, for example, direct mail, social and digital media, and radio. SCE will continue to make improvements to its meetings and content based on customer and stakeholder feedback and will refine where it hosts community meetings based on the impact of previous PSPS events and grid hardening activities.

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[89] MGRA Comments at pp. 76-77.
[90] LA County Comments at pp. 7-8.

5. Asset Management and Inspections

A. The Benefits of Drone Technology in Inspections Vary by Application

Cal Advocates recommends SCE evaluate its drone inspection programs and submit an evaluation of its drone pilot program.[91] SCE agrees that drones represent a useful tool for the future and appreciates Cal Advocates' support. In fact, SCE uses drones extensively in its aerial inspection program. However, Cal Advocates' recommendation conflates two different programs. The study that Cal Advocates cites in SCE's 2020 WMP is the Advanced Unmanned Aircraft Systems (UAS) Study (AT-2.2), which is a separate activity from risk-informed Aerial Inspections. The Advanced UAS Study was conducted to develop Beyond Visual Line of Sight (BVLOS) capability, focusing on circuit patrols (not detailed asset inspections) related to PSPS to get field data for de-energization and re-energization decisions and, more specifically, on the feasibility of BVLOS drone missions, which represent leading edge drone operations. While positive results were achieved and BVLOS circuit patrols proved feasible under certain conditions, there are still significant technical and regulatory barriers that must be overcome to apply these advanced operations to patrols and inspections across SCE's service area. SCE is currently finalizing a report detailing the results of its Advanced UAS Study. This report will be completed in Q2 2021 and can be shared upon request.

The other program mentioned by Cal Advocates is SCE's aerial inspection program which is executed using Line-of-Sight drone operation for detailed asset inspections. For this, Cal Advocates recommends that "SCE should clarify its rationale for retaining only drone operations for transmission towers, despite the demonstrated benefits of the technology."[92] The main reason SCE uses drones to capture Transmission towers is because of the relatively high level of visibility and zoom-in capability that drones provide. Helicopters are not able to capture the needed angles to conduct detailed inspections, such as on cotter keys and pins. Conversely, SCE uses drones to capture approximately 35% of the Distribution structures in HFRA (approximately 65% are captured by helicopter). SCE has a total of seven approved drone vendors for its 2021 inspections and will continue to maintain the appropriate resources to perform the aerial risk-informed inspections described in the WMP.

SCE's goal is to develop capability of SCE employees with UAS. To do this, SCE will continue to develop internal UAS operators in various parts of the company that can leverage the technology. SCE has deployed over 50 UAS units to various departments across the company over the past four years. SCE has used 5 different models with various payloads to accomplish a wide variety of mission sets.

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[91] Cal Advocates Comments at pp. 10-11.
[92] Cal Advocates Comments at p. 10.

Finally, Cal Advocates recommends that SCE invest directly in drone equipment, rather than rely on contractors to provide the equipment.[93] SCE plans to regularly evaluate the mix of in-house versus vendor UAS resources for both patrol and inspection activities.

B. SCE Agrees With Cal Advocates That WMP Requirements Should Reflect How Utilities Track Inspections and Inspection Findings

Cal Advocates recommends that Table 1 be revised to align with the way utilities currently track inspections,[94] a point with which SCE agrees. The utilities track inspections by structure and not by circuit mile (with the exception of infrared/corona inspections). Because Table 1 requires the utilities to report inspection results on a per circuit mile basis, the utilities had to estimate average span lengths to convert the data from per structure data to per circuit mile data. This exercise introduces potential errors and makes it difficult to compare to utility WMP targets which are on a per structure basis. Aligning Table 1 requirements with the way that utilities currently track inspections will improve usefulness, accuracy, and efficiency for reporting and review.

GPI states, "SCE appears to have found more Level 2 and 3 findings via Patrol inspections compared to Detailed inspections in 2019."[95] In response to data request set CalAvocates-SCE-2021WMP-09, Question No. 8, SCE has submitted revised numbers for Table 1 of its Q4 2020 Quarterly Data Report (replicated as Table A below). These revised numbers clarify that detailed inspections identify more level 2 and level 3 findings than patrol inspections. GPI also states that it cannot determine the number of 'potentially outstanding' Level 1 findings because of the methodology SCE used to convert findings per structure into findings per circuit mile.[96] In order to complete Table 1 as required by the WSD, SCE converted its inspection findings to findings per circuit mile using an estimated average span length. GPI's concern regarding this conversion highlights the need for revising the structure of Table 1 to better align with the way utilities currently track inspections.

Table A. Level 1, 2 and 3 Findings for Each Inspection Type

	2015	2016	2017	2018	2019	2020
LEVEL 1 FINDINGS IN HFTD FOR PATROL INSPECTIONS - DISTRIBUTION LINES	0	0	3	1	17	19
LEVEL 2 FINDINGS IN HFTD FOR PATROL INSPECTIONS - DISTRIBUTION LINES	2,163	3,146	3,114	3,730	6,498	4,818
LEVEL 3 FINDINGS IN HFTD FOR PATROL INSPECTIONS - DISTRIBUTION LINES	246	773	325	51	228	125

[93] Cal Advocates Comments at pp. 10-11.
[94] Cal Advocates Comments at p. 59.
[95] GPI Comments at pp. 16-17.
[96] Ibid.

LEVEL 1 FINDINGS IN HFTD FOR DETAILED INSPECTIONS - DISTRIBUTION LINES	6,392	5,124	3,781	2,834	4,144	2,958
LEVEL 2 FINDINGS IN HFTD FOR DETAILED INSPECTIONS - DISTRIBUTION LINES	7,297	7,751	5,841	16,646	71,791	28,454
LEVEL 3 FINDINGS IN HFTD FOR DETAILED INSPECTIONS - DISTRIBUTION LINES	4,448	4,167	3,934	13,725	108,873	26,464
LEVEL 1 FINDINGS IN HFTD FOR OTHER INSPECTIONS - DISTRIBUTION LINES	43	10	33	167	617	770
LEVEL 2 FINDINGS IN HFTD FOR OTHER INSPECTIONS - DISTRIBUTION LINES	14,301	18,081	12,647	3,348	5,304	5,664
LEVEL 3 FINDINGS IN HFTD FOR OTHER INSPECTIONS - DISTRIBUTION LINES	256	142	206	214	1,563	2,868

GPI recommends that "SCE improve their asset-to-circuit mile conversion or directly collect data on circuit miles inspected."[97] WSD should reject GPI's recommendation that SCE directly collect data on circuit miles inspected. GPI's recommendation is based in part on an apparent misunderstanding of the data. SCE's detailed inspections include both a ground and an aerial inspection. Therefore, when calculating the circuit miles inspected for detailed inspections, SCE adds the circuit miles for ground inspections and aerial inspections to arrive at the total circuit miles inspected. GPI's suggestion that SCE change the way it collects and stores data would require significant changes to our processes and technology which would divert resources from wildfire mitigation work. A more effective and efficient solution is to align Table 1 to the way the utilities record and execute their programs as discussed above.

Finally, GPI states "there appear[s] to be "missing" circuit miles for all utilities in Table 8, based on data in table rows 1.a, 1.i, and 1.k; 2.a, 2.i, and 2.k; and 3.a, 3.i, and 3.k."[98] However, the data is not missing; Row 1.a includes both overhead and underground and Rows 1.i and 1.k are exclusively overhead.

C. SCE Has Adequately Explained Its Non-WMP Pole Loading Program Remaining Assessment Work

Cal Advocates states that SCE has completed only 1,205 (29%) of its 2020 forecasted pole loading assessments and concludes that SCE should be required to describe how it has or will address the otherwise "foreseeable" challenges to completing these assessments.[99] The Pole Loading Program (PLP) was requested for inclusion in SCE's

[97] GPI Comments at p. 16.
[98] GPI Comments at p. 17.
[99] Cal Advocates Comments at pp. 12-13.

WMP, but it should be noted that this is a one-time assessment program across SCE's HFRA and non-HFRA Distribution and Transmission systems that was authorized in previous GRCs. It is not a wildfire mitigation activity in SCE's WMP. As the assessment scope approaches completion in the 3rd quarter of 2021, SCE is focused on the remaining HFRA and non-HFRA scope while addressing a multitude of operational constraints. Many of the 1,205 poles are awaiting assessment due to (1) customers denying access to property; (2) customers being unavailable to grant access to property; (3) access issues due to COVID-19; and (4) weather and fires complicating access to poles. SCE is working diligently to address these constraints. While it is generally understood that a percentage of poles on private property will be constrained, SCE disagrees with Cal Advocates assertion that customers' availability or refusal to access their property is foreseeable. It is unreasonable to expect that SCE can forecast, with a high degree of confidence, when property owners will agree to provide access to SCE's facilities on private property. SCE can only determine customer availability and access issues once an attempt is made to complete the inspection. All remaining HFRA scope is in the current ninety-day forecast. As such, Cal Advocates' recommendation to address a forecast for a non-wildfire program should be dismissed.

6. Vegetation Management

A. SCE Already Coordinates with Local Agencies Regarding Local Plans, Permitting, and Environmental Requirements

LA County maintains that SCE should take steps to ensure that its service area and monitoring of known local conditions coincides with the Very High Fire Hazard Severity Zones (VHFHSZ) of the County General Plan, Santa Monica Mountains (SMM) North Area Plan, and SMM Local Coastal Plan and that permitting for planned vegetation management (VM) activity should be coordinated with permitting agencies in advance of the fire season.[100] Further, LA County states that environmental habitat should be incorporated into fuel management plans and coordinated with local agencies.[101] SCE agrees that coordination with local agencies on local plans, permitting, and environmental requirements is important in conducting its wildfire mitigation work. SCE's Vegetation Management and Environmental Services standard practices ensure that local conditions are identified prior to and when work is performed. SCE's schedulers, vegetation crews and environmental teams are actively engaged with local agencies regarding all aspects of environmental considerations, including, but not limited to, habitat protection policies. SCE is currently providing quarterly reports to the WSD on its planned activities.

LA County further recommends that SCE's HTMP or vegetation removal processes should be observed through regular monitoring and initiated to ensure that P1 scenarios of progressing imminent threats to public safety do not create scenarios where emergency permitting is pursued in lieu of typical engagement and pro-active

[100] LA County Comments at pp. 1-2.
[101] LA County Comments at p. 2.

permitting.[102] SCE's Vegetation Management program already is structured to minimize the need for emergency permitting through a comprehensive inspection process that provides reasonable assurance that the clearance required by regulation is maintained for a full annual cycle. In addition to scheduled semi-annual inspections, SCE performs supplemental patrols as a wildfire mitigation activity to provide added assurance that P1 conditions are not created prior to the planned maintenance. Further, in areas where SCE has historically experienced permitting delays, SCE adjusts its work schedules to allow for potential delays with permitting to provide added assurance the planned trim schedules will be maintained on schedule and subsequently reduce the potential of emergent P1 conditions. SCE also has a rigorous Vegetation Management QA/QC inspection program as described in Section 7.3.5 of its 2021 WMP Update. Even with these efforts on SCE's part, there may be circumstances out of SCE's control that allow P1 conditions to develop, such as when permits are not issued timely or property owners refuse to allow access for work to be performed.

LA County recommends SCE coordinate with them to submit adequate documentation and evidence of reported dead or dying trees that have risk of failing within striking distance of SCE lines and equipment. They further recommend that SCE should resurvey trees in proximity to SCE infrastructure following periods of extended drought and that if surveys reveal trees likely to die, permitting submittals for any trimming / removal shall be promptly submitted in coordination with them in order to prevent delays and not resulting in emergency permitting.[103] SCE agrees that it is important to engage LA County with proactive plans for necessary permitting timelines, including associated surveys, studies, and mitigation actions. In areas where SCE has historically experienced permitting delays with its routine compliance activities (inspection and trimming), SCE's work schedules have been adjusted forward to allow for potential delays with permitting to provide added assurance the planned trim schedules will be maintained on schedule and subsequently reducing the potential of emergent P1 conditions. For SCE's HTMP and Dead and Dying Tree Removal programs, trees are only considered hazardous once a particular threshold has been reached and SCE cannot request permits in advance for trees that have not been deemed a hazard. Furthermore, when dead or dying trees are identified for mitigation under LA County jurisdiction, SCE follows current permitting processes and already provides specific information regarding the mitigation work required. SCE's Dead and Dying Tree Removal Program was established as a result of drought conditions in California. This program performs patrol inspections in HFRA several times annually looking for dead and dying trees. Once a tree is identified for trimming or removal, SCE acts promptly to obtain required permitting and permitting delays are typically not a result of SCE's lack of action in submitting the required permit information. SCE's ability to fully execute on its Vegetation Management activities, including tree trimming and removal, is also dependent upon the timely issuance of all necessary permits from the applicable authorities, including, for example, LA County.

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[102] LA County Comments at p. 3.
[103] LA County Comments at pp. 3-4.

LA County further recommends that SCE provide protocols on how SCE determines if a tree is dead or dying and to inform of efforts made to remove only damaged parts of the tree while maintaining an individual tree in place.[104] As noted above, SCE follows current permitting processes and already provides specific information regarding the mitigation work required when dead or dying trees are identified for mitigation within LA County. Moreover, SCE's Vegetation Management personnel involved with the Dead and Dying Tree Removal Program are fully qualified to identify dead, dying and diseased trees. One of the tools used by the utility arborist pertains to the ratio of dead to live tree crown exceeding approximately 50%. In most cases, the trees identified for removal have obvious signs the tree is dead or dying. In cases where only an isolated portion of the tree is damaged, prescriptions are limited to the affected portion of the tree. Given LA County's existing permitting oversight of SCE's mitigation work for dead and dying trees, and SCE's demonstrated expertise in the area, SCE submits that the information sought by LA County should not be an additional requirement in connection with the WMP.

LA County also argues that contract workers in the field should be prepared to respond to inquiries about the need and/or authority to conduct vegetation work on private property or direct the public to resources or local authority for permitting confirmation.[105] SCE agrees that contractors who encounter members of the public or various stakeholders should have the ability to respond to general inquiries about the vegetation work. SCE continuously provides training to its contract workforce to enhance their knowledge of vegetation practices and customer service. However, it is not feasible to have contractors who perform the actual inspection and/or trimming be thoroughly knowledgeable about all operational aspects of SCE's Vegetation Management activities that go beyond the assigned scope of work.

B. SCE's Expanded Vegetation Clearances and Quality Control Follow CPUC Recommendations and ANSI Standards

LA County suggests that SCE's expanded tree removals and vegetation clearances beyond the minimum recommendations will damage existing habitat and that SCE has not provided evidence of efficacy for this program.[106] Enhanced vegetation clearances are recommended by the CPUC, and expanded tree removals such as with SCE's HTMP program are intended to provide additional safety barriers in preventing wildfire events. It is going to take time to analyze trends and SCE along with PG&E and SDG&E are performing a multi-year study on the efficacy of enhanced clearances reducing vegetation related faults and ignition events.

LA County also recommends SCE focus on reforms to their QC and procurement procedures for contract landscape firms hired to perform Vegetation Management

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[104] LA County Comments at p. 7.

[105] LA County Comments at p. 3.
[106] LA County Comments at p. 6.

work.[107] In this regard, LA County emphasizes compliance with local permit requirements and a commitment to customer service and community engagement by SCE and its contractors. SCE is always looking to improve its Vegetation Management program including its QC process for contractors performing inspection and trimming activities. The QC process is intended to identify conformance to both the regulatory and SCE clearance requirements and quality of trimming performed in accordance with ANSI A300 pruning standards. Results of QC inspections are communicated monthly to SCE's vegetation contractors with the intent of improving performance. It is SCE's expectation that all contractors perform their work in compliance with local, state, or federal permit or environmental requirements, and any reported instances of violations are managed to prevent recurrence. With respect to communications, SCE is fully supportive of continued customer engagement and education as SCE cannot be successful in keeping our communities safe without effective customer service and community engagement. Again, SCE continuously provides training to its contract workforce to enhance their knowledge of vegetation practices and customer service.

C. At Risk and Fast Growth Tree Species Is Available to Stakeholders

LA County recommends SCE provide them a list of at-risk and fast growth tree species being considered for removal in the County for review.[108] SCE maintains at-risk and species growth information for all inventoried vegetation and that information can be made available upon request.

MGRA recommends all IOUs be required to complete and circulate common definitions, methodologies, timelines, data standards and assumptions regarding "at-risk" species and criteria for Enhanced Vegetation Management, and to circulate it for public comment. MGRA also suggest utilities should be required to show trim distance and number of removals as a function of tree species.[109] SCE continues to collaborate with PG&E and SDG&E to develop common definitions, methodologies and data standards for Vegetation Management activities. SCE also maintains trim distance and removal records by species in its vegetation databases. This information is available upon request.

D. Recommendations to Modify SCE's Workforce Planning Are Impractical and/or Unnecessary

Cal Advocates recommends utilities be required to provide specific workplans showing when and where mitigation work will take place and that Asset and Vegetation Management inspections should be completed before August 1 of each year, or at least 75% complete, prioritizing highest-risk areas.[110] Currently, risk prioritization is applied to SCE's HTMP and QC program. SCE's routine compliance vegetation management is performed annually and prioritization is currently based on seasonal constraints. Under

[107] LA County Comments at pp. 8-9.
[108] LA County Comments at p. 8.
[109] MGRA Comments at p. 42.
[110]Cal Advocates Comments at pp. 27-28.

its current work planning structure, SCE plans its work around an annual trim month based on various factors, including: weather conditions, access, and other local conditions. SCE then inspects each tree prior to that planned trim month and typically again approximately six months later. SCE is exploring whether a more robust risk analysis would benefit its annual routine vegetation activities that already include inspection of most trees twice a year. Workforce planning also must take into account that Vegetation Management resources are constrained, and line clearing activities cannot be separated by HFRA and non-HFRA for operational efficiencies. Completing annual Vegetation Management activities across approximately 52,000 square miles with approximately 1,500,000 trees in inventory by August 1 is not feasible. To perform inspection and mitigation requires the use of approximately 1,500 work crews following a comprehensive monthly work scheduling process.

LA County makes several recommendations regarding Vegetation Management workforce planning, qualifications, and training.[111] SCE agrees that workforce planning, qualifications, and training are all critical elements to performing our Vegetation Management work and SCE already focuses on all these factors. For example, SCE's staffing levels are commensurate with the volume of work required to be performed. Although SCE also actively works to grow its pool of ISA-Certified Arborists to perform certain types of Vegetation Management inspections that require specialization, SCE's programs are designed such that an ISA-certification is not a prerequisite to perform all types of inspections, thus making it easier to find adequate resources. SCE's ISA-Certified Arborists focus on activities where certification is required (such as HTMP). In addition, SCE has biologists and permitting/entitlement staff to address environmental and other permitting requirements. SCE also continuously provides training to its contract workforce to enhance their knowledge of vegetation practices and customer service. As such, LA County's recommendations on additional requirements for workforce planning, qualifications, and training are unnecessary, and should be dismissed as they are already being met.

LA County further recommends that SCE inspect infrastructure and conduct trimming under the guidance of trained and certified arborists to ensure proper techniques are implemented (in addition to GO 95 requirements), and that trained and certified biologists/arborists provide recommendations on trimming for regulatory compliance to ensure the longevity of the vegetation as an important environmental resource.[112] All vegetation personnel performing inspection and trimming on SCE's behalf are trained and qualified and many are ISA-certified arborists. All SCE vegetation management internal Senior Specialists who provide oversight of vegetation activities are ISA-certified arborists. SCE also provides comprehensive training documents to provide added information and guidance for specific vegetation management activities. Trimming practices are performed following ANSI A300 pruning standards and SCE's

[111] LA County Comments at pp. 3 and 8.
[112] LA County Comments at p. 5.

QC process verifies these practices are adhered to. Additionally, SCE agrees and does consider vegetation health when prescribing and performing pruning activities.

LA County also recommends increased frequency of inspection patrols, increased inspections and reporting to reduce the need for future emergency permitting actions, and again coordinating with the permitting agencies to identify early on which permits or processes will be required, which will allow for processing and regulatory requirements to occur while proactive maintenance activities continue on schedule.[113] SCE is continuously evaluating its inspection and maintenance programs. As a minimum, SCE vegetation crews perform annual inspections throughout its entire service area, and many areas receive inspections twice a year. In addition to these scheduled inspections, SCE's Summer Readiness Verification Activities such as Canyon Patrols and Operation Santa Ana are performed in the highest risk areas to verify those areas are free of potential hazards. SCE's inspection process is robust, and all required mitigation is typically performed between 30 to 90 days of discovery. SCE's schedulers are cognizant of permitting requirements and proactively work with the relevant agencies to obtain any necessary permits that are not part of a master special use permit.

E. Community Engagement, Environmental Impacts and Related Data Is Available to Stakeholders

LA County recommends additional efforts to manage community and environmental impacts including mapping Areas of Concern (AOCs) and priority Vegetation Management zones, as well as tree removals and major vegetation removals, in geospatial software and providing such data to the County and the public. LA County also recommends additional community engagement to inform the public about fire risk and proposed Vegetation Management work.[114] SCE maintains geospatial information for all its vegetation activities (removals, trimming, etc.) and that information can be made available upon request. SCE is currently working on a public viewer map for Vegetation Management zones that will be accessible on its website. SCE continues to conduct community engagement meetings to inform the public about future vegetation activities and the benefits of performing vegetation work as part of its wildfire risk reduction mitigations.

F. SCE's Vegetation Management Practices Already Account for Macro Trends

LA County recommends that SCE's Vegetation Management programs increase and adapt to account for critical Vegetation Management needs related to macro trends such as climate/weather and invasive pests.[115] SCE does take into account macro trends as part of its Vegetation Management program. In our February 26, 2021 WMP

[113] LA County Comments at pp. 5-6.
[114] LA County Comments at p. 6.
[115] LA County Comments at p. 2.

Supplemental filing, in response to Class B deficiency SCE-14, SCE describes how long-term vulnerability related to attributes such as climate change and water stress/drought are captured in our HTMP and Dead and Dying Tree Removal programs. In Section 4.2.3 of the 2021 WMP Update, SCE describes the macro trends impacting ignition probability including invasive species. For example, SCE initiated its Dead and Dying Tree initiative in response to mountain pine beetle outbreaks. SCE also describes the recent impact of the Gold Spotted Oak Borer and Shot Hole Borer, and programs such as inspecting its HFRA multiple times to mitigate these risks. SCE also continuously evaluates its processes to reduce the likelihood of emergent conditions caused from macro trends such as climate/weather and invasive species. Therefore, SCE's practices already account for macro trends related to Vegetation Management needs.

G. LA County's Pole Brushing Recommendations Are Unnecessary

LA County recommends that SCE conduct preventative pole brushing on all poles in HFRA, increase the frequency to bi-annually, especially in years following heavier precipitation, and plan brushing to occur following rainy season and prior to autumn windy conditions.[116] Public Resource Code 4292 requires SCE to clear brush at the base of specific poles with "non-exempt" equipment. SCE has approximately 80,000 Distribution poles subject to this regulation. Since 2019, SCE has actively pursued clearing more poles than required by regulation and its current WMP goal is to clear between 200,000 and 300,000 Distribution poles in HFRA. In 2020, SCE cleared brush at the base of approximately 231,000 poles. Due to the volume of poles being cleared, pole brushing is performed year round and it is not practical to clear all areas on a semi-annual basis or following rainy seasons, though contractors are required to ensure pole clearing is sufficient to reduce brush for an annual cycle. SCE does not believe changes to its pole brushing work are necessary.

CONCLUSION

SCE appreciates the opportunity to submit its Reply to Public Comments and recommends the WSD approve its 2021 WMP Update taking into consideration its comments herein.

If you have any questions, or require additional information, please contact me at carla.peterman@sce.com.

Sincerely,

//s//
Carla Peterman
Senior Vice President, Strategy and Regulatory Affairs
Southern California Edison

[116] LA County Comments at pp. 4-5.

cc: Service List for R.18-10-007
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